REMV
REAL ESTATE MANAGEMENT AND VALUATION

Journal homepage:
www.remv-journal.com

URBAN QUALITY IN GROWING CITIES. THE CASE OF RZESZÓW IN POLAND

Ewa Joanna Stachura*[1], Magdalena Jagiełło[1], Anna Martyka[2]

[1] *Cracow University of Technology, ul. Warszawska 24, 31-155 Kraków, Poland, (EJS) e-mail: e.stachura1@gmail.com, ORCID: 0000-0002-0870-5887; (MJ) e-mail: magdajagiellok@interia.pl*

[2] *Rzeszow University of Technology, Aleja Powstańców Warszawy 12, 35-959 Rzeszów, Poland, e-mail: annam25@wp.pl*

* *Corresponding author*

ARTICLE INFO

Keywords:

housing environment, urban quality of life, indicators of urban quality, urban structure, supplementary building development

JEL Classification:

R29

ABSTRACT

The economic transformation, which started in 1990 in Poland, opened the possibility to produce and offer flats and apartments in the free market. Since 1990, developers have constructed about 4 million flats, increasing housing resources by more than 30%. The building quality (technologies and materials implemented) improved significantly compared to structures from the pre-transformation period. New investments have been located mainly in cities and city outskirts, complementing the existing development in medium or low development density or open areas, rarely followed by new infrastructure: roads, public transportation, recreational areas and services. These elements define urban quality, an essential indicator of the quality of life. Increasing the density of development threatens the city's urban structure and worsens the urban quality and residents' satisfaction. Such phenomena also hamper achieving sustainable development goals. For this study, one of the most dynamically growing cities, Rzeszow, representing a group of medium-sized cities in Poland, was selected and investigated to assess the urban quality of districts/neighborhoods where new housing complexes appeared after 2010. After identifying and describing the essential elements that provide urban quality in cities in Poland and the factors shaping them, the paper presents the survey results that reveal the quality of the neighborhood system, including residential development constructed after 2010.

Citation: Stachura, E.J., Jagiełło, M. & Martyka, A. (2025). Urban quality in growing cities. The case of Rzeszów in Poland. *Real Estate Management and Valuation*, *33*(2), 83-96. https://doi.org/10.2478/remav-2025-0017

1. Introduction

The combination of perceived and evaluated qualities expresses personal life satisfaction that is affected by external (objective) and intrinsic (subjective) factors. Both objective and subjective indicators belong to four dimensions: physical and mobility, social and political, economic and environmental. Many of the above-mentioned qualities refer to cities that today host most of the world's population. The Quality of Urban Life defines the level of well-being and satisfaction that individuals experience within their urban environment. In this context, the objective indicators include rates describing the neighborhood's quality (residential vacancy, distance to transit stops, quality of roads, and educational and commercial buildings). Objective indicators of the social and economic dimensions include statistics of crime and education, death rate, and the rates of participation in elections, while the subjective ones describe satisfaction with family, friends, health and jobs, and the attitude towards the health care service. Economic indicators refer to employment rates, income, economic activity (objective), and the level of personal satisfaction. Objective environmental indicators describe measures for air, water, and soil pollution, as well as resource and waste management strategies. Subjective indicators include individual attitudes toward neighborhood environmental issues and outdoor activity patterns.

A short review of the indicators of the urban quality of life shows how much they are linked to the housing environment and neighborhood characteristics. Therefore, decision-making in the design process on the urban and architectural scale doesn't refer only to spatial and technical problems but also defines most aspects of the urban quality of life. Hence, the concept of QUL in a city is widely studied in urban planning.

Nevertheless, cities are not homogenous structures, and are transforming constantly. The housing environment evolves under determinants belonging to the following groups: spatial, economic, legal, social, sociological, and cultural (Stachura, 2013). Some interact globally, and others on a national or local scale. The most substantial factors that have influenced residential architecture in Poland in the past decades are the economic ones resulting from the system change in 1990, which implemented a free market economy that profoundly changed urbanization conditions. The process of superimposing new rules of spatial management and investment conditions over the existing ones resulted in a new spatial structure that requires identification and description.

The attempt to classify residential architecture types and identify urban areas of similar functional and spatial structure in cities in Poland (regarding new residential architecture created after 1990) led to a two-layer model where the urban fabric established before 1990 gets inserted with the new development "islands" created after 1990. Private developers' investments, usually low- and medium-scale, complete the existing spatial structure as peripheric appendixes or infill buildings/complexes inside larger housing estates. The four zones of a concentric (in most cases) structure include 1) a heritage city center, 2) housing estates built before 1990 by the state investor, 3) areas of single-family housing, and 4) open spaces with scattered development. The rapid urban growth of cities under propitious economic conditions started the densification of existing development, using field reserves, recreational areas, and open spaces.

2. Material and methods

As mentioned above, the urban quality of life is a complex set of expected features of the residential environment and design guidelines. These contribute to achieving the intended quality standard, but most of the characteristics discussed are multi-layered in nature. They are difficult to measure - especially at a specific moment in the development of the built-up area, which is, after all, a continuous process. Other aspects of the urban quality of life, e.g. legal, political and economic aspects, remain the same due to changes in the urban environment.

Therefore, for the purposes of this study, only elements from the set describing the urban quality of life were selected, which can be estimated using urban and observational analysis methods. The research results based on these crucial elements have the potential to significantly influence future planning and investment decisions regarding the area, district, and city. This underscores the importance of the elements from the set describing the urban quality of life selected for this study.

Among others, the following characteristics were selected:

1. environmental urban quality of life: access to nature and landscape values,
2. physical urban quality of life: a) access to services and facilities, b) clear urban composition,
3. mobility urban quality of life: a) access to transit stops, b) a fine network of interconnecting streets for all the users,
4. psychological urban quality of life: urban - aesthetic character of the built environment.

In this paper, based on the case of Rzeszow, a medium-sized city in South-Eastern Poland, the authors aim to reveal how new supplementary development affects the urban quality of life in residential districts in cities in Poland. Does a development increasing building density threaten the existing structure, and do the new housing complexes reach a satisfactory quality level regarding access to services, recreational areas, etc.?

The study consists of two stages:

- study of the main features of the estate/complex and its location,
- definition of important spatial relationships and accessibility of services and mobility.

Therefore, for the study, the following elements, which were inside the estate and its surroundings within an 800 m radius, were selected for evaluation and examined:

1. Estate/complex details:
   - distance of the team to the nearest bus stop [km],
   - location in the city structure/relations with the surroundings/spatial context,
   - the dominant height of buildings in the residential complex,
   - building type.
2. Compositional elements inside the estate
   - the estate's relations with its surroundings.
3. Access to services:
   - trade and services, greenery and recreational spaces, communication infrastructure.

To carry out the research, a specific area was chosen to exclude individual residential buildings built after 2015 from the analysis. A total of 61 residential complexes were identified, each consisting of at least two buildings, which were then subjected to a detailed qualitative assessment. The assessment process

eISSN: 2300-5289 | © 2025 The Author(s) | Article under the CC BY license

consisted of several stages, defined by five main sets of criteria. The first set of criteria focused on basic information about the multi-family complexes, such as the distance from the historic center of Rzeszów, the number of storeys and the type of construction. The second set of criteria concerned the structure of the development. The third group focused on the urban layout and spatial context of the complexes. At the same time, the fourth category assessed the quality of the spatial relationship between the new complexes and their surroundings. The last group of evaluation criteria related to the availability of functions complementary to the residential function, including access to education, shops and services, green and recreational areas, and public transport. The availability of these services was analyzed within 800 meters of each complex. Data for the assessment in each category was collected through field research and analysis of information available on Google Maps, and then stored in an EXCEL spreadsheet for further analysis and interpretation of the results.

The 800-meter accessibility threshold in urban planning, which corresponds to a 10-12 minute walk, is in line with the concept of the 15-minute city. It encourages the creation of neighborhoods where residents can meet most of their daily needs without having to travel long distances. The choice of this distance, rather than a shorter one, such as 500 meters, stems from the desire to strike a balance between pedestrian comfort and the ability to incorporate diverse infrastructure such as shops, schools and parks. From a planning perspective, 800 meters allows a larger area to be covered, encouraging a diversity of services and stimulating community involvement. From a scientific perspective, it is a distance that suits the abilities of most people, encourages physical activity and reduces reliance on cars, which has health benefits. Studies such as Davern et al. (2017) and Gunn et al. (2017) demonstrate the use of an 800 meter buffer to analyze the impact of infrastructure location on health behavior and urban mobility.

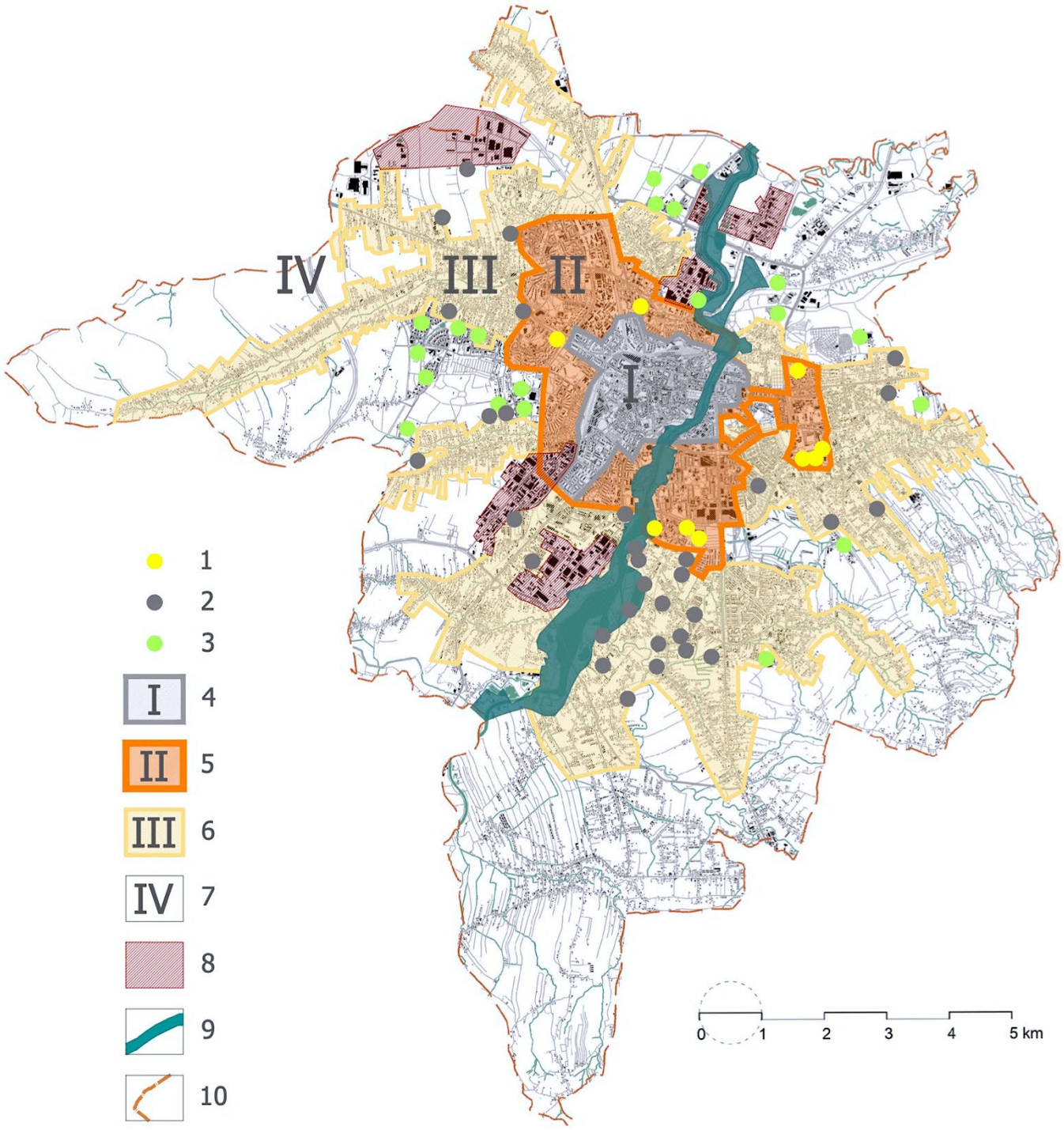
The following methods were implemented to answer the research questions: literature study and urban analysis according to the originally elaborated questionnaire. In the process of delimiting settlements, data from BDOT10k for 2015 and 2022 (data at the end of each of these years), obtained from the National Geoportal (https://mapy.geoportal.gov.pl/) in December 2023, were used for research. A comparative analysis of databases from both periods was conducted to identify newly created settlements. From the "land cover" category for 2022, objects with multi-family buildings in an area exceeding 0.5 ha built after 2015 were selected. These objects were classified as housing estates by the criteria adopted in the study.

As a provincial city, Rzeszów presents a fascinating mix of urban features where modernity and heritage are intertwined. The process of its development, initiated in 2005, due to its small size compared to other provincial cities in Poland, has undergone a significant transformation. In 2006, a strategic expansion of the city's boundaries began to increase the amount of land available for development and the number of inhabitants, in contrast to the national demographic trend. In contrast to many Polish cities which experienced a decline in population in the decade 2011-2021, Rzeszów stood out with a population increase of 9.2 per cent, demonstrating the complexity and dynamism of urban processes (Gnat, 2024).

The development of Rzeszow can be traced in several stages: from the first settlements, through the town's founding, the formation of suburbs, to the construction and reconstruction of the castle. These changes continued during the partition of Poland, the revival during the period of Galician autonomy, development between the wars and the reconstruction after the Second World War. The 1960s and the beginning of the 21st century saw another intense phase of urbanization, characterized by the unprecedented extension of the city's borders, the development of transport infrastructure and the creation of economic zones.

High-intensity urban development in city centers is based on three main elements. The first is historic buildings, which form a spatially distinct area of the old town that is a witness to the past and the foundation of urban identity. The second component is the buildings of the inner city quarters, which, together with the block housing estates, form the core of the urban residential structure (Martyka, 2022). The dynamic territorial growth of the city, which began in 2006, has contributed to the fact that more than half of its territory has a peripheral or suburban character. Spatial policies aimed at facilitating investment have allowed the conversion of agricultural and forestry land without changing its use, increasing its market value. The city has a monocentric spatial layout, with characteristic finger-like development corridors extending along the main transport arteries. Despite this structure, urbanization processes have led to the neglect of a key aspect of the urban quality of life: the preservation of green spaces for recreational functions (Sikora et al., 2021).

eISSN: 2300-5289 | Received 2024-03-30 | Revised 2025-01-22 | Accepted 2025-02-25



Legend: *1 – building complex in Zone II; 2 - building complex in Zone III; 3 - building complex in Zone IV; 4 - (I) Heritage center; 5 - (II) Areas of multifamily estates and complexes developed after 1945; 6 - (III) Low-intensity single-family housing complexes; 7 - (IV) Open areas with scattered building development; 8 - Industrial zone; 9 - Wislok river corridor; 10 - administrative border of the city of Rzeszów*

Fig. 1. Location of building complexes in the structure of Rzeszów and classification of residential zones in Rzeszów. *Source*: Original work based on own qualitative research (2024).

eISSN: 2300-5289 | © 2025 The Author(s) | Article under the CC BY license

The current spatial structure of Rzeszów is divided into four residential zones, each of which has different characteristics (fig. 1):

- Zone I - The heritage centre - The heart of Rzeszow, characterized by compact buildings, testifies to the city's historical settlement and urban development;
- Zone II - Areas of multifamily estates and complexes developed after 1945, testify to the city's post-war development;
- Zone III - Low-intensity single-family housing complexes – reflect the suburbanization and expansion of the city beyond its historic core;
- Zone IV - Open areas with scattered building development – represent the most peripheral parts of the city, where detached houses and green spaces in the form of agricultural fields dominate.

The legend of Fig. 1, contains descriptions corresponding to numbers 4 to 7. To increase legibility, Roman symbols I-IV were also added next to each number. Such labelling enables faster and more intuitive use of the data presented in the graphs and tables, which promotes better understanding of the presented analyses.

3. Literature review

The quality of life in cities is a complex problem that can be considered on many planes. There are about a hundred studies of the concept of the Quality of Life in the literature (Masilamani, 2017; Lanteigne, 2005; Mendes Jose, 2000; Treasury Board of Canada, 2000). These studies are based on the principles of sustainable development (Duch-Żebrowska et al., 2023), equality, gender (Fadda, 2003; Fahey et al., 2004), economic principles (Gasper, 2002), the living experiences of older people (Hendry & McVittie, 2004), wellbeing research (Hirschberg et al., 2001; Holmes, 2005), research on social indicators (Hsieh Chang-Ming, 2004; Lee & Marans, 1980; Veenhoven, 2000), and research in the field of environmental psychology (Moore, 2000; Veenhoven, 2000; Borkowski, 2003). Various tools have been developed to assess the quality of life in cities, considering the natural (Mikielewicz, 2022), historical and cultural context, and the needs of residents (Al-Qawasmi et al., 2021; Janik, 2004).

One of the most decisive influences on the quality of life in cities is the quality of the housing environment. Research on the quality of the housing environment conducted around the world concerns the impact of the quality of this environment on the wellbeing of residents, determining the features of the housing environment in the context of their perception and acceptance by users, as well as the relationship with housing prices (Alkay, 2009; Al-Qawasmi, 2020). The quality of life and housing includes a subjective dimension and an objective one resulting from various aspects of life experience and forms of residence (Lora et al., 2010; von Wirth et al., 2015) and (Wesz et al., 2023; Yagoub et al., 2022). The subjective dimension results from users' individual perceptions of material and non-material conditions. The objective dimension results from the attributes of the environment and place considered in the external context. The factors influencing the quality of the residential environment vary depending on the specific conditions related to the already mentioned context (Jansen et al., 2011). These specific, diverse conditions cause the features that determine the quality of a place of residence to change; some lose their importance, others gain significance, and new ones appear (Vajiranivesa, 2010).

Some articles have been written about housing resources in Poland, e.g., the history of modern housing how to live in Poland and innovations in the city and real estate (Derc, 2023). Third- and fourth-generation smart city solutions are increasingly being introduced around the world, focusing on the needs of the community and involving residents in shaping their living environment.

In Poland, a smart city is still primarily understood as a city packed with modern technologies. The article *Smart City Solutions in Poland* (Wrona, 2023) discusses the Polish smart city. Some of the latest research on the Polish housing market and Poles' preferences regarding their living environment can be found, for example, in the reports, such as *Housing market in Poland,* Research Poland / Q3 2023 (JLL, 2023), or *Preferences of apartment buyers 2022*, Housing Market Research Department, Poland / 2023 (JLL, 2023), as well as in scientific articles (Paszkowski, 2022). In 2023, the supply of apartments in Poland did not keep up with demand. Developers in some markets were unable to introduce new projects to their offer at a pace that met the demand. This is stated in one of the latest reports from January 29, 2024, by JLL. Housing market in Poland / Q4 2023.

New housing investments in cities and on the outskirts of cities have complemented the existing development in areas with medium or low development intensity or in open areas (Olenderek & Olenderek, 2021; Wehle-Strzelecka & Strzelecka-Seredyńska, 2021; Poluk, 2021). The image of the contemporary housing environment in Poland and development trends in residential architecture and

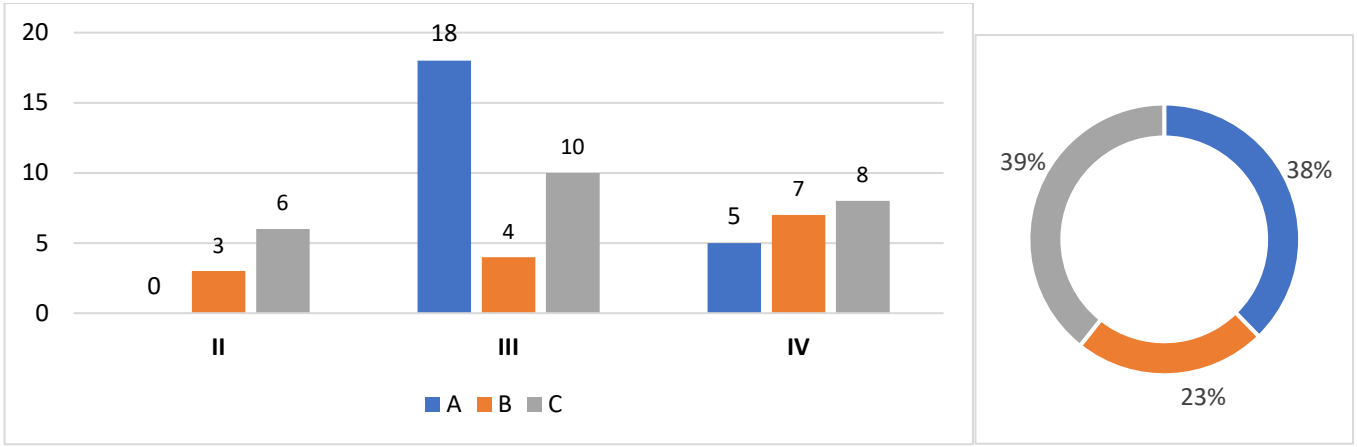
housing in Poland are described by Stachura in publications devoted to these issues (Stachura, 2013; Stachura & Tufek-Memisevic, 2022).

For this study, one of the most dynamically developing cities in Poland - Rzeszów - was selected (Martyka, 2023). Various publications that present the city's development until the mid-20th century and point to many historical analogies to today have been created. The history of Rzeszów since the location privilege granted by King Casimir the Great in 1354 is presented in the *Encyclopedia of Rzeszów* (collective work, ed. Budzyński et al., 2016). Rzeszów's eternal problem was the tightness of the buildings and its small area in relation to the number of inhabitants, which led to a rapid and ill-considered process of building the city. In this way, the original architectural form with the concept of the castle building open to 3 Maja Street was destroyed. In 1902 alone, the annexation of Ruska Wieś and the hamlets of the villages of Drabinianka, Staroniwa and Zwięczyca to Rzeszów tripled the city's area (Malczewski, 1994, 1998, 2001). Publications about Rzeszów allow for a comparison of the city's development until the 20th century with its development from the end of the 20th century to the present day (Kotula, 1997; Zawitkowska, 2013; Przyboś, 1957; Przyboś, 1964; Pęckowski, 1913; Majka, 2004).

4. Results

The analysis of the information collected allows us to make precise statements about new housing development in Rzeszów after 2015, as shown in Figure 2. The findings reveal the different urban preferences and characteristics of the residential spaces in different city sectors. Sector II tends towards "B" and "C' type residential complexes, which are integrated into the existing urban landscape or form a coherent whole with neighboring development areas. On the other hand, Zone III, which is characterized by a lower density of development than Sector II, is dominated by complexes isolated from their surroundings (A). Sector IV has a reasonably even distribution between all three types of development - isolated (A), complementary (B), and contiguous (C), with numbers of 5, 7 and 8, respectively. This differentiated distribution indicates the adaptability of the development strategy to specific local needs, land availability, and technical infrastructure. When analyzing the total number of housing projects in Rzeszów, isolated (A) and contiguous (C) developments represent the main development trends, accounting for 38% and 39% of all developments, respectively. In contrast, B-type complexes, designed to be integrated into the urban context, account for 23% of the total, highlighting their smaller but essential contribution to shaping the city's residential structure.

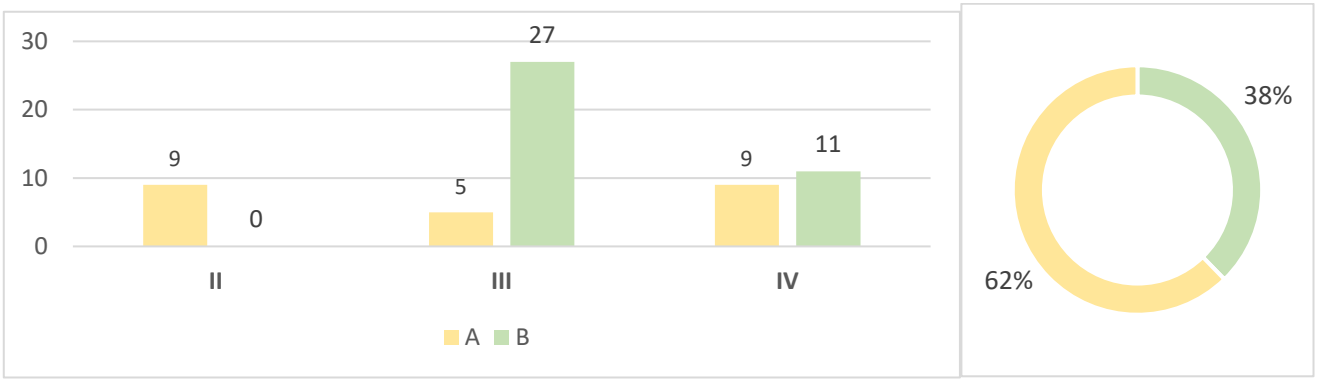
The analysis of the building spaces in the different residential zones of the city allows further observation of trends in the formation of Rzeszów's spatial structure (Fig. 3A).



Legend: *II, III, IV—Identification of building complexes in each residential zone; A—Building complex isolated from the urban fabric ("lonely island"); B—Building complex completing the existing structure; C—Building complex adjacent to the neighboring development complex.*

Fig. 2. Structure of the development of new residential buildings after 2015 in Rzeszów. On the left, a bar chart shows the number of building complexes in each zone by structure type. On the right, a pie chart shows the percentage share of each type of structure in the total number of building complexes. *Source*: Original work based on own survey results (2024).

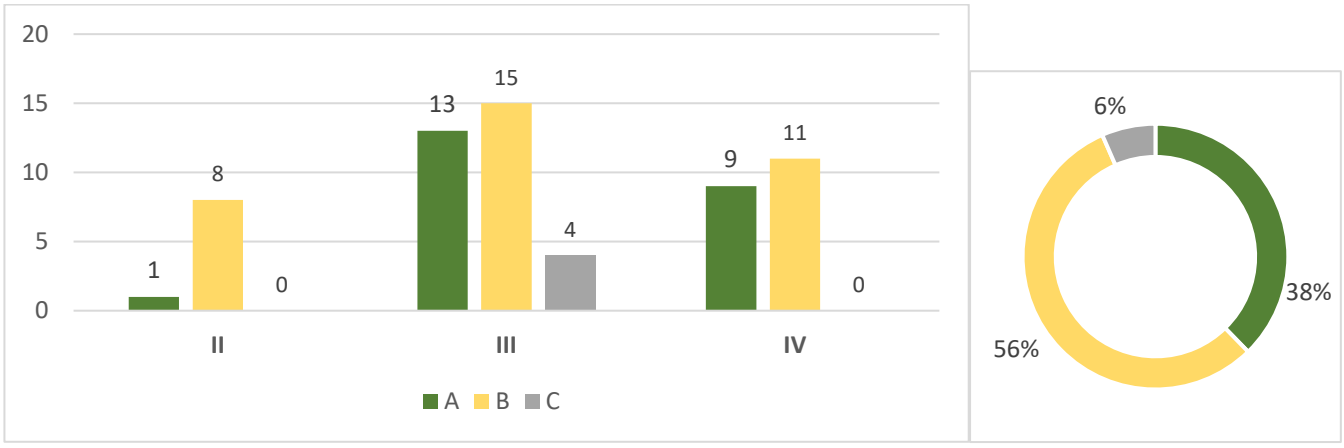
eISSN: 2300-5289 | © 2025 The Author(s) | Article under the CC BY license



Legend: *II, III, IV - designation of building complexes located in designated residential zones; A - completes the existing urban layout; B - ignores the layout of the surrounding urban composition.*

Fig. 3A. Urban layout of the building complex and its spatial context. On the left, a bar chart shows the number of building complexes in each residential zone according to the characteristics of the urban composition. On the right is a pie chart showing the percentage share of features of urban composition in the total number of building complexes. *Source*: Original work based on own survey results (2024).

The dominance of building complexes in Zone III is striking, where type B urban development prevails, characterized by the fact that the new development ignores the existing urban layout around it. This area is characterized by 27 complexes, indicating specific pathologies in the urban development processes. In Zone II, the number of complexes is generally lower, but all the developments are of type A, in harmony with the urban structure. On the other hand, Zone IV, although it contains harmonious investments, is dominated by type B investments , which deviate from the existing urban composition. An analysis of the distribution of the types of building complexes in the entire city of Rzeszów shows that 62% fit into the existing urban composition (A), while 38% represent features that do not consider the urban context (B). This indicates that most new housing projects seek to fit in with the existing urban layout, while a smaller proportion represents an approach that ignores the existing urban composition.



Legend: *II, III, IV - designation of building complexes in designated residential zones; A - harmonized; B - not harmonized; C - difficult to determine/uncertain.*

Fig. 3B. The quality of spatial relationships between a new building complex and its surroundings. On the left, a bar chart shows the number of building complexes in each residential zone according to the characteristic quality of the spatial relationship. On the right is a pie chart showing the percentage share of characteristics describing the quality of spatial relationships in the total number of building complexes. *Source*: Original work based on own survey results (2024).

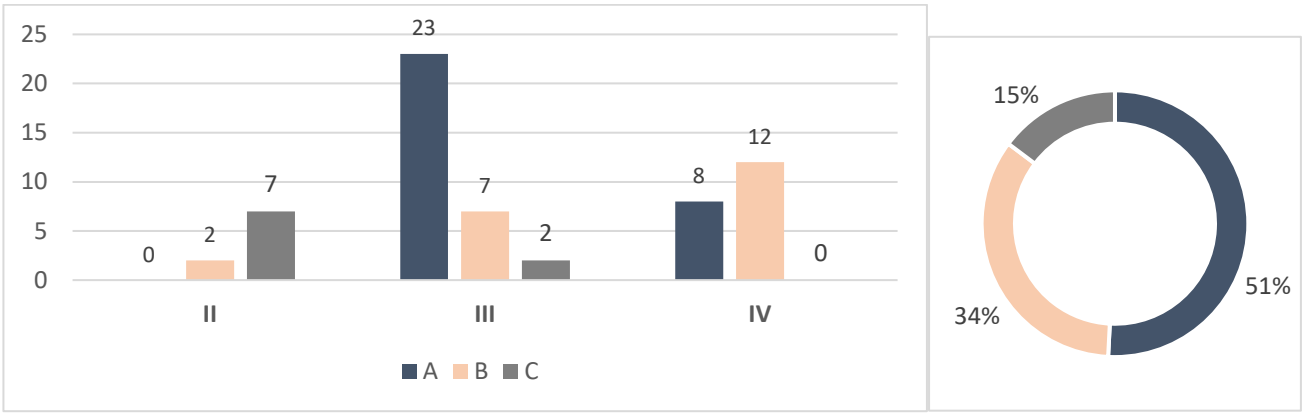
Examining Figure 3B, which refers to the quality of spatial interaction between newly developed building complexes and their immediate surroundings in the different residential zones of the city, allows essential conclusions to be drawn about the practice of contemporary urban planning. The bar chart presented here sheds light on the problems associated with integrating new residential developments, particularly in Zone III, where complexes with non-harmonious spatial relationships (type B) predominate. This

eISSN: 2300-5289 | Received 2024-03-30 | Revised 2025-01-22 | Accepted 2025-02-25

indicates potential difficulties in coherence between new developments and the existing urban fabric. Furthermore, identifying sites with ambiguous spatial classification (type C) in the same zone may signal the complexity of local conditions or the lack of uniform planning standards.

Analogous observations can be made in relation to zones II and IV, where projects with incongruous relationships (B) also predominate. However, Zone IV is characterized by a more significant number of complexes considered to be in harmony with their surroundings (A), which may indicate a better adaptation of these developments to the existing development space. The percentage analysis shows that as many as 56% of the residential complexes surveyed are classified as non-harmonious (type B), while a smaller percentage, 38%, refer to harmonious complexes (type A).

Such findings shed new light on the current state of urban planning, revealing a worrying tendency in Rzeszów's spatial policy to implement projects that do not fit into the urban context, thus leading to disharmony in the urban landscape. This points to the urgent need to review and tighten the planning guidelines so that future developments align with their surroundings and contribute to creating a coherent and integrated urban space.



Legend: *II, III, IV – designation of building complexes located in designated residential zones; A – Low (up 4 storeys); B – Medium-high (5 to 9 storeys); C – High (from 9 storeys)*

Fig. 4. Height of buildings in building complexes constructed after 2015. A bar chart on the left shows the number of building complexes in each residential zone by height group. On the right, the pie chart shows the percentage of height groups in the total number of building complexes. *Source*: Original work based on own survey results (2024).

The analysis presented in Figure 4 provides valuable information on the height profile of buildings built in the different residential zones of the city after 2015. Of particular note is Zone III, which is dominated by low-rise buildings (A - up to 4 storeys), reflecting a clear preference for buildings of moderate height that fit harmoniously with the existing urban landscape without changing it excessively. In contrast, Zone II is characterized by a predominance of tall buildings (C - 9 storeys and above), which may reflect a tendency to create urban skylines or to meet the high demand for housing in this central zone of the city. Zone IV, similarly to the Zone III, is characterized by a lack of tall buildings and a predominance of low- and medium-rise buildings. The distribution of building heights, shown in the pie chart, indicates that 51% of all the residential complexes analyzed are low-rise, 34% are medium-rise, and only 15% are high-rise.

Summarizing qualitative research on compositional aspects, each of Rzeszów's zones shows unique development patterns, reflecting different approaches to urbanization and planning priorities.

Zone II is characterized by a tendency to integrate new development into the existing urban environment, with B- and C-type residential complexes. There are no A-type complexes, i.e. there are no isolated structures. This structure indicates the dynamic development of this zone and the desire to create a coherent urban fabric, considering the need for dense development and creating synergies with neighboring development projects. The tall buildings in this zone may also indicate a desire to define the urban skyline. **Zone III** is dominated by residential complexes isolated from their surroundings, suggesting a preference for low-rise development that does not disrupt the existing urban layout. This is in marked contrast to Zone II, where there is a preference for integration and dense development. Zone III may face challenges in integrating new

eISSN: 2300-5289 | © 2025 The Author(s) | Article under the CC BY license

developments into the existing urban environment, indicating incongruous spatial relationships and a potential need for thoughtful planning review. **Zone IV** shows a mix of housing types, predominately low-rise buildings and a lack of high-rise development. However, the tendency towards unshaped complexes indicates the presence of developments that are incompatible with the surrounding urban landscape and require further analysis in terms of their impact on urban harmony.

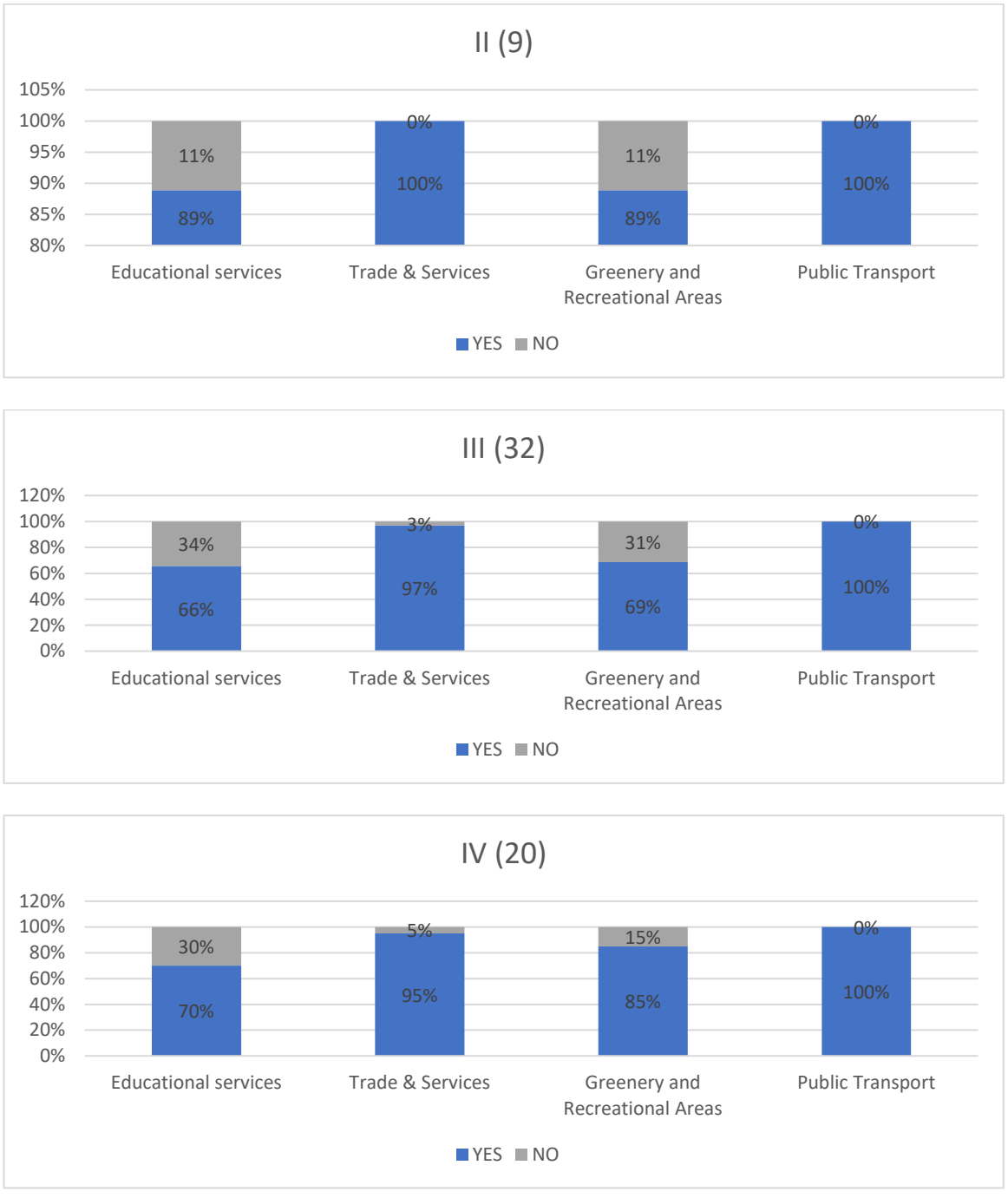


Fig. 5. Percentage of settlements in different zones of Rzeszów with access to urban infrastructure within 800 m.
Source: Original work based on own survey results (2024).

Figure 5 shows the results of the qualitative research on access to key amenities in the estates studied, such as education, shops and services, green/recreational areas and public transport. Access to these services within 800 meters was analyzed. The estates/complexes in Zone II (9) have high access to educational services (89%) and green/recreational areas (89%), as well as full access to shops and services and public transport (both 100%). Estates in Zone III (32) have relatively low access to educational services (66%) and green/recreational

eISSN: 2300-5289 | Received 2024-03-30 | Revised 2025-01-22 | Accepted 2025-02-25

areas (69%) compared to the other zones. However, access to retail and services is very high (97%), and access to public transport is universal (100%). In Zone IV (20), settlements have moderate access to educational services (70%) and very high access to green/recreational areas (85%). As in the other zones, they also have high access to retail and services (95%) and universal access to public transport (100%).

It appears that in all zones, the housing developments surveyed have full access to public transport, an essential positive feature of urban living (Fig. 5). However, there are differences between the zones regarding access to educational services and green/recreational areas. Although Zone II has the smallest number of settlements, it has a high percentage of access to educational and recreational facilities. On the contrary, Zone III, with the most settlements, has the lowest percentage of access to education and green areas. Zone IV lies between the other two zones, with better access to education and green spaces than Zone III but slightly lower than Zone II.

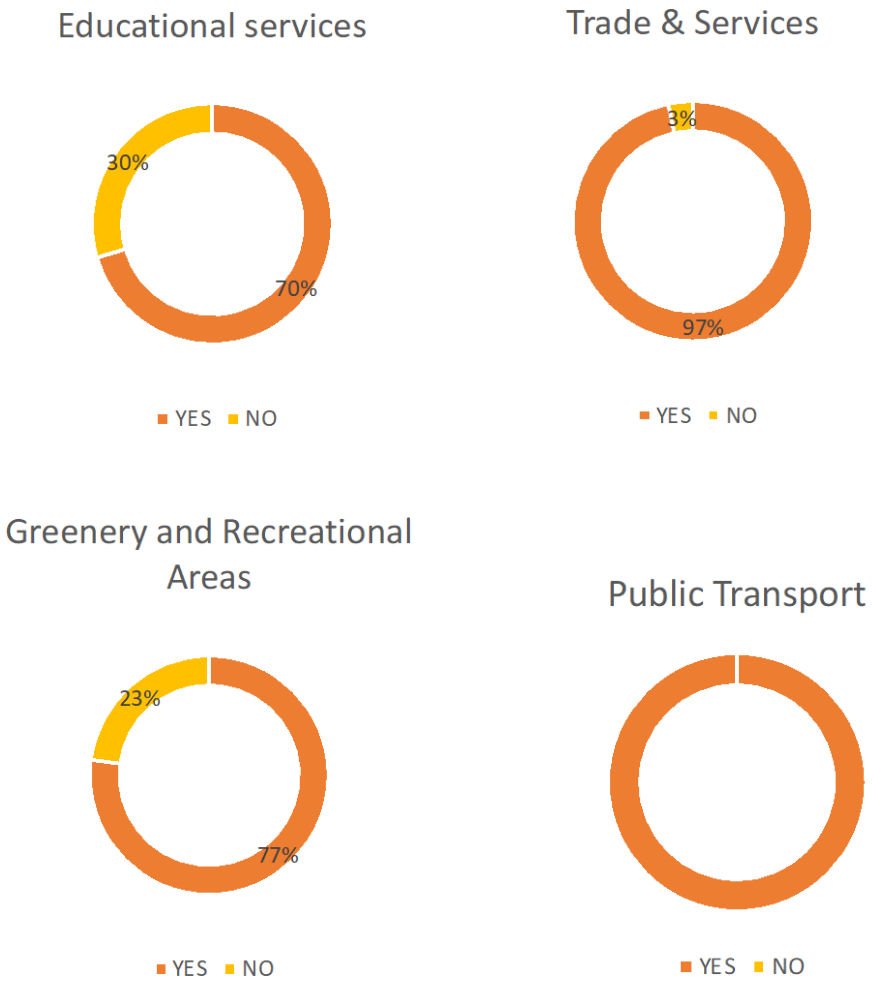


Fig. 6. Percentage of all surveyed settlements in Rzeszów with access to urban infrastructure within 800 m or without access to urban infrastructure within 800 m. *Source*: Original work based on own survey results (2024).

In general, the analysis of the accessibility of public transport in the settlements studied shows that they are well integrated into the system (Fig. 6). However, the need for more in-depth studies on the frequency and layout of routes and the possibility of changing to other modes of public transport is highlighted. On the other hand, the results regarding the accessibility of educational facilities and public green spaces are less optimistic, which can indicate the directions for necessary interventions and improvements.

5. Discussion

The results presented in this study are largely consistent with those of other researchers. Rzeszów is a city - and hence - a large construction site. New residential buildings occur in all of the zones, and the

eISSN: 2300-5289 | © 2025 The Author(s) | Article under the CC BY license

architectural and technical quality of new buildings constructed in the period selected for research significantly exceeds the standard of buildings built earlier. This is confirmed by studies by Tokajuk (2019), and Kuźniar and Cyran (2020).

Investors adopt various strategies when integrating new buildings into existing urbanized areas. New residential complexes do not always respect the urban context. Some complete the existing urban layout, while a large group ignores the neighborhood's urban composition layout. Evidently, the most difficult task was to adapt the new buildings to the prefabricated housing estates in Zone II. The designers often found a satisfactory solution in the remaining ones, where later buildings were nearby (Popovych, 2023).

After the introduction of infill complexes, the density of buildings in the expanded districts of the city is uneven and unrelated to the area's affiliation with the zone (Rybka & Mazur, 2017).

The infill buildings most often include low-rise and medium-rise buildings, while low-rise ones predominate in Zone 3. In the long run, this will lead to the blurring of differences between the analyzed zones. Depending on local spatial conditions and infrastructure, new housing complexes adopt various strategies to fit into the urban context. It was most difficult to fit new buildings into the spatial context in Zone 2, the most densely built-up area, so the indicators show some spatial and compositional failures (Porczyński, 2024). However, in Zones 3 and 4, the number of housing complexes well harmonized with the surroundings and those not harmonized with the surroundings is almost equal. Low-rise and medium-high buildings predominate in the densification development; the predominance of new low-rise buildings can be observed in Zone III. Relatively few investments that have underground parking lots have been completed. In the district landscape, many above-ground parking spaces currently provide a sufficient number of lots but diminish the quality of the urban environment, disturbing pedestrian paths and limiting greenery and recreational areas.

The unification of the urban structure of the three Zones is taking place successfully in terms of access to services. The new residential complexes of medium— and large-scale designers provide areas (mainly on the ground floor) for establishing trade or service points (Hełdak et al., 2023). In some cases, they successfully serve residents of the older estates, helping to integrate the area. Before the investment boom began, residents in all zones had easy access to open areas. Despite the significant increase in development density, this access is still satisfactory in zones more distant from the center (Szopińska-Mularz & Lehmann, 2023). Still, the deterioration of this element of urban quality in Zone II may be worrying. When analyzing mobility aspects, city residents have reasonable access to public transport regardless of the zone at this stage of urban development.

Other research also proves that the city underwent rapid urbanization over the last ten years (Sikora et al., 2021; Sikora, 2022). Results of our and other studies allowed us to observe spatial and functional phenomena accompanying the densification process (Sikora, 2021). The research results clearly show which phenomena benefit the city's spatial and social fabric and which threaten it

Regarding the "patchwork urban structure" of Rzeszów, it is impossible to foresee the future of its further urban development (focusing on zones II, III, and 4) without expanding and deepening knowledge about the factors that determine the city development and its housing potential.

The following research, which should be undertaken to support urban management and development strategies, can shed light on current trends:

1. Study on the factors conditioning the residential market on the national sale and local scale of the city of Rzeszow in the last decade (parallel to the rapid process of densifying the urban structure of Rzeszow).
2. Analysis of socio-economic forecasts referring to the housing market in Rzeszow.
3. Report on prices of new flats and apartments in the selected complexes densifying the development.
4. Identification of infrastructural investments in the city, if undertaken, that may impact the standard of zones/their fragments and strengthen social interactions and sustainable solutions.

6. Conclusion

The research concerns building density in Polish cities, which has intensified due to economic, social and spatial factors. The increase in society's wealth and housing aspirations and the still-existing supply gap in the real estate market have resulted in a persistently high demand for houses and apartments. In response, developers have built a large number of apartments and houses in locations that were affordable due to

eISSN: 2300-5289 | Received 2024-03-30 | Revised 2025-01-22 | Accepted 2025-02-25

prices and infrastructure. However, infrastructure investments did not accompany the development of housing. This situation raises questions about the quality of living and the urban quality of life.

The research aimed to reveal the impact of densifying development on the urban quality of the areas affected by the processes of urban densification.

Further development of densification development should be monitored: the current, satisfactory quality of the housing environment may deteriorate. Research on the acceptance of living in a hybrid housing environment should provide knowledge about the level of satisfaction with living conditions.

Due to the spatial development pattern of Polish cities after the transformation period, guidelines for planning and investment decisions are urgently needed.

The new residential development in Rzeszow today successfully fits into the existing spatial structure, but due to shrinking land resources, investment conditions will become increasingly complex over time. Planning documents should precisely describe the city's policy and investment conditions.

The functioning of the city and the availability of services for residents should be carefully monitored. Rzeszow may soon reach the ceiling of the density of residential development: without providing service facilities and infrastructure, residents' living conditions will begin to deteriorate.

The trend of establishing local centers around services located on the ground floors of new housing estates opens the possibility of creating mini-districts and shaping local identity. Urban policy tools should support actions to strengthen local communities and their resilience. Qualitative research on community identity and social aspects of life quality can bring insight into residential needs and aspirations. Together with the studies and analyses proposed above in the Discussion chapter, they may provide a robust information system for decision-making on the spatial and social development of Rzeszow.

The research findings may be helpful for all medium-sized and big cities in Poland and focus the city authorities' attention on urban and social processes that will affect the quality of urban life for decades. All such cities have developed and are growing under the same conditions, even if not all the phenomena are the same. However, the experience of countries that are leaders in urban planning such as, for example, the Netherlands and Denmark, shows that, in the long run, maintaining urban quality of life standards for residents requires a comprehensive treatment of the urban structure and conscious development of its potential in all aspects (D'Onofrio, 2024; Kalliomäki et al., 2024; Nijkamp & Kourtit, 2013).

References

Alkay, E. (2009). The relationship between environmental quality level and housing sale prices in the Istanbul Metropolitan Area. *A/Z ITU Journal of the Faculty of Architecture, 6*(1). Retrieved from https://jfa.arch.metu.edu.tr/en

Al-Qawasmi, J., Saeed, M., Asfour, O. S., & Aldosary, A. S. (2021). Assessing urban quality of life: Developing the criteria for Saudi cities. *Frontiers in Built Environment, 7*, 682391. Advance online publication. https://doi.org/10.3389/fbuil.2021.682391

Davern, M., Gunn, L., Whitzman, C., Higgs, C., Giles-Corti, B., Simons, K., Villanueva, K., Mavoa, S., Roberts, R., & Badland, H. (2017). Using spatial measures to test a conceptual model of social infrastructure that supports health and wellbeing. *Cities & Health, 1*(2), 194–209. Advance online publication. https://doi.org/10.1080/23748834.2018.1443620

Borkowski, J. (2003). *Socjologia i psychologia społeczna. Zarys wykładu (Sociology and social psychology. Lecture outline)*. Pułtusk: Wyższa Szkoła Humanistyczna im. Aleksandra Gieysztora w Pułtusku.

Budzyński, Z., Draus, J., Nawrocki, Z., Strycharz, B., & Zamoyski, G. (Eds.). (2016). *Encyklopedia Rzeszowa (Encyclopedia of Rzeszów)*. Oficyna Wydawnicza Zimowit.

D'Onofrio, R. (2024). Urban planning and urban health: Attempts at innovation in line with local planning tools. *European Planning Studies, 32*(1), 97–120. Advance online publication. https://doi.org/10.1080/09654313.2023.2210628

Derc, A. (2023). Innowacje w mieście i nieruchomościach (Innovations in the city and real estate). In: *Innowacyjne miasta. Życie, praca i mieszkanie jutra.* Retrieved from https://thinkco.pl/raport-innowacyjne-miasta/

Duch-Żebrowska, P. Kurkowska, A. & Wróblewska A. (2023). Nature and heritage - Sustainable Development Goals (SDG) as factors of social integration in the space of housing estates. Study of Zaspa. *Środowisko Mieszkaniowe (Housing Environment) 43*/2023, 31-43.

Fadda, G. (2003). Urban Sustainability, Quality of Life and Gender. In: U. Terlinden, *City and gender – International discourse on gender, urbanism and architecture,* pp. 177-190. Opladen: Germany, Leske + Budrich.

Fahey, T., Whelan, C. T., & Maitre, B. (2004). *Quality of life in Europe: First results of a new Pan-European survey.* Office for Official Publications of the European Communities, European Foundation for the Improvement of Living and Working Conditions., Retrieved from https://www.eurofound.europa.eu/system/files/2015-03/ef04105en.pdf

Gasper, D. (2002). Is sen's capability approach an adequate basis for considering human development? *Review of Political Economy, (14*, 4), 435-461. Retrieved from https://www.tandfonline.com/doi/abs/10.1080/09538250220000009898

Główny Urząd Statystyczny. (2023). *Warunki mieszkaniowe w Polsce w świetle wyników Narodowego Spisu Powszechnego Ludności i Mieszkań 2021 31 stycznia 2024 (Housing conditions in Poland in the light of the results of the 2021 National Population and Housing Census on January 31, 2024)*. Retrieved from https://stat.gov.pl/spisy-powszechne/nsp-2021/nsp-2021-wyniki-ostateczne/warunki-mieszkaniowe-w-polsce-w-swietle-wynikow-narodowego-spisu-powszechnego-ludnosci-i-mieszkan-2021,5,2.html

eISSN: 2300-5289 | © 2025 The Author(s) | Article under the CC BY license

Gnat, S. (2024). Population change as an aspect of suburbanization of major cities in Poland. *Real Estate Management and Valuation, 32*(1), 13–25. https://doi.org/10.2478/remav-2024-0002

Gunn, L. D., King, T. L., Mavoa, S., Lamb, K. E., Giles-Corti, B., & Kavanagh, A. (2017). Identifying destination distances that support walking trips in local neighborhoods. *Journal of Transport & Health, 5*, 133–141. Advance online publication. https://doi.org/10.1016/j.jth.2016.08.009

Hełdak, M., Pieszko, E., & Kucher, L. (2023). Apartment rental market in Rzeszów and Lublin at the turn of 2021-2022. *Real Estate Management and Valuation, 31*(4), 45–56. https://doi.org/10.2478/remav-2023-0029

Hendry, F., & McVittie Chr. (2004). Is quality of life a healthy concept? Measuring and understanding life experiences of older people. *Qualitative Health Research, 14*(7), 961-975. Retrieved from https://pubmed.ncbi.nlm.nih.gov/15296666/

Hirschberg, J. G., G., Maasoumi, E., & Slottje, D. (2001). Clusters of attributes and well-being in the USA. *Journal of Applied Econometrics, 16*(3), 445–460. https://onlinelibrary.wiley.com/doi/full/10.1002/jae.605 https://doi.org/10.1002/jae.605

Holmes, S. (2005). Assessing the quality of life - Reality or impossible dream? A discussion paper. *International Journal of Nursing Studies, 42*(4), 493–501. https://pubmed.ncbi.nlm.nih.gov/15847911/ https://doi.org/10.1016/j.ijnurstu.2004.06.014 PMID:15847911

Hsieh, C. M. (2004). To weight or not to weight: The role of domain importance in quality of life measurement. *Social Indicators Research, 68*(2), 163–174. Advance online publication. https://doi.org/10.1023/B:SOCI.0000025591.82518.ab

Janik, M. (2004). *Socjokulturowe aspekty miejsc zamieszkania (Sociocultural aspects of places of residence).* Wydawnictwo Politechniki Śląskiej.

Jansen, S. J. T., Coolen, H. C. C. H., & Goetgeluk, R. W. (Eds.). (2011). *The measurement and analysis of housing preference and choice*. Springer Dordrecht. https://doi.org/10.1007/978-90-481-8894-9

Kalliomäki, H., Oinas, P., & Salo, T. (2024). Innovation districts as strategic urban projects: The emergence of strategic spatial planning for urban innovation. *European Planning Studies, 32*(1), 78–96. Advance online publication. https://doi.org/10.1080/09654313.2023.2216727

Kirejczyk, K., & Gawrońska, A. (2024). *Rynek mieszkaniowy w Polsce. I kw. 2024 roku (Housing market in Poland. Q1 2024.).* Retrieved from https://www.jll.pl/pl/trendy-i-analizy/badanie/rynek-mieszkaniowy-w-polsce

Kotula, F. (1997). *Rzeszów: Tamten Rzeszów. (That Rzeszow).*

Kuźniar, W., & Cyran, K. (2020). *Selected aspects of the residential property market in the context of creating a city image (an example from Rzeszów*). *Olsztyn Economic Journal, 15*(1), 39–52. Advance online publication. https://doi.org/10.31648/oej.5397

Lanteigne, C. A. (2005). *Quality of life in cities*. M.B.A Thesis, The University of New Brunswick.

Lee, T., & Marans, R. W. (1980). Objective and subjective indicators: Effects of scale discordance on interrelationships. *Social Indicators Research, 8*, 47–64. https://www.jstor.org/stable/27521971 https://doi.org/10.1007/BF00364601

Lora, E., Powell, A., van Praag, B., & Sanguinetti, P. (2010). "Preface," in The Quality of Life in Latin American Cities. In: E. Lora, A. Powell, B. M. S. van Praag & P. Sanguinetti (Eds.), *Markets and Perception.* Washington DC: The Inter-American Development Bank, xix-xxiv.

Majka, S. (2004). *Rzeszów i jego strukturalna przestrzeń*. RS DRUK.

Malczewski, J. (1994). *Dzieje Rzeszowa (History of Rzeszow), t. I.* Rzeszow: Libri Ressovienses.

Malczewski, J. (1998). *Dzieje Rzeszowa (History of Rzeszów), t. II.* Rzeszow: Libri Ressovienses.

Malczewski, J. (2001). *Dzieje Rzeszowa (History of Rzeszów), t. III.* Rzeszow: Libri Ressovienses.

Martyka, A. (2022). Spatial integration level of housing complex with the city structure. Case of Rzeszów. *Civil and Environmental Engineering Reports, 32*(3), 36–61. https://doi.org/10.2478/ceer-2022-0028

Martyka, A. (2023). Model interpretation of the city's spatial structure and spatial policy. Example of Rzeszów. *Środowisko Mieszkaniowe (Housing Environment), 43*/2023, 56-65.

Masilamani, S. R. (2017). Understanding the urban quality of life concept and its dimensions. *IJARIIE, 3*(4), 1096-1103. Retrieved from https://ijariie.com/AdminUploadPdf/UNDERSTANDING_THE_URBAN_QUALITY_OF_LIFE_CONCEPT_AND_ITS_DIMENSIONS_ijariie6135.pdf

Mendes, J.F.G. (2000). Decision strategy spectrum for the evaluation of quality of life in cities. In Foo Tuan Seik, Lim Lan Yuan and Grace Wong Khei Mie (eds.), *Planning for a better quality of life in cities*, 35-53, School of Building and Real Estate, NUS, Singapore

Mikielewicz, R. (2022). *The Paradigm Change. Environmental Aspects as Transformative Imperative in the Housing Environment. Środowisko Mieszkaniowe (Housing Environment), 43*/2023, 88-97.

Moore, J. (2000). Placing home in context. *Journal of Environmental Psychology, 20*, 207–217. https://doi.org/10.1006/jevp.2000.0178

Nijkamp, P., & Kourtit, K. (2013). The "New Urban Europe": Global challenges and local responses in the urban century. *European Planning Studies, 21*(3), 291–315. Advance online publication. https://doi.org/10.1080/09654313.2012.716243

Olenderek, J. & Olenderek, M. (2021). On selected living spaces that function in contemporary urban cultural landscape. *Środowisko Mieszkaniowe (Housing Environment), 34*/2021, 58- 77.

Paszkowski, Z.W. (2022). *Development optimization of a housing estate. Centrum Estate housing in Stargard as the case. Środowisko Mieszkaniowe (Housing Environment), 39*/2022, 66-87.

Pęckowski, J. (1913). *Dzieje miasta Rzeszowa do końca XVIII wieku: z 21. rycinami w tekście (The history of the city of Rzeszów until the end of the 18th century: with 21 engravings in the text)*. Rzeszów: Gmina miasta Rzeszowa.

Poluk, D. (2021). Modern urban and architectural solutions as an answer for the progressive aging of society. *Środowisko Mieszkaniowe (Housing Environment), 35*/2021, 4-16.

Popovych, D. (2023). Features of the harmonization of volume-spatial architecture of modern housing in the historical environment of the polish city of Gdansk. *Modern Construction and Architecture, 4*, 7–13. https://doi.org/10.31650/2786-6696-2023-4-7-13

Porczyński, D. (2024). Architektura rzeszowskiego śródmieścia z perspektywy flanera (Architecture of Rzeszów's downtown from the flaner's perspective.). *Przegląd Socjologii Jakościowej, 20*(3), 82–121.

Przyboś, A. (1957). *Akta radzieckie rzeszowskie* 1591–1634 (*Soviet files in Rzeszów* 1591–1634). Wrocław: Zakład Narodowy im. Osslińskich.

Przyboś, A. (1964). Z przeszłości Rzeszowa. *Rocznik Naukowo-Dydaktyczny Studium Terenowego WSP w Rzeszowie. Nauki Humanistyczne (From Rzeszów's past. Scientific and Didactic Yearbook of the Field Study of the WSP in Rzeszów. Humanities)*, 1, 18. Retrieved from https://rep.up.krakow.pl/xmlui/bitstream/handle/11716/3583/04--Z-przeszlosci-Rzeszowa--Przybos.pdf?sequence=1&isAllowed=y

Ragab, M. A., El-Badrawy, N. E., & Elsayyad, N. A. (2023). A methodology to measure urban quality of life in new cities in Egypt (New Damietta Case Study). *Civil Engineering and*

Architecture, 11(5), 2543-2558. Retrieved from https://www.hrpub.org/download/20230630/CEA22-14831256.pdf

Rybka, A., & Mazur, R. (2017). *Factors blocking the development of north – central Rzeszów.* Selected Scientific Papers - Journal of Civil Engineering, 12(2). https://doi.org/10.1515/sspjce-2017-0013

Secretariat of the Treasury Board of Canada. (2000). *Treasury Board of Canada Quality of Life – A Concept Paper: Defining, Measuring and Reporting Quality of Life for Canadians.* Retrieved from https://www.canada.ca/en/department-finance/services/publications/measuring-what-matters-toward-quality-life-strategy-canada.html

Serag El Din, H., Shalaby, A., Farouh, H. E., & Elariane, S. A. (2013). Principles of urban quality of life for a neighborhood. *HBRC Journal, 9*(1), 86–92. https://doi.org/10.1016/j.hbrcj.2013.02.007

Sikora, A. (2021). *Rzeszów as an example of a 'new town' tailored for the modern era. Technical Transactions*. https://doi.org/10.37705/TechTrans/e2021006

Sikora, A. (2022). Charcteristics of new buildings in the impact area of a large city. *Czasopismo Inzynierii Ladowej, Srodowiska i Architektury, 38*(68), 35–44. Advance online publication. https://doi.org/10.7862/rb.2021.4

Sikora, A., Martyka, A., & Figurska-Dudek, J. (2021). Jedno miasto dwa modele rozwoju przestrzennego. Przypadek Rzeszowa (One city, two models of spatial development. The case of Rzeszów). In M. Piekarski, A. Rybka, & A. Sikora (Eds.), *Miasto 2.0. Człowiek, przestrzeń, transformacja* (pp. 71–82). Oficyna Wydawnicza Politechniki Rzeszowskiej.

Stachura, E. (2013). *Środowisko mieszkaniowe w Polsce. Ocena, oczekiwania, aspiracje (Housing environment in Poland. Assessment, expectations, aspirations).* Wydawnictwo Politechniki Krakowskiej.

Stachura, E., & Tufek-Memisevic T. (2022). Tendencje rozwojowe w architekturze mieszkaniowej i mieszkalnictwie w Polsce w I dwudziestoleciu XXI w. (Development trends in residential architecture and housing in Poland in the first two decades of the 21st century.) *Środowisko Mieszkaniowe (Housing Environment), 38*/2022, 40-50.

Szopińska-Mularz, M., & Lehmann, S. (2023). Balancing Increased Urban Density with Green Spaces: The Marketing of New Housing Estates in Poland. *Buildings, 13*(777). https://doi.org/10.3390/buildings13030777

Tokajuk, A. (2019). Multi-family buildings - Architectural trends of the last three decades in Poland. *IOP Conference Series. Materials Science and Engineering, 471*(8), 082022. Advance online publication. https://doi.org/10.1088/1757-899X/471/8/082022

Vajiranivesa, P. (2010). *Housing demand model: System dynamics approach: Basics, concepts, methods.* VDM Verlag Dr. Mueller.

Veenhoven, R. (2013). The four qualities of life ordering concepts and measures of the good life. In: Delle Fave, A. (eds) *The exploration of happiness. Happiness studies book series.* Springer, Dordrecht. https://doi.org/10.1007/978-94-007-5702-8_11

von Wirth, T., Gret-Regamey, A., & Stauffacher, M. (2015). Mediating effects between objective and subjective indicators of urban quality of life: Testing specific models for safety and access. *Social Indicators Research, 122*(1), 189–210. https://doi.org/10.1007/s11205-014-0682-y

Wehle-Strzelecka, J., & Strzelecka-Seredyńska M. (2021). Residential buildings following the principles of land protection and obtaining space reserves in the contemporary city. *Środowisko Mieszkaniowe (Housing Environment), 34*/2021, 90-95.

Wesz, J. G. B., Miron, L. I. G., Delsante, I., & Tzortzopoulos, P. (2023). Urban, quality of life: a systematic literature review. *Urban Science (Basel, Switzerland), 7*(2), 56. Advance online publication. https://doi.org/10.3390/urbansci7020056

Wrona, D. (2023). *Rozwiązania smart city w Polsce, Innowacyjne miasta. Życie, praca i mieszkanie jutra (Smart city solutions in Poland, Innovative cities. Life, work and housing of tomorrow).* Retrieved from https://thinkco.pl/raport-innowacyjne-miasta/

Yagoub, M. M., Tesfaldet, Y. T., Elmubarak, M. G., & Al Hosani, N. (2022). Extraction of urban quality of life indicators using remote sensing and machine learning: The case of Al Ain City, United Arab Emirates (UAE). *ISPRS International Journal of Geo-Information, 11*(9), 458. Advance online publication. https://doi.org/10.3390/ijgi11090458

Zawitkowska, W. (2013). O nadaniu prawa miejskiego dla Rzeszowa raz jeszcze (About granting city rights to Rzeszów once again). *Czasopismo Prawno-Historyczne, 65*, 300.

Von Wirth, T., Gret-Regamey, A., & Stauffacher M. (2015). Mediating Effects between Objective and Subjective Indicators of Urban Quality of Life: Testing Specific Models for Safety and Access. *Social Indicators Research, 122*(1), 189-210. Retrieved from https://doi.org/10.1007/s11205-014-0682-y.

Wehle-Strzelecka, J., & Strzelecka-Seredyńska M. (2021). Residential Buildings Following the Principles of Land Protection and Obtaining Space Reserves in the Contemporary City. *Środowisko Mieszkaniowe-Housing Environment, 34*/2021, 90-95.

Wesz, J.G.B.; Miron, L.I.G.Delsante, I.; Tzortzopoulos, P. (2023). Urban, Quality of Life: A Systematic Literature Review. *Urban Science, 7*(56). Retrieved from https://doi.org/10.3390/urbansci7020056 .

Wrona, D. (2023). Rozwiązania smart city w Polsce, *Innowacyjne miasta. Życie, praca i mieszkanie jutra (Smart city solutions in Poland, Innovative cities. Life, work and housing of tomorrow).* Retrieved from https://thinkco.pl/raport-innowacyjne-miasta/

Yagoub, M. M., Tesfaldet, Y. T., Elmubarak, M. G., & Al Hosani, N. (2022). Extraction of Urban Quality of Life Indicators Using Remote Sensing and Machine Learning: The Case of Al Ain City, United Arab Emirates (UAE). *ISPRS International Journal of Geo-Information, 11*(9). Retrieved from https://doi.org/10.3390/ijgi11090458.

Zawitkowska, W. (2013). *O nadaniu prawa miejskiego dla Rzeszowa raz jeszcze (About granting city rights to Rzeszów once again).* Czasopismo Prawno-Historyczne, 65, 300.

eISSN: 2300-5289 | © 2025 The Author(s) | Article under the CC BY license