

CITIES IN TRANSITION: KRAKOW'S SOCIAL, ECONOMIC AND SPATIAL TRANSFORMATION WITHIN THE LAST THIRTY YEARS (SELECTED ASPECTS)

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ABSTRACT. Krakow is a city that has undergone an immense transformation in recent years. At the end of the 1980s, the period of communism ended and Polish local governments began to operate based on the principles of subsidiarity, decentralisation and independence. In 2004, Poland joined the European Union, which opened up new prospects for development, including in regional and local terms. The world has become a networked and digitized entity susceptible to the influence of innovation. Due to metropolitisation processes, cities, especially those offering above-average earnings, a diversification of economic resources and a relatively high quality of life, began to develop even more dynamically, which had and still has negative consequences. In Poland, there are five cities in which development dynamics have a highly specific dimension. Apart from the capital city of Warsaw, these are Krakow, Wrocław, Poznań and the agglomeration of the so-called Tri-city (Gdańsk, Sopot and Gdynia). The aim of this study is to show how Krakow, the second-largest city in Poland, has evolved over the last three decades at the level of demographics, urban development and economy; how it changed in the historical “milestones” indicated above. Therefore, depending on the availability of statistical data, several time periods were selected and compared with each other in the most important areas of Krakow’s functioning. The research hypothesis is as follows: Krakow’s development policy in key areas optimally uses the opportunities resulting from contextual conditions (social, economic and cultural changes that have taken place in recent decades). The study focuses on the three main problems of the city’s development (the abovementioned key areas of the city’s functioning and development): socio-demographic, spatial and economic changes. The analysis assessed data from the literature, city reports and other available sources, as well as public quantitative data (assessment of data from the National Census for the years 1988, 2002, 2011, 2022; Local Data Bank of Statistics Poland and other repositories and reports).

KEYWORDS: City, Central European city, city development, transformation, Krakow.

1. INTRODUCTION

In the last thirty years, Polish cities, similarly to other cities in Central and Eastern Europe, have gone through a long process of quantitative and qualitative changes related to the departure from the socialist system, central planning, authoritarian governance, and a non-market, planned economy. This transformation has often been extremely difficult, due to socialist residues in practical operation in different spheres of city functioning, the way municipal policies are implemented, social attitudes and mental orientations of the members of a city’s community. Furthermore, it is worth remembering that, in a sense, the very idea of the city as a new type of settlement unit, included the expectation that it would be a “well-functioning” environment, a true place created by people for themselves, right from the very beginning. Throughout the period since the first cities were founded, this type of social, economic and spatial organisation has often been criticised. At the same time, attempts have been made again and again to create an “ideal city”

that would meet people’s expectations and ambitions. The socialist city, that was to provide equal access to a city’s resources, good living conditions, and an environment for shaping social relationships, among other things, was – in its assumptions – a concept of a “well-functioning city”. As it turned out, these intentions remained unrealised, and after three decades since the fall of communism, post-socialist cities continue to be hindered by numerous limitations and the weight of the past, as well as challenges of the future. The transition ushered in a period of urban development that followed free market principles. Cultural and economic exchanges have resulted in major changes in both socio-economic and spatial terms, particularly noticeable in large cities where these processes were more intense.

It is interesting to note that the proportion of the urban population in Poland has been declining for more or less two decades, which is linked to numerous factors [1]. One can point to the increasing proportion of people with tertiary education in professions that can offer their services remotely, which has been made

easier by modern technological advancement. Another important factor is the development of individual motorisation and, in the immediate vicinity of major cities, also public transport. Also important is the increase in affluence, which grants greater freedom to organise one's life especially in increasingly democratic conditions, the emergence of new motivations, new value systems, and the spread of cultural patterns from highly developed countries.

There are five metropolises that currently observe the fastest changes and development processes in Poland. Together with Warsaw, the capital city of Poland, these are Krakow, Wrocław, Poznań, and the so-called Tri-city agglomeration (Gdańsk, Sopot and Gdynia) [2]. While the Warsaw metropolitan area is populated by ca. 3 million people, the other four cities have populations that range between 1 and 1.5 million. Today, Krakow is Poland's second-largest city. To a certain extent, it is a genuine case of a post-industrial city of Central Europe that found new development tools that reflect the conditions of the globalist era [3]. However, the rapid changes accelerate many complex and unwanted processes of the city's evolution. We see Krakow's development as approaching the idea of a "well-functioning city". We observe this through many aspects: the way space is organised, the functioning of the city as a social collective, the local economy, the cultural system, the political system (municipal governance and citizen-government relations) and many others.

The objective of this study is to indicate where the city of Krakow currently stands in terms of its development, particularly concerning the socio-demographic sphere, the city's economy, the quality of the organisation of space and its forms of use. The choice of aspects for analysis was dictated both by the significance of their impact on Krakow's transformation – of its society, space and economy – and by the availability of data in each thematic scope. The complexity of these subjects forces us to focus on the development of Krakow as the only case and not to compare it with the other Polish metropolises. The differences between those cities resulted in many ways from the conditions of their development during the post-war period, including the scale of wartime destruction, the scale of urbanisation and industrialisation as well as role of private property in the land use structure. Moreover, a comparison of Polish cities was already discussed in many studies [4]. Seeing such problems as far from the main topic of this paper, we decided to focus on Krakow as a representative case of the development processes of Polish metropolises.

This paper was based on existing statistical data, primarily from the four National Censuses (1988, 2002, 2011, 2011), data from the Local Data Bank (BDL) analyses and data contained in the Reports on the State of the City of Krakow issued yearly by the Municipality of Krakow, the publications *Krakow in Numbers* [5], and various reports prepared by other

institutions that operate in the city. The authors are aware that the use of existing data prepared for different purposes always involves matching data to research aims and objectives. This sometimes makes data from such multiple sources hard to compare. However, it should be highlighted that the use of this information carries significant benefits in the form of access to data that has been accumulated over several years. Our analysis was supplemented with qualitative data from accessible studies, which we believe enhanced our analysis.

2. OVERVIEW OF THE AREA UNDER STUDY

The transformations that take place in the city include the appearance of elements of new structures, new processes, new uses, while others disappear or are modified. These new phenomena are found in all urban subsystems: social, spatial, cultural or economic. The period considered in this article consists of the three decades of transition initiated by the change of the political and economic system in Poland after 1989.

The focus here is on the transformation of Krakow, which is an example of a city that has been developing over the centuries in an evolutionary way. It is one of the oldest and most complex urban systems in Poland [6]. Even the earliest of the city's plans show the features of the urban layout that can be observed today. We can find the spatial identity of the city by analysing the structure and manner of spatial development over the course of several centuries of history, and the centre of Krakow, the Old Town, looks identical on contemporary plans as it did in the 19th or early 20th centuries. Notably, the beginning of the 20th century saw new developmental impulses related to a deepening of the city's supra-local uses and the expansion of industry, which contributed to the acceleration of the urban community's transformation, the emergence of new spatial structure elements, especially the development of manufacturing spaces, as well as economic and cultural change.

This transformation intensified after the World War II due to the concept of developing Krakow as a major industrial centre. The excessive growth of manufacturing spaces, the hasty development of housing spaces that favoured "temporary" solutions that connected successive estates to existing transport and utility systems, as well as to social infrastructure, created imbalances in the functioning and development of the city, especially in areas with new development projects. After 1989, Krakow's development goals were redefined, with a particular emphasis on achieving and strengthening its position as one of the main national centres in the political, economic, cultural and academic spheres, but also, ultimately, building its importance as a European-scale metropolis. We intend to identify the trajectories of the transformations that have taken place in the last three decades

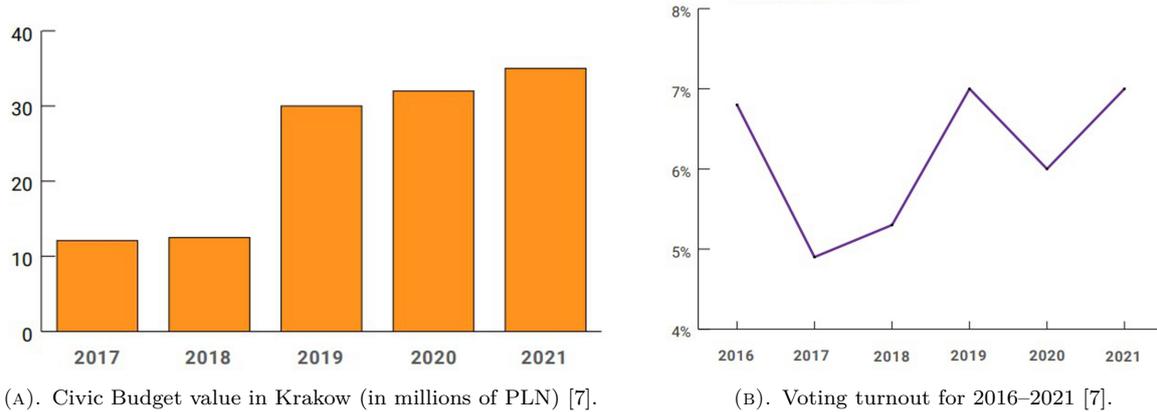


FIGURE 1. Civic activity in Krakow in 2016–2021.

in the above-mentioned spheres of urban life, and to analyse their significance for the well-functioning of the city. At present, Krakow belongs to a group of supra-regional metropolises and occupies the highest position within it due to its ability to initiate and carry development impulses. It has diverse, rich development resources, both tangible and intangible. It is characterised by a very large surplus of central functions with a market character, which defines its significance as a growth centre (see Figure 1).

Krakow covers an area of 327 km² and is divided into 18 districts. According to the latest data, 803 282 people lived in Krakow as of 31 December 2022 and the population density was 2 457 people per 1 km². Women accounted for 53.3% of the population (number of women: 428 411) and 8 265 babies were born (in 2021: 8 671). Year-to-year, there was a 699 increase in population, a 3.6% decrease in marriages, an 8.8% decrease in deaths and a 4.7% decrease in live births [8].

3. DEMOGRAPHIC AND SOCIAL TRANSFORMATION OF KRAKOW IN THE LAST THREE DECADES

As mentioned above, the concept of the “well-functioning of a city” that we adopted refers to the various areas of collective life (including culture, social relations and economic relations), the material framework in which this collective life plays out, i.e., the way in which urban space is organised and used, the way in which power is exercised, the level of citizenship and self-governance. We are not able to cover all of these areas within the limited volume of this paper, and there is also the limited availability of data that shows different spheres of urban life and the city's development.

When considering the “well-functioning of a city” from a sociologist's point of view, it should be pointed out that the following features in particular are important here:

- the capacity to meet the needs of residents (both as individuals and societal collectives), ranging from

essential to self-realisation;

- the capacity to create a community;
- the ability to sustain development through the identification, maintenance, and enhancement of existing and potential resources (tangible and intangible), and the skilful management of these resources.

The possibility of achieving this state of well-functioning is, to a significant extent, linked to the characteristics of the city's collective of residents and users, which is why we intend to explore this issue here.

Among the most important transformations of Krakow as a community, since the beginning of the 1990s, we should point to demographic changes, the recomposition of social structures, including changes in the size of particular groups and strata, and the emergence of new ones. Patterns of social inequality, the ways in which social distances are expressed, are modified in relation to these transformations. The last thirty years have seen an increase in the population of Krakow. Currently, Krakow is the second-largest city in Poland in terms of population and area (see Table 1).

Distinct demographic processes recorded in the last three decades include a change in the proportion of groups with tertiary, secondary and below-secondary education (see Table 2). Preliminary results from the 2021 National Census indicate that there is a significant increase in educational attainment across all of society, with the most rapid growth in the number of people with tertiary education. Significantly, this growth is more pronounced in cities. There is also regional variation: the highest number of people with tertiary education was noted in the Masovian Voivodeship, followed by the Lesser Poland Voivodeship. It is also important to note the predominance of women in the group with tertiary education [12] (see Table 2). In Krakow alone, the percentage of residents with tertiary education was higher than in the entire voivodeship. In 1988 – 16.0%; in 2002 – 20.1%; in 2011 – 31.6% [13].

Krakow, according to a report prepared by fDi

	1988	2002	2011	2021	2030	2040	2050
	[in thousands]			projections [in thousands]			
Women	390.9	402.9	404.0	404.0	400.9	388.7	377.1
Men	355.7	355.5	355.5	373.9	348.4	339.3	333.4
Total	746.6	746.6	757.6	800.6	749.3	728.0	710.5

TABLE 1. Changes in Krakow’s population in the years 1988–2021 and population projections for Krakow in 2030, 2040 and 2050 [9, 10].

year	tertiary	secondary	Vocational	primary	other
1988	7.2	24.4	25.3	38.2	4.8
2002	10.5	32.4	26.0	27.2	3.9
2011	17.2	31.1	22.8	22.1	1.1

TABLE 2. Changes in the educational structure of the inhabitants of Lesser Poland Voivodeship in the years 1988–2011 (percentage) [11].

Intelligence (Foreign Direct Investment), is a city in which there are good investment conditions due to its business-friendliness, the presence of high-quality human capital, and a general climate conducive to quality of life. The second important demographic process is the change in the proportions between age groups.

In the years 2010–2020, the age dependency increased, as for every 100 working-age people in 2010 there were 53 people in retirement age, in 2020 there were 71 [10]. The ageing of the population in Krakow will intensify in future decades, which implies the need for changes in social policy, healthcare, and prevention. In addition, there is a growing need to develop certain programmes and institutions to support the representatives of the oldest age groups, so that they can continue to function independently and retain their ability to perform their professional or social roles for as long as possible. It is also worth mentioning here that, according to the population projection for Krakow for 2030, the predominance of women will increase, which will necessitate new concepts for solving the problems of the oldest group of residents (among other things, the fact that women tend to have lower pensions) (see Table 1).

Overall, in thinking about the future of the city as a well-functioning residential environment, senior policy will become increasingly important. In Krakow, it is coordinated by the Representative of the President of Krakow for Senior Citizenship Policy. The new 2021–2025 Social Activity and Inclusion Programme for Seniors, which has been developed, includes an ever-expanding range of measures that foster the maintenance and enhancement of social activity, psycho-physical fitness, and social well-being linked to the satisfaction of higher-order needs. It is also worth emphasising that these programmes are subject to public consultation so that they respond as closely as possible to the real needs of this group of residents.

Another extremely important demographic process, which is a reflection of global trends, is migration.

Of course the composition of urban communities has always been changing, even thousands of years ago, and people flowed into certain places in search of freedom, opportunity or change, but they also moved to other cities from their own, often for similar reasons. These multi-directional migrations have always fundamentally influenced the way a city functions and develops, and have had varying degrees of intensity, and depend on many factors. In Krakow, multiculturalism is embedded into city’s history and has also, to some extent, been the basis for its development as an important European centre. In modern times, Krakow’s diversity began to increase after 1989, as a result of the transformational “opening up to the world”, with this process accelerating after Poland’s accession into the European Union in 2004.

The last two years have seen a significant increase in the influx of forced migrants and refugees from Ukraine. According to available data, it was estimated that one in five residents of Krakow in 2022 was a foreigner and that the dynamics of the influx of foreigners was increasing significantly [14]. Importantly, the gender structure of this population has been changing over the last few years, as the proportion of women has been increasing, although this is a phenomenon that occurs to a higher degree in only certain age groups. The biggest changes in the structure by gender, as indicated by research, can be seen in the age groups between 15 and 29 years of age. In 2022, female dominance emerged. There were almost 127 women per 100 men in the 20–24 age group and 123 women in the 15–19 age group [14].

Krakow has considerable potential to become a global city in which multiculturalism plays a positive role by dynamising change and enhancing creativity and innovation, through the possibility of confronting different views and solutions, as well as cultural diffusion processes. Factors that facilitate this include, among others, the development of tourism, the significant share of foreign tourists among visitors to the city, the growth of multinational corporations in

Krakow, the international activity of universities, including the presence of foreign students who choose Krakow as the place where they want to study. All this fosters a foreigner-friendly "climate" that facilitates adaptation and integration into city life, and in turn, from the point of view of city development, allows better use of the important development assets that newcomers bring [15].

It was mentioned earlier that a well-functioning city is one in which a community of residents and users emerges. Of course, this is about community in the cultural sense, one that goes beyond the functional ties that arise from the shared use of space or the use of the same institutions. The actions of various municipal institutions which can be conducive to resident integration, but can also contribute to exclusion or non-acceptance phenomena, play an essential role here. The Municipality of Krakow has been running the Open Krakow programme for years, and its importance has currently increased. Towards the end of 2020, Krakow joined the Intercultural Cities programme, a joint initiative of the Council of Europe and the European Commission [16]. Ensuring a well-functioning city requires the development of a network of various actors from various areas of city life. This means that there is a need for new patterns of communication between different actors, new attitudes that enhance cooperation and enabling work on common goals [17].

One of the most important elements in building a community and integrating residents is the correct functioning of the municipal government. Although the restoration and development of local self-government has been ongoing since the beginning of the transformation, one would be hard-pressed to claim that we are dealing with a steady and continuous development of how local governance can operate and effectively implement local policy. The legal, organisational or financial environment of local government is not entirely conducive to local development policy and requires numerous amendments [18]. Another important element of community building is to give citizens the opportunity to have a say in the affairs of the city, especially the implementation of certain plans that affect the individualised needs of various groups which operate in the city. Such an opportunity is provided, first and foremost, by the Civic Budget, whose significance has been systematically increasing (see Figure 1). The foundations of social order and the rules that govern interactions between various entities in social life change as local democracy develops and the scope of the impact that residents have on decision making increases.

The results of surveys from a few years ago indicated that the idea of the Civic Budget had taken root in the social consciousness of Krakow's residents. They are familiar with the concept and recognise the benefits associated with the opportunities created by participating in project formulation and voting. They

also drew attention to the integrative aspect of the Civic Budget, although at the same time they pointed out that the scale of these projects was too small [19].

4. CITY PLANNING

A spatially well-functioning city should refer to both the way in which space is organised, e.g., in terms of the availability of essential uses, and respect for the city's existing resources (e.g., the natural environment and cultural heritage). A well-functioning city is a planned city, whose development follows a pre-defined scenario that considers the protection of the city's resources and the needs and aspirations of its inhabitants [20, 21]. From an anthropocentric point of view, the most important elements of urban space are those, which respond to the aspirations and needs of inhabitants and city users and thus contribute to their quality of life [22]. The most relevant aspects regarding the city's spatial transformation were considered to be those related to the development of the real estate market and the accessibility and stock of green spaces.

In Poland, the post-1989 political transformation led to changes in the planning system. These changes also represented an extreme negation of the previous political system and a negation of the communist principle of the "planned economy" [23]. These changes were significant in the spatial transformation of the city [24]. The lack of local legislation and the possibility to carry out development projects based on planning permits, which often did not comply with the directions of a city's spatial policy, led to the decay of space in many areas of the city [25, 26]. The development of green spaces, the implementation of housing complexes devoid of transport services, public spaces and access to basic services, was another consequence of this. As a result of dynamic economic development, Krakow's space is subjected to high development pressure related to both the housing market and office spaces and various types of services. Areas particularly threatened by uncontrolled and undesirable development include primarily green areas, which is a significant problem in managing Krakow's space. In the 2019 directional document, the scale of development pressure on the landscaped green spaces designated in the spatial development conditions and directions study – a document that defines the city's spatial development directions but does not constitute local law, hereinafter referred to as the Study – was diagnosed.

The development pressure is partly linked to the housing market, where the ever-increasing demand for housing is generating an impulse to increase supply. This process is confirmed by data from Statistics Poland on both the increase in the number of dwellings and their usable floor area. The usable floor area of dwellings increased steadily from 12 647 885 m² recorded in 1995 (no previous data available), to 15 585 641 m² in 2002, then to 19 124 334 m² in 2011,

and reached 25 309 770 m² in 2021. That is, between 2011 and 2021, the usable floor area of dwellings increased by 6 185 436 m², which is almost as much as the increase in this value between 1995 and 2011 (6 476 449 m²). A significant proportion of the housing stock is used for long- and short-term rental. The high demand associated with the large number of tourists and students temporarily living in Krakow generates supply, which is conditioned by the property market being a relatively stable capital investment option. This is confirmed by the data related to the number of flats available on the housing rental market, which shows a very large increase in the last two years. According to the Knight Frank report, in the years 2017–2019 the stock was 251, in 2020 – 403, in 2021 – 535, in 2022 – 1239, while the forecast for 2023 assumed an increase to 1586 [27].

Krakow's business potential stems from, among other things, the steady supply of skilled labour, the support of the public administration, its favourable location and infrastructure facilities. In the Business Environment Assessment Study [28], in the BEAS 2021 ranking, Krakow came third with a total score of 6.7 on a 10-point scale, confirming its strong position on the national and international business market, which has been driven in recent years by the Business Services Sector, the IT industry and numerous start-ups. Krakow's investment potential is linked to the development of the real estate market in this area. The total supply of office space in Krakow is more than 1.5 million m² (2021), which means that in terms of office resources, Krakow is continuously maintaining its leading position among regional cities. The increased growth rate of the office space market in Krakow dates back to 2014 and since then, an average of more than 150 000 m² of it is being added to the city every year. Since 2015, almost 1 million m² of office space has been developed in Krakow, which is more than 50 % of the current stock. Experts from Colliers in Krakow estimate that in 2024 the total office space in the city will approach 2 million m² [29]. In 2022, Krakow was named the second-largest office market in Poland, with 1.71 million square metres of office space, behind Warsaw (6.27 million square metres) and ahead of Wrocław (1.33 million square metres) [30]. The concentration of existing office space is partly a reflection of tenants' location preferences and the size and type of project. Most of the existing floor area (47 %) is located in the northern part of the city, both on the eastern side (Prądnik Czerwony and Czyżyny) and on the western side (Prądnik Biały and Bronowice). The south of the city is also characterised by a division – to the east (the area of Zabłocie and Bonarka) and to the west (from Zakopiańska Street, along Czerwone Maki and Bobrzyńskiego streets).

The high dynamism of the property market, as mentioned, is often tied with the encroachment of development on environmentally valuable land [31, 32]. The only effective way to prevent this is to put these areas

under statutory conservation, which can be instituted by, among other things, the only planning document that is a bylaw, namely the local spatial development plan. The city authorities are progressively strive to cover as much of the city's area with such plans as possible. As a result, 250 local plans were in force as of 13 April 2023, covering 76.3 % of Krakow's area (Krakow City Planning Office). Assignment as a green space in a local plan protects areas from unwanted development and is a necessary measure to preserve the balance between developed and open spaces. In addition to the planning level, the municipal authorities actively work towards increasing the amount of green space in the city and improving access to it for residents throughout the city's territory. In this respect, we can name new park spaces (Reduta Park, Szyborska Park) and micro-interventions involving the creation of pocket parks, which at least minimally improve access to green spaces, which is not evenly distributed across the city.

The effectiveness of these measures is attested by Statistics Poland's data, according to which the amount of greenery in Krakow is gradually increasing. This is indicated by data on both the surface area of parks, greens and neighbourhood green areas, the surface area of communal forests and the indicator of the overall share of green areas within the city's territory. The area of parks, greens and neighbourhood green spaces, from a level of 1 175 ha in 1998, increased to 1 627.4 ha in 2010. In 2011, there was a decrease in this value to 1 487.9 ha, which nevertheless slowly increased to 1 923.28 ha in 2020. According to 2021 data, the value of this indicator decreased again to 1 910.16 ha (see Figure 2a). The area of municipal forests in Krakow, after increasing in 1999 by 120.3 ha with respect to 1998, remained relatively stable with slight fluctuations. From 2018 onwards, there has been a gradual increase in the area of municipal forests, from a level of 889.99 ha to 1 060.39 ha in 2021 (see Figure 2b). This trend is increasing for forests and recreation and leisure areas, and has been noted in recent studies [34]. This increase was due to the purchase of new forested areas by the City of Krakow, i.e., Borkowski Forest as well as a forest in Płaszów. The ratio of green areas to the overall area of Krakow, with slight fluctuations, increased from 8.35 % in 2005 to 11.51 % in 2021. It is also worth mentioning that according to research conducted after the COVID-19 pandemic, 96 % of Krakow's citizens were found to have access to urban green spaces within 300 m from their homes [35].

According to international world's greenest cities rankings, Krakow is showing a steady improvement in this respect. According to data reported in the Husqvarna Urban Green Space Index (HUGSI), generated from satellite imagery and the percentage of green space in metropolitan areas, green space accounted for 57 % of the area (Percentage of urban green space). According to these estimates, around

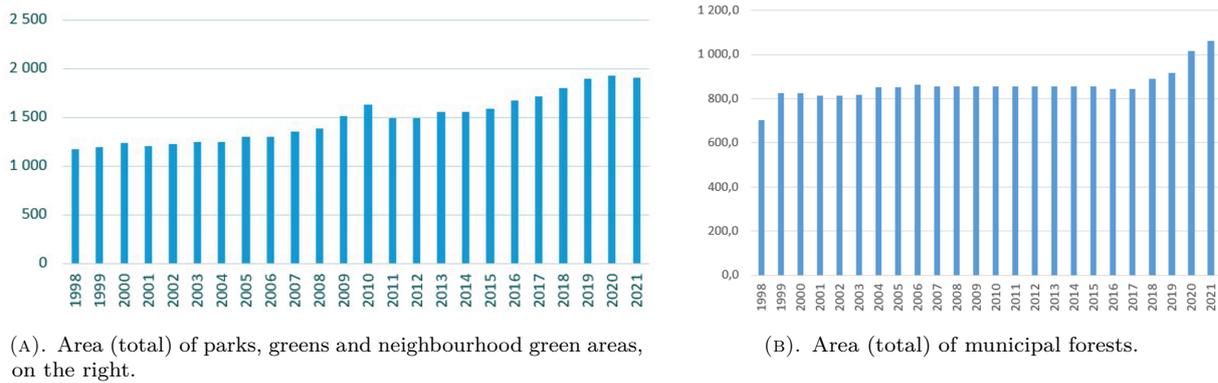


FIGURE 2. Krakow in the years 1998-2021 [33].

37% of Krakow's area is covered by trees and 20% by grass. The study also showed that Krakow had more than 207 m² of green space per inhabitant. In comparison, Prague, with the same 57% share of green space, had a per capita green space ratio of 183.2 m² (HUGSI). Similar results were found by Łachowski and Łęczek [36] in their study comparing the green areas of Poland's major cities. Krakow, with a total share of 57.3% of green areas, is only 12.3% less than the greenest Koszalin (69.6%) and 32.1% more than the least green Opole (25.2%) (Warsaw's share is 53.7%).

5. INFRASTRUCTURE AND TRANSPORT POLICY OF THE CITY OF KRAKOW

There are two primary issues related to environmental protection policy that are closely related to transport planning – energy saving and environmental quality, including air quality [37]. In addition to zero-emissivity and space neutrality, urban transport policy should be understood through the prism of efficiency: reliability and capacity. This is mainly achieved by indicators of the quality and volume of deliveries, such as: the estimated total number of kilometres of high-capacity means of transport – metro, suburban rail, trams, and other transport modes unaffected by traffic jams [38].

Krakow is a city that has populated rapidly since 1995. The population in question is not people registered in Krakow, as this figure grew at a rather moderate pace, but of the city's users, whose number has grown exponentially: tourists, students, residents of the functional area who use Krakow's resources.

Typically, also for many cities in Poland and Europe, the transport infrastructure, especially road infrastructure, has not grown as fast as the demand for it. Krakow is an attractive place to work with a supra-regional reach, being, among other things, a centre for Global Business Services (a centre of common services with a global reach). It is also a city with 23 universities including, 10 of which are public. It is a city that received 14 million tourists in the pre-pandemic year. It is a metropolis characterised by high-quality of public and private services including,

tertiary services.

The transport system has to withstand the “stresses” of the intensity of institutions and processes and, importantly, Krakow's transport system follows assumptions about several important aspects that improve its efficiency.

Firstly, Krakow's authorities are working to diversify intra-city transport tools. The idea is that users of the city should be able to choose how they want to get around the city. They have at their disposal, among other things, public trams and buses, bicycle paths adapted for electric scooters; dedicated bus lanes used by electric buses and cars, as well as taxis. Secondly, it is assumed that Krakow's intra-city transport is based on a public tram and bus transport network, which in many places is independent of traffic (has a dedicated track). Although Krakow does not have a metro network or a premetro (there is a short underground route in the centre which forms the basis of the 2.8 km long pre-metro), the city's authorities are developing a proposal of the construction of a premetro with a feasibility study.

Thirdly, Krakow's urban transport should be clean, and environmentally neutral. Krakow has one of the most modern fleets of buses and trams in Poland and this part of Europe. The vast majority of these are less than five years old, with around 30% of the bus fleet being electric or hybrid buses. The bus fleet is equipped with the latest catalytic converters and meets the strictest European Union standards. The Krakow Municipal Transport Company is gradually replacing its bus fleet with electric buses.

However, Krakow's transport system has weaknesses and barriers that limit its efficiency. Firstly, this relates to the lack of intermodal transport integration. Krakow is in the process of building interchange hubs, primarily linked to commuter railway. However, matters are made more difficult by Krakow's historical development, as interchange hubs should be located in central locations, but there is no room for them due to the city's historical architecture. Secondly, there is also a mentality problem, as people largely behave irrationally from an economic viewpoint. Oftentimes, despite the fact that it would be faster and cheaper to

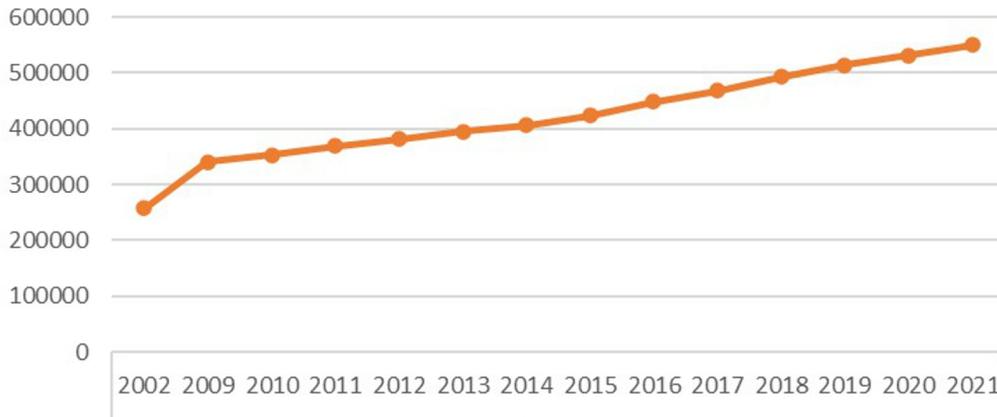


FIGURE 3. Number of cars in Krakow [quantity] [12].

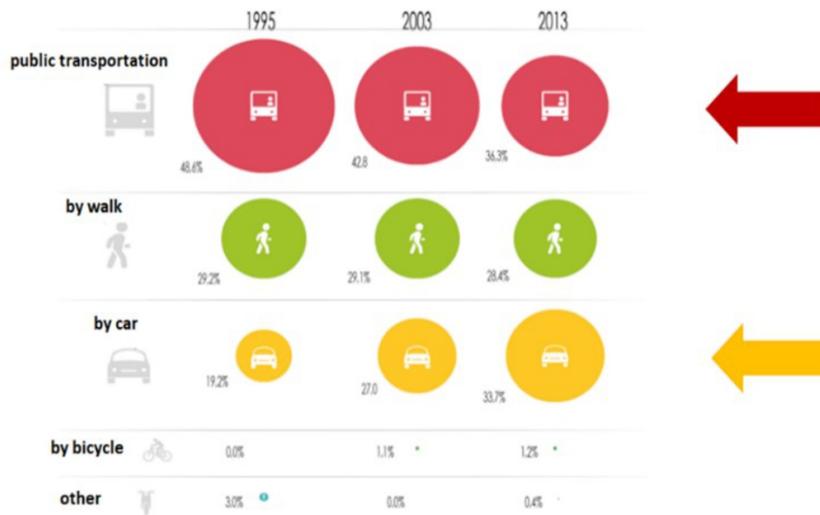


FIGURE 4. Load structure of Krakow's transport systems [39].

travel by public transport, Krakow's users choose the car. It is not entirely possible to predict the actual effect that the construction of a tram line may have, as residents may simply continue to prefer travelling by car. It is difficult to project the actual return rate of such a project, even if we monetise the societal effects of building a new tram or metro line. Thirdly, many modes of transport in Krakow are seasonal.

Relatively few people use bicycles or electric scooters in winter. It is difficult to predict whether Krakow will become a second Amsterdam or Copenhagen. Krakow's parking system is certainly a problem. On the one hand, many city users would like to drive their car into the city centre, but on the other hand, this entails numerous dysfunctions. Meanwhile, the city lacks a coherent policy concept of a direction for the parking system's development. However, after initial enthusiasm, the idea of building multistorey car parks in the city centre was abandoned. There is still a debate as to whether pavements should be exclusively for pedestrians or should they be taken over by drivers. The issue of architectural constraints

related to the valuable urban fabric in the Old Town is brought up regularly.

The future of Krakow's transport system seems to lie underground. The strict city centre has probably already reached its maximum capacity and historical architecture prevents the extension of the transport system, for instance by widening streets for building a new lane. The city's authorities, for the time being, have opted to extend tram lines and to convert singular car lanes into bus lanes, and choose to remain silent when asked about building a metro. The cost of building a single north-south metro line, which would cut commuting times from distant stations by around 20 minutes in Krakow, has been estimated at around €8 billion. However, sceptics reiterate that the metro and its extension would mean long distances between stops, which is not going to work well for short-distance trips. In Krakow, there are also those who are in favour of the premetro, but also those who believe that the strict city centre should only be entered on foot.

6. CULTURAL HERITAGE AND THE DEVELOPMENT OF TOURISM AND ITS IMPACT ON KRAKOW'S SPACE AFTER 1989

One of the most important spatial changes that took place in Krakow after 1989 was related to the transformation of the historical centre [3]. The city, which was not destroyed by warfare, did not become a site of major conservation or rehabilitation measure after 1945. While major development projects were carried out outside the strict historical centre, the area's most valuable in terms of cultural heritage were left without protection for several decades. After the World War II and the establishment of a new political system, conservation that stemmed from everyday efforts by buildings owners ceased to function. It must be stressed, however, that property ownership was not nationalised in Krakow, but was instead subject to top-down control monitored by the state. At the same time, the state, which was formally responsible for the state of the material tissue of the historical city, failed to fulfil its obligations.

The state of the architectural fabric's decay quickly worsened the tragic state of the natural environment. Towards the end of the 1940s, Krakow became the site of one of the Polish state's largest heavy industry projects. The Vladimir Lenin Steelworks, which had been in operation since 1949, was an enormous environmental threat to residents and buildings [40]. The dangerous situation, seemingly hopeless, became one of the main reasons for placing Krakow on the UNESCO World Heritage List as early as 1978, along with the first 11 entries. At the time, Krakow symbolised the decay of a historical city caused by rapid industrialisation and the resulting environmental disaster.

The year 2023 marks the forty-fifth anniversary of this historic event. The development of Krakow is in a completely different place. The steelworks' operation has been limited, heavy industry is no longer a challenge, and has no significant impact on the city's economy. The process of reducing production began back in the 1980s and accelerated considerably with the post-1989 political changes. At the same time, a reverse phenomenon took place in Krakow, which today has a significant impact on the city's economy and labour market and exerts an enormous influence on the way historical buildings are used. The UNESCO World Heritage listing brought attention to the city, which soon after 1989 became an attractive destination for international tourism as well as was among the cities that found interest in using cultural heritage for its future development [41]. It also necessitated the first large-scale conservation work. In 1985, the Polish state established the National Fund for the Revitalisation of Krakow's Historical Monuments, whose administrator is the Social Committee for the Revitalisation of Krakow's Historical Monuments, in operation since

1979. This non-governmental organisation, which was set up while the communist state was still in power, is responsible for distributing PLN 30 million each year (ca. 7 million EUR). The nearly 40 years of the fund's operation have had a fundamental impact on structural changes in the state of conservation of Krakow's monuments [42].

Today, there are 13 other UNESCO sites in the vicinity of Krakow, which were honoured in this profound manner between 1978 and 2013, via five further entries. This exceptional saturation of the city's neighbouring areas with cultural values strengthens Krakow's position as a leading tourist destination in Poland. Shortly after the political transformation, in 1991, Krakow was visited by around 1.8 million people a year. At the time, tourism was concentrated in a small area between the castle hill and the Main Market Square. Less than a decade later, in 1999, alongside Prague and a number of other cities, Krakow played the honourable role of a European Capital of Culture. At that time, the city had already been visited by more than 4.2 million people [43]. There was a marked increase in interest in the city after Poland's accession into the European Union and the opening of the Polish sky to low-cost airlines. Krakow's John Paul II Airport handled around 200 000 passengers in the mid-1990s, and a decade later this number exceeded 2.5 million. Shortly before the pandemic, the airport was already handling more than 8 million passengers [44]. The rapid development of the air transport, network primarily with cities in the UK, became an important tool for tourism development after 2004.

In 2008, Krakow was visited by as much as 7.5 million people. In 2013, this number was 9.25 million, just before the outbreak of the COVID-19 pandemic, the number of tourists visiting Krakow was over 14 million. The pandemic and the period of movement restrictions have slowed growth. However, data from 2022 show a very clear rebound, with the number of tourists again approaching 8 million [45, 46]. The pandemic has changed the nature of tourism in the city; before 2020, foreign tourists, mostly from Western Europe, played a very important role. Tourists from Middle Eastern and Far Eastern countries were an increasingly important group. Since 2020, there has been an increase in the share of domestic tourism as well as tourism from neighbouring countries.

One of the measures of change in tourism in the city is the number of people who visit its most popular museums. In 2005, the Wawel Royal Castle was visited by ca. 1 million people, the National Museum in Krakow by 350 000 people, and the Krakow Museum by around 220 000 people. In 2019, just before the outbreak of the COVID-19 pandemic, the Wawel Royal Castle was visited by around 1.4 million people [47], the National Museum by around 1.2 million people, and the Krakow Museum [48] by around 1.3 million people. The total number of Krakow's museum visitors group was bigger than 5.2 million [43]. The inflow

of EU funds and the completion of numerous projects in the culture sector have become an important factor in the development of Krakow as a leading Polish museum centre.

As already pointed out, the COVID-19 pandemic had only a short-lived impact on reducing tourism in the city. It has also shown that it does not actually have a critical impact on the city's economy. Tourism's share in the city's gross product is around 8%. However, the pandemic revealed a different phenomenon. After 1989, with the development of tourism in the city, there was an exodus of residents from the city centre. District I, the Old Town, one of Krakow's eighteenth districts, is an area filled with the most valuable and sensitive tangible cultural heritage assets. As recently as 2000, the district was home to around 56 000 people, in 2010 this figure fell to around 42 000, in 2021 it was already less than 30 000. It is estimated to reach 12 500 by 2050 [49]. While the population of the city as a whole increased from 760 thousand to 800 thousand, the population of the most attractive part of Krakow has collapsed. The Old Town area in particular, the area within the historical city walls, has become a site of drastic change. Until around 2000, more than 20 000 people had lived there. Today, the number is around 500, the smallest in history.

Structural changes are also affecting the areas of other districts. After 2000, the former town of Kazimierz has become an increasingly visited part of the city. Before the Second World War it was the symbolic centre of life for the Jewish community in Krakow. After 2010, the historical district of Podgórze, on the other side of the River Vistula, became another popular destination. The increased interest in these places quickly translated into strong growth in catering establishments and hotel projects. The outflow of residents was hampered in these parts of the city by the ownership structure. While in the strict centre almost all residential buildings are privately owned, in areas outside this area, especially in the historical town of Kazimierz and in the Podgórze area, municipal ownership plays an important role. It has ensured that the aforementioned parts of the city have avoided the problem of population loss and drastic transformation into flats for short-term rent.

It should be emphasised that former flats converted to short-term rentals play an important role in Krakow today alongside large hotels, which are often part of major franchises. This phenomenon began to grow after 2010 and the advent of mobile applications that offer accommodation rental. In 2020, there were more than 32 thousand beds in more than 600 hotels and almost as much beds in more than 1600 short-term rental properties. It is no exaggeration to say that Krakow's historical centre has become an enormous hospitality complex over the past twenty years. This phenomenon has a highly negative impact on the life of the city and conflicts with the interests of residents and with the idea of sustainable development

based on a circular economy. The development of the tourism sector was highly appreciated by the local policymakers, making the growing crisis in the city centre invisible [50]. The strategic municipal documents for tourism for the period before the outbreak of the COVID-19 pandemic highlighted the need to increase the number of tourists. The only problems recognised at that time were the quality of services offered, the growing number of tourists and the rising interest of tourists in the city's night life [51].

The moment of COVID-19 pandemic outbreak exposed the city centre as empty space distant from the citizens [52]. Already in Spring 2020 the city authorities asked residents to replace tourists and use the catering services in the city centre more often. The city authorities' appeal was met with numerous negative or ironic remarks and thus exposed the resentment of Krakow's residents towards the historical centre as a place dedicated to outsiders. The affirmative answer from the local community pushed city authorities to introduce a new sustainable tourism strategy [53]. The negative aspects of tourism, such as gentrification and the hypertrophy of the tourist sector, were named in an official document for the very first time. However, the tools proposed for solving these problems, including adopting more sophisticated software devices, are barely adequate. It needs to be emphasized that more appropriate tools for action need financial support and administrative legal solutions that can be implemented only at the state level. While the problem of overtourism is far from being solved, the city of Krakow might be seen as the first in Poland to discuss it and to propose some adequate future actions. Thus, Krakow might be seen as the city that follows the idea to the well-functioning city and that develops policies that could help to overcome globally-rooted crises.

7. CONCLUSIONS

The changes that have taken place in Krakow over the last thirty years indicate the development of the city's intellectual, social and cultural capital. Better use of the opportunities offered by the growing cultural diversity of the community of residents and users of the city is an important phenomenon. Other opportunities that have been taken advantage of include the presence of outsourcing companies and the related position of Krakow as a business location, which in turn affects the city's reputation as a place to study, but also as a housing environment in general. If the tendencies outlined in the city's reports, tendencies to strengthen social capital, the growing sense of connection with the city and its affairs, and social integration (including intercultural integration) continue in the coming years, it can be assessed that, from a social point of view, Krakow will move towards being a well-functioning city. There is, of course a need to further develop social integration and strengthen civil society. This should include the support of citizens' agency and

activity. It requires the inclusion of various groups in the decision-making process [54].

The period after the political transformation of 1989 was a difficult challenge for Krakow in terms of spatial planning. The lack of regulations, i.e., spatial development plans, resulted in the proliferation of uncontrolled development in terms of function and form. The successive process of adopting planning documents was too slow compared to the changing dynamics of the real estate market. As a result, many dysfunctional spaces were created, primarily in terms of transport connections and access to necessary uses, which were very often created in areas that play a key role in the city's environmental system. In the face of unfavourable demographic changes, threats related to climate change and the economic situation, Krakow's authorities are gradually implementing a development strategy based on the principles of a circular urban economy.

In short, Krakow is a city that is gaining in importance in the regional and supra-regional context. In the analysed period, Krakow created new and strengthened some of its pre-existing functions. Some of them became dysfunctional – which is not an exception. Many cities have succumbed to the pressure of excessive commercialisation, which threatens the loss of local identity and hard-to-reproduce resources (e.g., space). Certainly, in the case of Krakow, we are dealing with a noticeable and dynamic development of tourism, business – especially in the Global Business Services industry – and an increase in the number of city users (development of the city's functional area). The development and growth of Krakow's economic significance is accompanied by a slightly too short-sighted spatial policy, which results in the impairment of transport infrastructure, the dysfunctional development of residential and office buildings, which results in, among others, the building up of city cross-ventilation corridors. This is also due to the rapid commercialisation of the city, which many cities, including Krakow, tolerate, because it is the "price" of rapid development, wage growth, the impact on the city budget, maintaining an appropriate level of interest from investors and tourists. Therefore, it seems that, in the future, Krakow will always have to analyse the environmental impacts of its development policies. There are many concepts that describe the need to rationalize development actions, with the above-mentioned circular urban economy being notable.

Taking into account the evolution of Krakow in the years under study, the city-forming nature of Krakow's development policy should be clearly indicated. However, it can be stated that the research hypothesis was verified negatively. On the one hand, there has been clear progress in Krakow in terms of city budget revenue, average wage levels and the number of companies with foreign capital classified as modern. Krakow has developed dynamically in terms of in-

frastructure. However, this development has come at a price. Krakow has become a city with chaotic residential block layouts, and has been excessively commercialized to meet tourist needs. Krakow did not use its resources optimally, but in a specific way, fostering development in the hotel, catering and Global Business Services industries. At the same time, positive aspects of Krakow's development are visible: a turn towards innovation, the development of grassroots initiatives (urban activist movements, non-governmental organisations) that began to demand the protection of key city territories.

At this stage of the analysis, this study should be considered exploratory and will be further developed in terms of content, research methodology and the type of data used. In subsequent stages, the study will be enhanced with a more detailed set of data from existing databases and supplemented by original research. The final set of indicators and metrics will be used to study other cities to provide comparative material. The study has several limitations. Firstly, it was based on pre-existing public datasets, which allowed for their aggregation. Secondly, the aim of the study was to explore the scope of available data for Krakow, which at this stage precluded comparative analysis with other cities. Despite these limitations, the research gap identified is a valuable conclusion. It consists in the lack of studies that analyse and monitor Krakow's development (also in comparison with other cities) and, as a result, model future development trends.

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