technical transactions

No. 2026/005

architecture and urban planning

Paradigm

The railway station as a mobility node and an element of cultural heritage in the city structure. The case of Rzeszów

Magdalena Janda

janda.m@prz.edu.pl | https://orcid.org/0000-0002-4232-667X

Rzeszow University of Technology,
Faculty of Civil and Environmental Engineering and Architecture
Department of Architecture and Cultural Heritage

Scientific Editor: Mateusz Gyurkovich, Cracow University of Technology
Technical Editor: Dorota Sapek, Cracow University of Technology Press
Typesetting: Anna Pawlik, Cracow University of Technology Press

Received: November 7, 2025
Accepted: February 6, 2026

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Data Availability Statement: All relevant data are within the paper and its Supporting Information files.

Competing interests: The authors have declared that no competing interests exist.

Citation: Janda, M. (2026). The railway station as a mobility node and an element of cultural heritage in the city structure. The case of Rzeszów. *Technical Transactions, e2026005*. https://doi.org/10.37705/TechTrans/e2026005

Abstract

This article presents selected issues from the research project entitled "*Węzły i korytarze rozwoju funkcji metropolitalnych Rzeszowa*", which was carried out by a team of Rzeszów University of Technology employees for the Rzeszów City Development Office. The project aimed to develop an urban construction model and identify areas with high development potential. One of the most important nodes is Rzeszów Główny railway station.

The publication discusses the historical importance of railway stations as elements of cultural heritage and presents selected revitalisation projects from Europe and Poland. The author defines mobility and transport nodes, using these definitions to contextualise the city of Rzeszów within the development of mobility nodes. The remainder of the article focuses on the railway station, first examining its construction history and architectural transformations, and then considering it as part of the Rzeszowskie Centrum Komunikacyjne.

Keywords: mobility node, communication center, railway station, revitalization

1. Introduction

The railway station embodies all the characteristics of city life, combining both utilitarian and representative functions. It is where local residents' paths cross with those of visitors from other cities or countries. In their heyday, in addition to transporting people and goods, stations served as the city gates of the time (Janda, 2022: 86). This is why their façades often feature references to gates or triumphal arches in the form of semicircular windows (Rymar, 2009: 62). In Poland, many stations have lost this symbolic function – the buildings are often in poor technical condition and unsuitable for people with disabilities, and are associated with anti-social behaviour. This is accompanied by a crisis in cities characterised by unplanned suburbanisation, which negatively impacts the development of public spaces, as well as the dominance of individual means of transport, contrary to the principles of sustainable development (Kochanowska, 2006: 55). Railway stations also no longer fulfil their original purpose, as they should be a place where different modes of transport converge to create an integrated transport hub (Załuski, 2014: 62).

The publication is the result of research conducted on the mobility node based on the example of the Rzeszów Główny Railway Station (Janda, 2019) and is based on conclusions developed as part of the research project „*Węzły i korytarze rozwoju funkcji metropolitalnych Rzeszowa*" and on the author's architectural and urban analyses of the history and role of the station in the development of the city (Janda, 2022). The aim of the article is to identify priorities in combining the cultural and historical values of railway stations with the utilitarian needs of people and the process of transforming stations into modern centres around transport hubs. The author posed the following research question in her work: How to reconcile the development of the transport function of the main mobility node with the preservation of its historical values and integration with the public space of the city centre? The methodology of the work consisted of reviewing planning documents at the voivodeship, functional area, municipal and city levels (including development strategies, studies of conditions and directions of spatial development, local spatial development plans, municipal monument preservation programmes, local revitalisation programmes), analysing materials received from the Rzeszów City Development Office, e.g. the concept of the Rzeszowskie Centrum Komunikacyjne, the study of public transport development in the Rzeszowski Obszar Funkcjonalny. Extensive and multifaceted literature on the subject was collected and several inventories of the area were carried out at various intervals.

2. The significance of railway stations as elements of cultural heritage

Railway stations have great historical value in terms of technology, architecture and urban planning. As transport infrastructure, they symbolise the enormous progress made during the Industrial Revolution. New designs for halls, pavilions, platforms and station roofs emerged. Railway architecture symbolised the transformation of the world and highlighted the splendour of the city. From the perspective of visitors, it was a showcase of the city. The buildings of main stations most often took the form of palaces and manors. The façades of 19th century stations featured new allegorical motifs depicting personifications such as rivers, time, day and night, morning and evening, or trade and industry. Coats of arms representing cities or countries also appeared. The interiors were richly decorated with stucco, mosaics and paintings. They also provided attractive spaces for works by artists, primarily Impressionists, Expressionists and Futurists (Rymar, 2009: 10). In urban contexts, railway stations stimulated urban development as the road network around them became denser and hotels, restaurants and commercial facilities were built. Green spaces were

https://doi.org/10.37705/TechTrans/e2026005

also created nearby to make waiting for trains more pleasant for travellers. The station and station square were places where people from all social groups met. The station area was a hub of social, economic and cultural life, and it gradually became the city's new centre. The construction of the railway played a key role in the development of many European cities (Rymar, 2009: 14).

Unfortunately, the importance of railways has declined significantly due to the growing popularity of individual and air transport. By the turn of the 21st century, trains had become an infrequently chosen means of transport. It is estimated that railways accounted for only 6.4% of passenger journeys in European Union countries (Załuski, 2010). At the same time, the number of connections decreased and the infrastructure gradually deteriorated. Historic railway stations, with their impressive architecture, gradually fell into disrepair when deprived of their main function or replaced by repetitive designs. The most controversial changes were those to the layout of the rooms. In the 1990s, spaces began to be divided in an ill-considered manner by introducing various types of service premises, boxes, and signs or advertisements of low aesthetic value. Passageways became narrow, and the original functional layout became unclear. The stations gave the impression of chaos and randomness (Załuski, 2006: 6).

In Western Europe, railway revitalisation projects began as early as the interwar period, but it was not until the 1950s that station redevelopment concepts began to be implemented on a larger scale, with high-speed railways appearing in the 1980s and 1990s. Gare Montparnasse and Gare D'Austerlitz in Paris date back to this period. This was followed by major programmes in other countries, including 'Projekte 21' (Germany), 'Austrian Rail Offensive' (Austria), 'Nieuwe Sleutelprojecten' (Netherlands), 'Rail City' and 'Bahn 2000' (Switzerland) and 'Grandi Stazioni' (Italy). These projects aimed to modernise stations and increase their efficiency as hubs. They also contributed to the transformation of inner-city development (Załuski, 2006: 7).

The high level of competition between European cities is motivating city authorities (including those in Poland) to improve their public transport systems to make them more attractive. The resulting multifunctional transport hubs are revitalising their surroundings and regenerating degraded areas (Ogrodnik, 2006: 139). Many cities have attempted to restore the function of station squares, e.g. Wrocław Główny, Berlin Potsdamer Platz and Stuttgart Hauptbahnhof. Other projects demonstrate the extension of representative downtown public spaces: Hannover Hauptbahnhof and Berlin Hackescher Markt. In Poland, the modernisation and reconstruction of railway infrastructure between 2008 and 2012 was closely linked to preparations for the 2012 European Football Championship in cities such as Katowice, Poznań, Wrocław, Sopot and Warsaw (Jaszczak & Witkowska, 2012: 74).

However, for the revitalisation process to be successful, it is important to design a coherent network of public spaces around railway stations and stops that integrates them with the surrounding urban area (Ogrodnik, 2006: 139). A place that connects various means of transport, such as railways, buses, trams, taxis, bicycles and private vehicles, becomes a generator that attracts new investments and functions, stimulating further development (Ogrodnik, 2005: 72). Ogrodnik (2005) described the layout of such urban spaces as 'travel architecture'. Transport hubs, together with public spaces and functions that concentrate economic, social and cultural activities, become specific urban centres. In many European cities, areas around railway stations have become new centres, focusing mainly on transport, commerce, retail and services. Train stations can become key elements in the city's public space system, maintaining its compact and integrated structure while preserving the identity of European cities. Additionally, they limit urban sprawl thanks to their capacity to generate pedestrian traffic and establish close links with the urban area (Kochanowska, 2006: 56).

3. Examples of station revitalisation in Poland and Europe

In recent years, many beneficial changes have been made to railway stations and their surroundings, often introducing new functions beyond transport. In Europe and Poland, for example, railway stations are being rebuilt to create integrated transport hubs that are often connected to exhibition and office facilities, as well as shopping centres (Jaszczak & Witkowska, 2012: 73–74). In this article, the author presents examples of successful projects that have revitalised railway stations, transforming them into multifunctional centres with attractive public spaces while preserving their historical identity.

An interesting example is the Stuttgart 21 project in Germany. Stuttgart is one of Germany's 12 metropolitan areas and one of its largest and most developed regions, but its residents required increased mobility and an efficient public transport system (Wójcicki, 2013). In 1974, as part of their cooperation, the city of Stuttgart and the surrounding municipalities established the Middle Neckar Association (Regionalvebands Mittlerer Neckar), which was transformed into the Stuttgart Region Association (Verband Region Stuttgart) in 1994 and is still active today (Wójcik, 2013: 34). This administrative structure is responsible for regional planning in accordance with the principles of sustainable development, including transport, nature conservation, tourism, and public rail transport. Based on their recommendations and planning documents[1], the railway was to be the main recipient of large-scale investment. The large-scale 'Stuttgart 21' project was carried out in several stages: first, the railway junction was reorganised and a new underground station was built; then, the Stuttgart–Ulm route was constructed to connect the region to the Paris–Bratislava–Budapest main line. A key element of the project was converting the main terminus station into a through station by placing the entire infrastructure underground. The new building was intended to showcase the city, so it was constructed using the latest technologies and architectural trends, and the facility itself is zero-emission. Additionally, the station and its neighbouring areas, especially the Schlossgarten park, were designed to constitute a valuable public space. Two other underground stations were also built: one under Stuttgart Airport and one under the International Trade Fair (Wójcik, 2013: 37). The next stage is the revitalisation of the European Quarter and the Rosenstein Quarter, two selected downtown districts. The former is based on the concept of a city of short distances and relies mainly on pedestrian traffic. Within the new quarter (within a radius of approx. 500 metres), you can reach the station, commercial and service buildings, green spaces, recreational areas, and tourist attractions. The design of the new residential and service spaces is intended to contribute to the revitalisation of the city centre, given that the quarter plays a central role thanks to its broad and diverse functional programme. The second area will be an extension of the city centre development and the Schlossgarten green belt and gardens. The land, which is wholly owned by the city, will enable the existing urban area to be integrated with the planned development. The aim of this quarter is to preserve ethical and aesthetic values, so consistency with the city and environmentally friendly design are the highest priorities, rather than commercialisation.

Another major venture in Europe was the Lyon Confluence project in France, which covered 150 hectares of peninsular land adjacent to the city centre. The spatial layout of Lyon's city centre is determined by the confluence of two rivers forming a peninsula, where the historic city centre, listed as a UNESCO World Heritage Site, is located (Załuski, 2006: 258). There are two railway stations within the city centre: Gare Part-Dieu on the eastern side, and Lyon Perrache in the south of the peninsula. The latter has become an integrated transport hub serving rail, tram and car, as well as a high-speed rail station connecting the city with Paris. From the end of the 19th century to the mid-20th century, industrial,

[1] Regional Plan 2020 (Regionalplan 2020) and Regional Transport Plan (Regionalverkehrsplan).

https://doi.org/10.37705/TechTrans/e2026005

transport and residential functions dominated the peninsula (workers' housing estates), and the railway tracks and motorway built in the 1960s clearly separated it from the city centre. The project aimed to integrate the peninsula into the city's network of public spaces, introducing a modern urban district with city centre functions and integrating it with historic buildings. The district known as La Confluence was designed to include cultural, recreational, office, commercial and residential facilities, to make the area more vibrant and provide comfortable living conditions. Extensive historical and landscape analyses of the area allowed us to understand its history, discover its genius loci and design new buildings that reflect the area's identity (Załuski, 2006: 258). The first implementation phase was based on transforming and constructing new railway, tram and car infrastructure, as well as developing public squares (including the station square). The planned development of rail transport and Gare de Perrache railway station also played a key role, involving the station's integration with Place des Archives and the metro line extension (Załuski, 2006: 258). Place des Archives is bordered on the south side by the station and public buildings, including the City Archives and the Catholic University. They form a gateway that connects the La Confluence district with the historic city centre, overcoming spatial barriers such as railway tracks and a motorway. They also continue the clear compositional axis that starts at Place Bellecour in the historic centre and continues through Place Carnot, the Centre d'Echange de Lyon Perrache, Gare de Perrache and Place des Archives. Subsequently, social and recreational infrastructure was expanded with new schools, sports fields, a skate park and cultural centres. The scope of work also included the renovation and restoration of historic buildings, such as the Youth Cultural Centre, the City Archives, the revitalisation of Place des Archives and the surrounding buildings, and the Rambaud port.

Since 2008, Polskie Koleje Państwowe (Polish State Railways) has been implementing a programme to modernise railway stations, beginning with the most prominent ones, such as those in Wrocław, Kraków and Malbork. Between 2014 and 2020, smaller facilities were renovated using EU funds. This process was prompted by numerous interventions from provincial monument conservators and calls to preserve damaged railway facilities and protect their cultural value (Krzyczkowski, 2014: 155–159).

An example of the development of post-railway and post-military areas in the form of a major transport hub in the context of the historical area of the city is the Krakowskie Centrum Komunikacyjne (KCK). The Kraków Główny Railway Station has undeniable potential due to its attractive location near the Old Town and Planty Park, i.e. at the junction with the historic centre in the vicinity of the Juliusz Słowacki Theatre. Designed in accordance with EU standards, the multi-storey facility is one of the first comprehensive solutions in Poland to combine a station, car park, and retail and service facilities (Załuski, 2006: 136). The investment included constructing the MDA Bus Station and modernising Wita Stwosza and Pawia Streets, as well as building a rapid tram tunnel with an underground stop. The most significant stage was the construction of an underground railway station hall beneath the platforms, which elevated the city's transport hub to a new level, aligning with its metropolitan ambitions (Ogrodnik, 2014: 79). Another notable aspect was the construction of Galeria Krakowska, which was controversial due to its architecture[2]. Its location and connection with the entire bus station complex on the eastern side was unfortunate. However, Jana Nowaka-Jeziorańskiego Square, which connects the station, shopping centre and city centre, was better designed in terms of urban planning. The historic railway station building, together with the platforms and passageways, was preserved and restored. The revitalisation had a positive effect on the western side of the station, where a new downtown street was created,

[2] In 2007, Galeria Krakowska was awarded the title of the worst building of the year by the Archi-Szopa association.

the ground floors were revitalised, and the surrounding degraded quarters were gradually supplemented and renovated. The range of services became more diverse and their standard significantly improved (Ogrodnik, 2017: 36).

The largest post-railway area in Poland is the so-called 'Wolne Tory' (Free Tracks), which is located next to Poznań's main railway station. In 1996, a design was selected through a competition to create a vision for a new city centre at this location. Due to its size and attractive location between the historic centre, the railway station and the Międzynarodowe Targi Poznańskie complex, the site has high potential. However, the unused sidings and the huge area serving as a transhipment and logistics station are a problem, as the warehouse facilities located there are undergoing spontaneous degradation, demolition or temporary adaptations. The award-winning concept involved integrating these elements with high-quality public spaces and compositionally integrated services, which had been chaotically created between the Old Town and the railway station. The design was notable for its clear layout of streets and squares, well-designed mobility hub, and interesting station passage proposal (Ogrodnik, 2014: 76). The first stage of the investment, known as 'Poznań City Centre', was completed by 2014. Unfortunately, the final result differed significantly from the original design. The transport hub was created as part of the modernised railway and bus stations, with the latter being moved closer. Instead of the former station square, there is now a driveway and a shopping centre with a multi-storey car park and an extensive system of access roads. The main architectural feature is the hall of the new intermodal station, which connects the former station building with the shopping centre, while at the same time obscuring the platforms, bus stop, station square and taxi rank. The competition entry had limited pedestrian space, and the geometry of the pedestrian traffic network was subordinated to the functioning of the shopping centre. Although its main entrance is located on the edge of the historic city centre, it is clearly separated from it by multi-lane thoroughfares and a roundabout. The intermodal hub is a large-scale element in the structure of Poznań's city centre along the Królowa Jadwiga and Stanisław Matyja ring road, which is closed off on the western side by the Międzynarodowe Targi Poznańskie. The ring road concentrates services and public facilities in the city centre, which have varying degrees of urban connection. Against this backdrop, Poznań City Centre looks like an isolated island (Ogrodnik, 2014: 77). The southern part of the Wolne Tory area still requires development, and in subsequent stages a new housing estate and a 'green' footbridge over the tracks connecting the districts of Łazarz and Wilda will be built.

4. Mobility nodes in urban design models

The concept of mobility originates from the Latin word *mobilis*, meaning 'the ability to move' or 'mobility'. The term can also be understood more broadly as the ability to act efficiently and flexibly. In this context, the terms 'operational capacity' and 'activity' are used interchangeably. In transport terminology, 'mobility' refers to '*the tendency to change one's location', which is closely related to covering distance. This form of mobility can be achieved using various modes of transport, such as road, rail or air* (Ciastoń-Ciulkin, 2016: 4). As part of the discussions on mobility, Poland is developing the concept of transport hubs, following the example of other advanced countries. Depending on the context, these hubs can be referred to as 'mobility nodes'. These nodes should be considered places closely linked to transport interchanges and the surrounding service facilities; railway stations and stops are the best examples of this. However, a mobility node encompasses more than just a transfer station. It is based on a significant area where it is possible to change modes of transport, and it is a place where work, trade, services and public spaces are concentrated (Kruszyna, 2012: 34–35).

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According to the Ustawa o publicznym transporcie zbiorowym (Act on Public Collective Transport), an integrated transport hub is defined as "*a place enabling the convenient change of means of transport, equipped with the necessary infrastructure to serve passengers. This includes parking spaces, transport stops, ticket sales points and information systems enabling passengers to familiarise themselves with timetables, transport lines and networks*" (Dz.U. 2011, nr 5, poz. 13).

Z.K. Zuziak conducted long-term scientific research on urban construction models and their geometric interpretation (Zuziak, 2002, 2011; Gyurkovich, Zuziak et al., 2016–2017; Zuziak, Ogrodnik, 2018), who referred to the perception of the structure of the city and its elements as described by K. Lynch (1960) and A. Rossi (1984). In his analyses of the geometry of settlement structures, Zuziak distinguished nodes/nodal points as geographical locations corresponding to the mobility patterns of people, goods, institutions, information, and capital flows (Zuziak, 2011: 5). The urban planner also coined the term 'travel space' in recognition of the potential of public spaces directly linked to transport hubs. These include station squares and stations ('travel architecture'), shopping malls, and commercial centres, which are often located near or connected to transport hubs. He also identified the integration of public spaces with public transport nodes as a prerequisite for the development of a metropolis (Zuziak, 2002: 100).

In the course of scientific research conducted on the spatial structure model of Kraków (Gyurkovich, Szarata, Zuziak, 2016-2017), and subsequently on its urban structure in the context of the city centre and development corridors (Zuziak, Ogrodnik, 2018), Zuziak defined the concept of an urban node and a mobility node. An urban node is a fundamental component of contemporary urban life, functioning as a nexus that integrates focal activities and generates an integrated spatial and functional system. The accessibility of a location, its spatial development qualities and other values can be considered when assessing its attractiveness. Public spaces are a significant determinant of urban nodes. The term encompasses a variety of functional hubs, including transport and mobility hubs, service hubs such as city centres, shopping and service centres, and public spaces such as squares, intersections, and galleries. A mobility node is defined as a public transport network node that concentrates travel-related functions, as well as centre-forming and traffic-generating (generating traffic/travel) functions. In contradistinction to transfer hubs or integrated transport hubs, where the prevailing function is communication, mobility nodes are more urban character. The aforementioned nodes collectively constitute an urban 'network' or 'skeleton' of the city, the purpose of which is to delineate strategic points and directions for development. A model interpretation of the spatial structure of a city can become a valuable tool used in spatial policy, especially in the case of urban centres entering a phase of metropolitan development, as evidenced by the case of Rzeszów (Martyka, 2002: 56-59). New elements and directions of change in the urban construction model should be determined within the framework of spatial policy and recorded in planning documents.

Another research project led by Z.K. Zuziak and M. Gosztyła concerned the urban structure of Rzeszów (Gosztyła, Zuziak, et. al., 2019), which the author will refer to in the next section of the article. The developed model, consisting of nodes and linear elements (corridors), is based on the same conceptual apparatus, where one of the main mobility nodes is the node based on the Rzeszów Główny Railway Station. Architect and urban planner A. Martyka is responsible for ongoing research into the interpretation of urban spatial structures and the development of new planning policy methods and tools. She analysed Lublin together with N. Przesmycka (Martyka & Przesmycka, 2024).

5. Rzeszów in the context of the development of mobility nodes

The city is situated within the Rzeszowski Obszar Funkcjonalny – ROF (Rzeszów Functional Area), which is traversed by roads and railways of national and European significance. Rzeszów serves as a prime exemplar of a trans-European transport network (TEN-T) nexus, catering to both road and rail transport. This network includes the A4 motorway, national road No. 19, a section of the S19 expressway, railway line No. 91 Kraków-Medyka and railway line No. 68 Przeworsk-Stalowa Wola Rozwadów (Strategia rozwoju miasta Rzeszowa do roku 2025, I: 4). An important factor in the development of the city's metropolitan functions is the international airport in nearby Jasionka (until recently the only one in the eastern part of the country), around which economic zones are being created, attracting investors from the aviation, industry and technological innovation sectors. These plants are organised into numerous clusters, which is a testament to the high level of economic development in Rzeszów, as well as to the close cooperation between entrepreneurs, universities, local governments and businesses. The airport is also surrounded by storage areas, warehouses and logistics centres for transport hubs. Strategia rozwoju miasta Rzeszowa do roku 2025 includes plans for the extensive modernisation of the railway, the construction of new stations and the electrification of selected sections of the line, which was implemented in 2016-2023 as part of the Podmiejska Kolej Aglomeracyjna – PKA (Suburban Agglomeration Railway) project. A key investment was the construction of a new section of track connecting the city with Rzeszów-Jasionka Airport and the Podkarpackie Science and Technology Park Aeropolis, significantly improving connections to the airport and workplaces. It is unfortunate that the integration of various means of public and individual transport through Park&Ride car parks in towns near Rzeszów remains a major challenge. This integration is provided for in the Strategia Rozwoju Województwa – Podkarpacie 2020 and Strategia Rozwoju Miasta do roku 2025. Another significant phase in the evolution of railways in the ROF area and in Rzeszów itself may occur as part of the construction of the Centralny Port Komunikacyjny – CPK (Central Communication Port), which is to include an integrated high-speed rail system. The planned Rzeszów-Łętownia section, which will also be part of the TEN-T network, will provide faster access to Warsaw and new connections to cities such as Stalowa Wola, Tarnobrzeg, Sandomierz and Nisko.

The potential of the capital of the Podkarpackie Province was the subject of discussion at a scientific conference entitled "Rzeszów Miasto Przyszłości 2017", which was organised in 2017 by the Rzeszów University of Technology. Urban heritage in the city of the future on the example of the innovation and development potential of Rzeszów and other cities, where the main topics discussed were urban planning, spatial planning, cultural heritage protection and city structure revitalisation projects. The conclusions and observations formulated were used for further research entitled „Węzły i korytarze rozwoju funkcji metropolitalnych Rzeszowa" carried out by a team of scientists (architects, urban planners and transport engineers) under the supervision of Z.K. Zuziak and M. Gosztyła.

The project was based on the methodology and theoretical assumptions of studies concerning Krakow (Gyurkovich, Zuziak et al., 2016–2017; Zuziak, Ogrodnik, 2018), but in the case of Rzeszów, the research was supplemented with aspects of cultural heritage. First, spaces of high cultural value in the urban structure of Rzeszów were selected and the phases of the city's development were presented (Gosztyła, 2019). Detailed historical, urban planning and conservation studies were carried out for the historic centre (Malczewska, 2019), Hetmańska Street (Mikrut-Kusy, 2025) and Rzeszów Główny Railway Station (Janda, 2019 and 2022). To this purpose, the history of spatial development of individual areas, their characteristics and composition were first analysed,

https://doi.org/10.37705/TechTrans/e2026005

followed by forms of protection (the Municipal Register of Monuments of the City of Rzeszów, the Municipal Programme for the Protection of Monuments of the City of Rzeszów, the Local Revitalisation Programme for the Municipality of the City of Rzeszów). Issues of road communication and transport problems were explained by M. Szarata (Gosztyła, M., Zuziak, Z.K. et al. 2019). The next step was to identify strategic elements and directions of development at the city, region, province and national levels on the basis of planning documents. Zuziak argued that the development of metropolitan functions is accompanied by the crystallisation of polycentric systems on a functional area and city scale, which is also happening in Rzeszów (Zuziak, 2019: 62). The research began with the current state of the city, in which criteria for identifying nodes and corridors were selected, as well as a method for their graphical interpretation, taking into account differences depending on the scale (metropolitan scale, functional area, city area or city centre). Urban and railway corridors and urban nodes were identified and classified, and then their development potential was assessed using Z. Hellwig's linear ordering method (Martyka, 2023: 60). The assessment

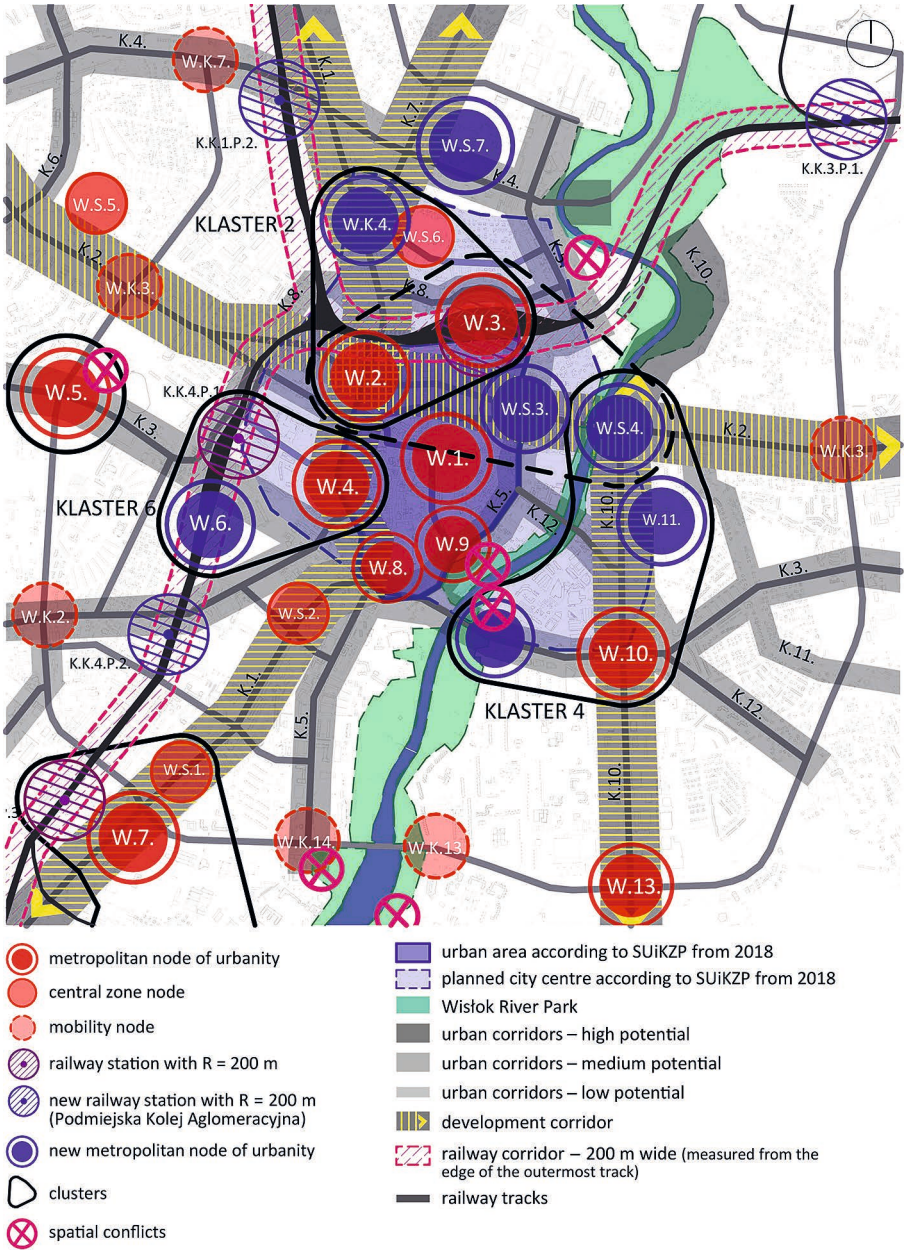

Fig. 1. Nodes and corridors in the structure of Rzeszów city centre – author's work. Source: Gosztyła, M., Zuziak, Z.K. i in. (2019). *Węzły i korytarze rozwoju funkcji metropolitalnych Rzeszowa*

took into account the following criteria: transport solutions, the nature of the buildings, concentration and functional diversity, accessibility, investment attractiveness and cultural heritage. The developed model presents a synthesis of three types: morphological, structural and transport (Gosztyła, Zuziak, et al., 2019) (Fig. 1). For selected nodes and corridors, urban analyses were prepared presenting the morphology, compositional layout, transport, functions, cultural values and planned investments in these areas.

The urban structure of Rzeszów is concentric and radial, with the main directions of development currently being north, north-west and south. The railway station, in conjunction with other stops and stations, generates corridors of development that exert a significant influence on the subsequent configuration of the spatial structure. The nodes created at the stops concentrate development, creating new centres of a metropolitan, city-wide or local character, and indicate a polycentric model of the city. In addition, many clusters are still being created in Rzeszów, which also have a pro-development impact on the city, and most of them are linked to mobility nodes – the airport, bus stop or railway station. The project clearly shows the very high potential of rail-based mobility hubs, i.e. the Staroniwa Station and the area around the Rzeszów Główny railway station (Rzeszowskie Centrum Komunikacyjne).

6. The railway station as the main mobility node

The city of Rzeszów is a paradigmatic example of a railway station being constructed in close proximity to a larger urban centre, in this case in a nearby settlement. The relatively short distance between the new station and the city centre had a direct impact on the subsequent spatial and functional structure of the city (Janda, 2022: 79–80).

Plans to connect towns in eastern Galicia with Kraków date back to the 1830s (Stankiewicz, 2008: 9). Plans to connect the towns of eastern Galicia with Kraków date back to the 1830s (Stankiewicz, 2008: 9). An important factor in choosing the route from Vienna to Bochnia via Kraków was the presence of salt mines. The line opened in 1856, at which point work began on the next section leading to Tarnów, Dębica, Rzeszów and Lviv. The railway finally appeared in Rzeszów in 1858 when the Dębica–Rzeszów route was opened (Janda, 2022: 82). The station was mainly used for passenger transport rather than freight, and thanks to the railway, the city gained an important connection with eastern and western Europe (e.g. Wrocław and Berlin). In the following years, workshop facilities and a rectangular engine shed were constructed, and around 1910 and 1918, the city's characteristic fan-shaped halls were built (Machowski & Nycz, 2014: 151). The next railway connection was established in 1890, running south to Jasło, in conjunction with the construction of a refinery and oil extraction plant near Krosno. However, Staroniwa Station was primarily used for freight transport and did not serve as many functions as the main station. Later, as part of the Central Industrial District construction project, a new line to Tarnobrzeg, where metal and chemical plants produced goods for the arms and aviation industries. Construction of the route was completed in stages until the Rzeszów-Tarnogród line was finished in 1971. The junction functioned in this way until the implementation of the PKA. The construction of the railway and station close to the city centre stimulated the urban development of Rzeszów through the expansion of the road network and increased investment activity. Buildings were constructed in the space between the station and the Old Town, and new streets were built to connect the station square to the New Town Market Square, Kiliński Square and the New Town Market Square (Janda, 2022: 88).

The station building is a through station, with trains departing in two opposite directions. The original building was a two-storey structure built on a rectangular plan, characterised by a gable roof. The side pavilions were covered with hipped roofs. The original station was built using local sandstone

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(Gosztyła & Sikorski, 2025: 8). Following its reconstruction between 1889 and 1890, it gained a low hipped roof and its architecture drew inspiration from early Renaissance Florentine city palaces. The pavilions remained single-storey with three-sided roofs, and the façades featured arcaded windows that continued the layout and rhythm of the ground floor of the main building. The functional layout was primarily based on a vestibule containing an entrance hall, a waiting room divided into classes for ticket offices, a luggage office, a post office, and staff rooms (Opaliński, 2001: 100). The reconstruction undertaken between 1908 and 1909 primarily entailed modifications to the functional and utilitarian programme, culminating in the creation of a spacious, two-storey, walk--through hall. A restaurant and an additional waiting room were also added. Externally, the platform canopy was enlarged and a new wing was added to accentuate the main entrance, which was adorned with numerous architectural details (Rymar 2009: 100). The appearance of the building was significantly altered by its modernist reconstruction in the 1960s, which involved removing numerous decorative elements and transforming window and door openings. Later modernisation restored some 19th century details, however in a rather tacky manner (Machowski & Nycz, 2014: 150). Despite its architectural design and primary function as a transport hub, the station also played an important role as a public space. The spacious square, complete with garden features, was reminiscent of courtyards of honour, which speaks to its representative character. It was undoubtedly a meeting place and a popular spot for walks and entertainment for local residents (Janda, 2022: 87). The greenery added prestige, and some of Rzeszów's first hotels and other service and catering facilities were built around the station. While it never became another city centre, there is still a chance that it could in the future.

The Rzeszów Główny railway station has been identified in the spatial structure of the city as the main mobility node, with considerable potential for the development of metropolitan functions in Rzeszów. Based on the adopted evaluation criteria and the Hellwig index, which linearly ranked all identified nodes (creating a ranking), the node around the station was placed in the group with the highest development potential. This means that it has, among other things, the best predisposition to become saturated with higher-order functions (Gosztyła, Zuziak, et al., 2019).

The arguments in favour of the node's high position in the ranking (broken down by evaluation criteria) are as follows:

- TRANSPORT/MOBILITY CRITERION – a unique combination of existing and modernised means of transport (connection to public transport and the rail system) and good accessibility. Within the railway station there is a bus station, taxi rank, public transport stop and, within a 15-minute walk, the Local Station on Towarnickiego Street with non-urban transport.
- LOCATION OF METROPOLITAN FUNCTIONS CRITERION – the location has a very strong appeal for investment and high potential for metropolitan functions. Currently, along Piłsudskiego Street and around the railway station, there is a concentration of administrative, service, commercial and scientific institutions of regional importance, e.g. the Provincial Office, the Marshal's Office, the Court of Appeal, the Social Insurance Institution (ZUS), the District Employment Office, Galeria Rzeszów, Hotel Rzeszów, Galeria Europa, the Podkarpackie Business Club, the DevelopRes SkyRes business centre and the headquarters of numerous banks.
- LOCATION ATTRACTIVENESS CRITERION – potential resulting from the quality, diversity and concentration of various types of mixed-use functions, as well as the quality of architecture and amount of public space. Capacity for social activation and access to basic services.
- INVESTMENT ATTRACTIVENESS CRITERION – the location has favourable urban indicators such as building density, area and density of development, and property value. The areas are classified as undergoing

revitalisation, but at the same time have the potential for the construction of tall and high-rise buildings.

- CULTURAL HERITAGE CRITERION – finally, there are numerous buildings around the railway station that are listed in the municipal register and some are also included in the register of monuments (Fig. 2). These are railway architecture and infrastructure buildings or tenement houses on Grunwaldzka, Jabłońskiego, Grottgera, Kolejowa, Batorego and Plac Wolności streets. The area is particularly rich in historic buildings and urban layouts.

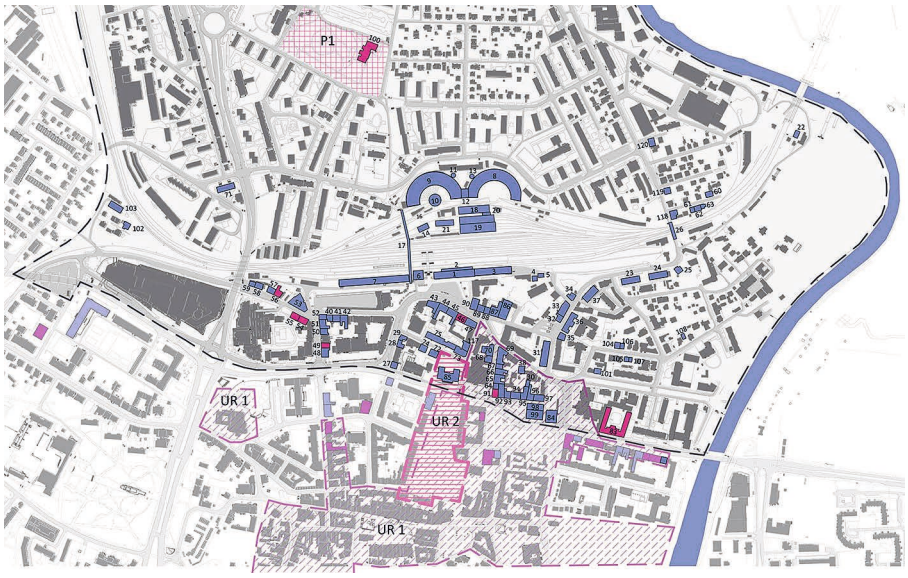

Fig. 2. Municipal register of monuments (blue buildings) and register of monuments (pink building and urban layout) in the area around Rzeszów Główny railway station – author's work based on Municipal Register of Monuments of the City of Rzeszów and. Source: Gosztyła, M., Zuziak, Z.K. i in. (2019). *Węzły i korytarze rozwoju funkcji metropolitalnych Rzeszowa*

The node is a key element connecting urban and non-urban areas within the ROF and in south-eastern Poland. The structure under discussion plays a multifunctional role in the city's layout. It has been designed to integrate all means of transport, including rail, urban public transport, suburban and long--distance transport. The transformation of this area has the potential to serve as a model for the city, with the capacity to exert a substantial influence on the functioning and organisation of public space in the centre of Rzeszów (Gosztyła, Zuziak, et. al., 2019).

The roads leading to Rzeszów Główny railway station are problematic. Despite their high potential – historical value, a convenient distance from the city centre and the possibility of introducing attractive services – they are not very intuitive or clear from the perspective of a passer-by. This is due to the poor condition of the ground-floor façades and the lack of continuity in the public space. The City Council is taking steps to improve the situation. In 2024, Grunwaldzka Street was opened, creating one of the most important urban corridors in the city centre leading to the main railway station. Alongside the complete reconstruction of underground installations, the pavement was replaced, new energy-efficient street lighting was installed, greenery was introduced, and importantly, 'parklets' were designed as places to relax. The revitalisation project also covered a small square owned by the University of Rzeszów and located directly adjacent to the street. The historic fence was restored and small architectural elements and paving slabs were replaced. These measures form part of the 'accessibility tree' method proposed by D. Ogrodnik for revitalising the surroundings of railway junctions. This method involves 'integrating public space' and 'orienting it towards the stop' by improving its geometry and creating centres of activity (Ogrodnik, 2005: 73–74). Based on this idea, a research project concerning Rzeszów prepared a concept for the development of a network of public spaces and places for the integration of urban centres with a mobility hub in

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the city centre. The figure (Fig. 3) shows the directions of integration of weakly connected areas in the form of bridges or footbridges. The black elements are activity generators, i.e. buildings that stimulate movement in the city.

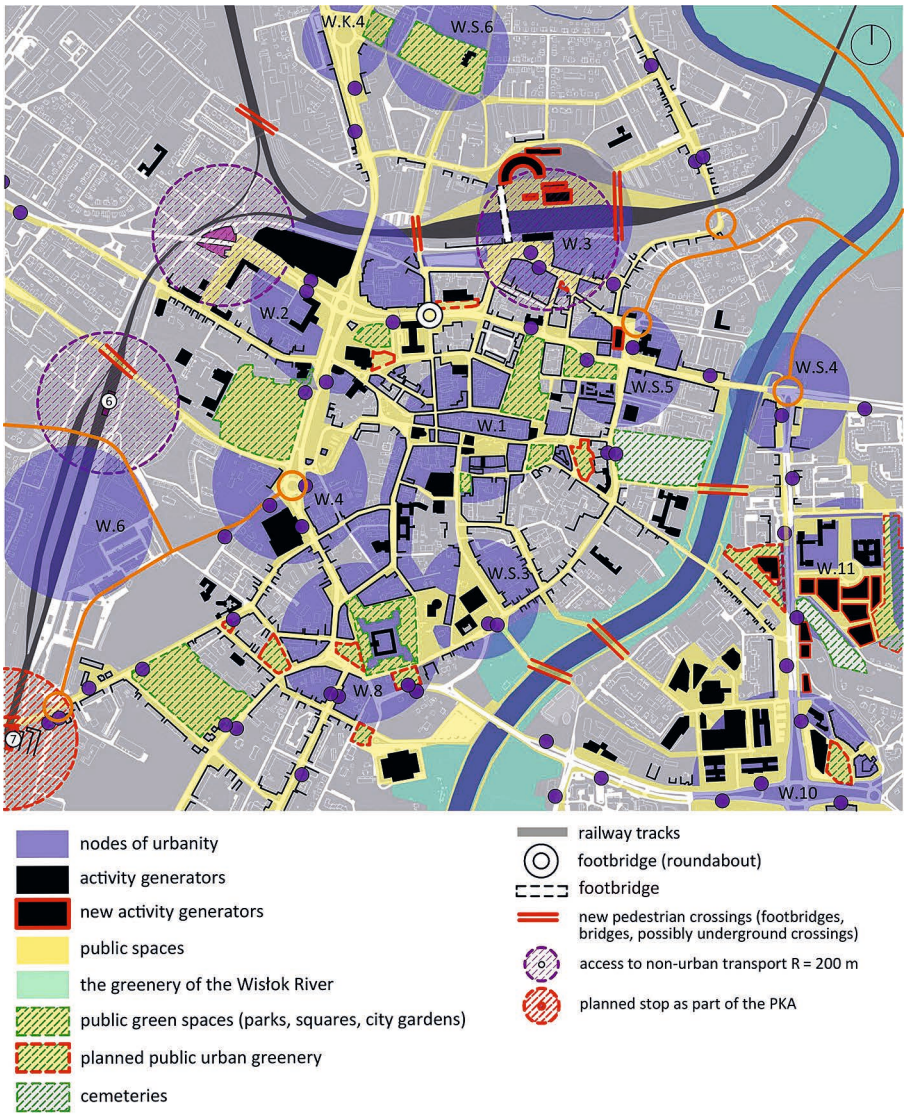

Fig. 3. Nodes and network of public spaces in the structure of Rzeszów City Centre – perspective 2050 (future concept) – author's work. Source: Gosztyła, M., Zuziak, Z.K. i in. (2019). *Węzły i korytarze rozwoju funkcji metropolitalnych Rzeszowa*

7. Rzeszowskie Centrum Komunikacyjne (Rzeszów Communication Centre)

In accordance with the Strategia rozwoju województwa – Podkarpackie 2020, one of the strategic measures aimed at strengthening the metropolitan functions of Rzeszów and its position in the national and European space is the development of transport links and an integrated public transport system with its functional area. These measures are expected to result in the launch of an agglomeration railway (PKA), the introduction of multimodal public transport solutions, and the establishment of an integrated public transport node in the form of the Rzeszów Transport Centre (RCK). The concept under discussion here is the modernisation and expansion of the Rzeszów Główny station complex (Strategia rozwoju województwa – Podkarpackie 2020: 63). In accordance with the Strategia rozwoju miasta Rzeszowa, the creation of sustainable transport in the city also aims to minimise the use of environmentally harmful means

of transport and to expand alternative public transport and cycling systems (Strategia rozwoju miasta Rzeszowa do roku 2025, I: 25).

The spatial development study defined railway areas as an urban layout necessary for supplementation, development and transformation (SUiKZP 2018, Appendix No. 16), and the established directions for tourism development recognised this area as important for inbound and outbound tourism, given that the station and its surrounding space shape the image of the city.

The RCK concept encompassed the construction of new, elevated and covered platforms adapted for individuals with disabilities, the construction or extension of underpasses and overpasses, the establishment of new car

Fig. 4. Delimitation of the area in Miejscowy Plan Zagospodarowania Przestrzennego Nr 107/15/2005 (Local Spatial Development Plan) designated as the Rzeszowskie Centrum Komunikacyjne. Source: Orthophoto map from https://www.geoportal.gov.pl/ (date of access: 2025/03/01)

Fig. 5. The Rzeszów Główny Railway Station building after renovation – February 2025. Photo: M. Janda

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parks, the reorganisation of the manoeuvring area and the enhancement of road access. In terms of architecture, there were plans to restore the historic appearance of the building in a modernist style (Strategia rozwoju miasta Rzeszowa do roku 2025, II: 29) (Fig. 5). Local spatial development plans permitted the introduction of new public and commercial services in the area covered by the RCK project (Fig. 4), as well as new buildings in accordance with the scale, proportions and divisions of the facades of railway buildings entered in the register of monuments. The documents also designated conservation zones with the aim of protecting the area from chaotic construction, disruption of spatial order, and the location of inappropriate functions.

Ultimately, implementing the RCK involved adapting the existing station square. One of the main objectives was to build an underground car park with exits leading to the station level (Fig. 6). The square was designated as a transport hub, complete with public transport bays, kiss-and-ride parking spaces, and taxi stands. The glass shelters were equipped with photovoltaic installations to provide electricity for charging electric buses and lighting the facility. The construction took place in stages: the initial works were carried out between 2014 and 2020 using European funding from the Program Polska Wschodnia 2014-2020. During this period, the road layout around the station was redesigned and new platforms and shelters were built, along with bus stops. The bus stops were fitted with roofs, information boards and ticket machines. Covered bicycle racks (Bike&Ride) were also installed. In accordance with the conservator's guidelines, the new structure does not dominate the station building. The space is fully accessible for people with disabilities. The square was designed as an integrated public space that connects with the surrounding area, featuring a uniform surface complemented by green elements.

Fig. 6. Emergency exit from the underground car park – February 2025. Photo: M. Janda

An important positive aspect is the preservation of elements of the building's historical substance, including the renovation and preservation of mosaics in the main hall and the discovery of another stone mosaic with polychrome decoration in the former restaurant hall. All of them date back to the 1960s. The discovered mosaic depicts an abstract composition of an organic nature with elements of informal art. In addition, the oldest structural elements of the building, i.e. barrel vaults and stone foundations, have been exposed on level –1. All works were carried out in accordance with conservation recommendations (Szulim, 2023).

However, integrating and improving access to the railway areas on Kochanowskiego Street with the Osiedle 1000-lecia residential estate and the northern part of the city remains a major problem. An analysis of cultural values (Gosztyła et al., 2019) confirms the limited protection of railway heritage

in Rzeszów. Railway facilities are only recorded, not entered in the register of monuments (Janda, 2022: 86). Although the Rzeszów Główny Railway Station Complex is recognised as tangible cultural heritage and included in the group of monuments of the highest importance in the Gminny program opieki nad zabytkami miasta Rzeszowa na lata 2021–2024, there are no specific plans or measures in place to prevent its degradation or exploit the potential of the former steam locomotive depot site. Although the area is functionally linked to the railway station and covered by a joint local spatial development plan called RCK, it is still treated as an independent area, which exacerbates its isolation.

8. Conclusion

Railway stations are distinctive locations where contemporary urban problems accumulate, as they are linked to travel, place of residence or work, public administration, services, trade and historical heritage. In consideration of their function and the traffic they generate, stations are considered to be integral components of both the transport and urban systems. Consequently, there is a necessity for the implementation of coordinated integration measures. However, it should be noted that such measures have the capacity to exert a significant influence on the functionality of residents in the vicinity (Kochanowska, 2006: 55). Mobility nodes such as railway stations have the potential to play a catalytic role in revitalising the structure of the city centre. Based on examples of the redevelopment of European stations, it can be concluded that it is possible, and even necessary, to reconcile the development of transport functions in the form of integrated mobility nodes with the protection of historical values, because railway stations and their adjacent squares in city centres influence a city's identity, the quality of public spaces, and constitute important elements in a city's history. A clear layout, strong connection to the urban area and rich functional programme create an attractive 'travel space' and prevent the gradual degradation of adjacent areas.

In order to identify optimal spatial solutions for an integrated transport node, it is first necessary to conduct a series of analyses in the areas of transport, planning, law and property. These analyses should provide an assessment of the current situation and the planned capacity of the station. They should also serve as guidelines for urban planning competitions for individual railway facilities and areas (Załuski, 2014: 63). Furthermore, research should be conducted on the cultural landscape, including historical values, the spatial structure of buildings around the station, inventory and architectural analyses of railway facilities. The space around the station should be treated as an opportunity to revitalise the city centre, rather than just a transport interchange where users only stay for a short time, as this can lead to further dehumanisation of the environment (Kochanowska, 2006: 57). Another threat is designing stations as 'megastructures' resembling hypermarkets or multiplex cinemas (Jaszczak & Witkowska, 2012: 73–74), as occurred in Poznań.

The transport hub in Rzeszów, implemented as the RCK, exhibits considerable development potential, as evidenced by the model of nodes and corridors in the urban structure of Rzeszów developed in the research project. The site has the potential to become an attractive public space and a 'new centre' located north of the Old Town Square. The concentration of high-ranking administrative, service and commercial institutions has been demonstrated to generate population movement and develop metropolitan functions. The recent urban regeneration initiative has enhanced the transport infrastructure, however, from an architectural standpoint, the newly erected structures in the square have obscured the station building, thereby diminishing its representative character (Fig. 7). There are also still unresolved issues concerning the northern side of the railway area – its new function, the gradually deteriorating historic buildings and the low level of connection with the city centre. The area under

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Fig. 7. New buildings appeared in front of the station, which unfortunately obscure the view – February 2025. Photo: M. Janda

discussion can be considered a ‚lonely island' in the city structure, with a very distinctive form that stands out on the city map. Consequently, there is an imperative for measures to be implemented that will revitalise the railway and post-railway areas, and to modernise the infrastructure. Such measures have the potential to exert a significant influence on the economic and social development of the city.

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