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## **STRUCTURE, FUNCTIONS AND DEVELOPMENT BASES FOR THE KRAKÓW METROPOLITAN AREA**

### **Introduction**

Institute of Urban Development participated in preparing one of the INTERREG IIIB CADSES project – RePUS – Strategy for Regional Polycentric Urban System in Central Eastern Europe Economic Integrating Zone. Project was realised in 2005-2007 period by partners: Emilia – Romagna Region, Italy – Lead Partner, VÁTI – Hungarian Public Non-profit Company for Regional Development and Town Planning, Ministry of the Environment and Spatial Planning of Slovenia, ÖIR Austrian Institute for Regional Studies and Spatial Planning, Czech Technical University in Prague, Faculty of Architecture.

The main focus of the project has been the following: identifying the potentialities of the regional urban system, identifying the dynamic urban areas, identifying dynamic small towns that can play positive role in regions, proposing the policy strategy of polycentric development.

Summary of RePUS Project outcomes is presented in RePUS Final Report<sup>11</sup>. This article shows one of the task of Repus Project – pilot case.

Following the assumptions made in the RePUS Project, pilot cases for the territory of Poland were prepared for two different areas, which were isolated as Functional Urban Areas (FUA) in spatial analyses of Poland. One of those areas is an urbanized area, identified as a FUA of a national significance, with the city of Kraków constituting its heart. The second one, which is presented the next article, is a local FUA, situated in agricultural areas, with a small town of Brzozów as its centre.

The Kraków Metropolitan Area constitutes one of main population and labour concentration centres in Poland, and the potential of that centre justifies calling it a metropolitan area. Analyses were conducted for that area within a spatial reach, determined by the regional authorities to be the reach of the Kraków Metropolitan Area.

The reach of the Kraków Metropolitan Area covered by the analysis does not strictly coincide with the FUA, determined in nationwide analyses of the settlement system that were conducted within the framework of the RePUS Project WP3. That reach results from slightly different delimitation criteria of the FUA and of the metropolitan area in a regional plan. However, in order to perform the case study, it seems justified to assume for analysis purposes an area, which constitutes a certain spatial unit that functions in regional documents.

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<sup>11</sup> RePUS Regional Polycentric Urban System, Final Report 2007, INTERREG III B CADSES.

This is an area with the size of ca. 4000 km<sup>2</sup>, with 326 km<sup>2</sup> or 8% being the surface area of the city of Kraków. There live about 1 500 000 people in that area, and 51% of them in Kraków.

In addition to Kraków, the Kraków Metropolitan Area is composed of 50 smaller local government units on the level of NUTS5, including small and medium-sized towns, as well as rural areas.

Besides the analysis of the whole area, in view of the RePUS Project requirements, additional analyses for one of the small towns located in that area were elaborated, in order to illustrate what roles can be played by small towns in developing polycentric structures of their metropolitan areas.

## 1. Location and Position of the Area in Poland and in the European Context

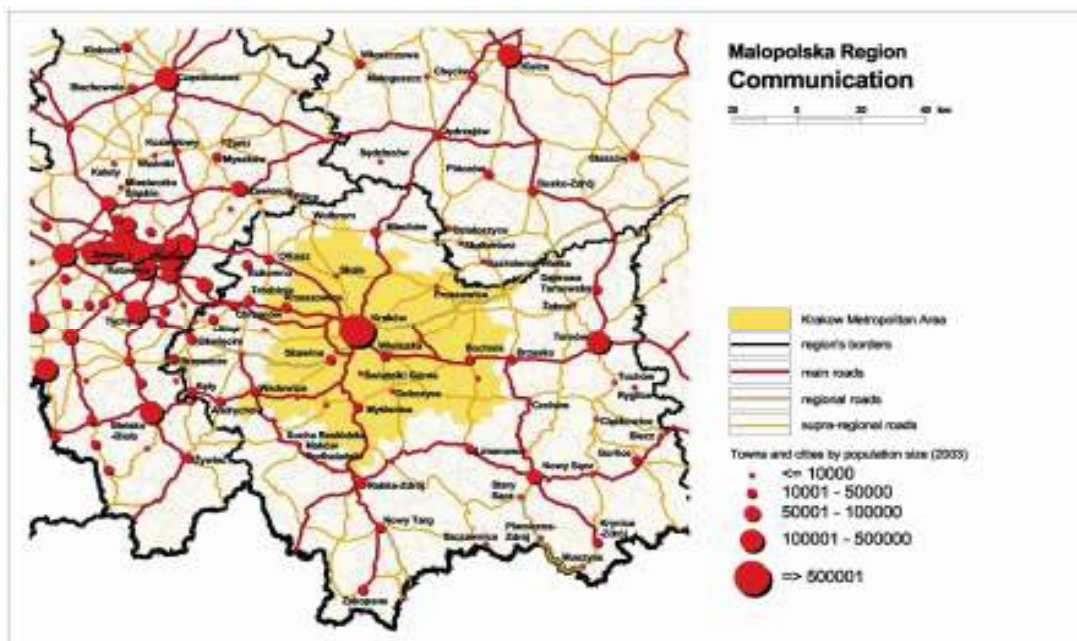
### Location

The Municipal Area of Kraków lies in the south Poland, in the Małopolskie Region.

The distance between the southern part of the area and the Slovakian border is 20 km, while the distance from the Czech border is 30-40 km.

Kraków is in a distance of 275 km from Warsaw. Large cities, which are located most closely to Kraków, include Katowice (70 km), Kielce (120 km), Tarnów (80 km), Bielsko Biała (85 km), Poprad in Slovakia (150 km), and Ostrava in the Czech Republic (200 km).

The Kraków Metropolitan Area is located in a direct neighbourhood of the urban agglomeration of the Upper Silesia and forms, together with it, a vast urbanized area.

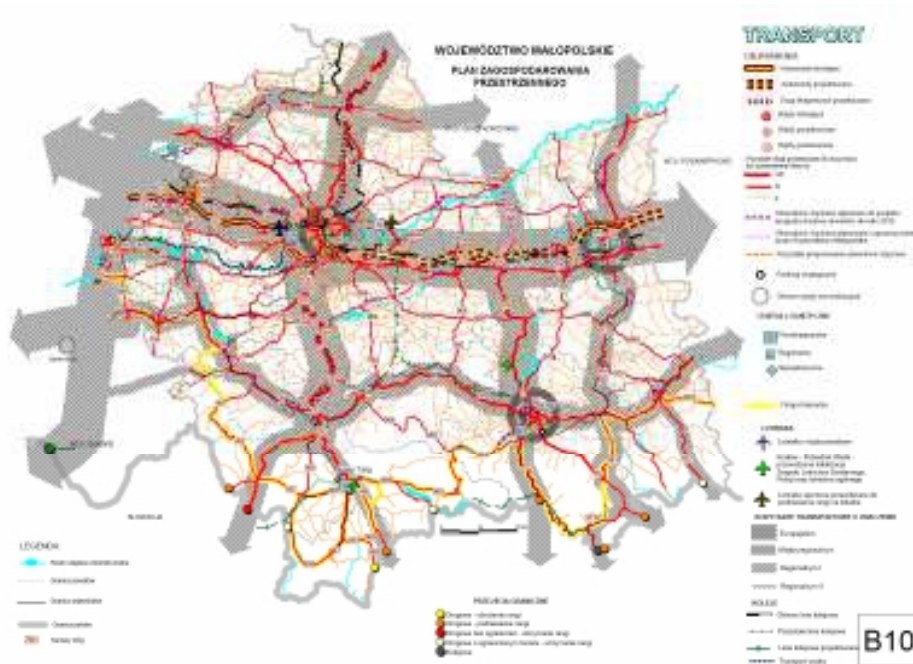


**Fig. 1. Małopolska Region Communication**

*Elaboration: Grażyna Korzeniak, Agnieszka Rozenau-Rybowicz  
base on data BDR GUS, BDO GUGiK*

The following routes run across the Kraków Metropolitan Area:

- Berlin-Wrocław-Katowice-Lvov-Kiev international transportation corridor
- Kraków-Zilina interregional corridor



**Fig. 2. Transport in Małopolska Region**

Source: *The Regional Spatial Development Plan for the Małopolska Region, 2003*

### Significance of the area in Poland

Kraków is one of the main urban centres of Poland, a city of historical monuments, an important centre of culture, science, tourism, as well as industry.

Population of the area constitutes 1.9% of the population of Poland. The Kraków area concentrates 3.2% of national job places, including 3.6% of national job places in services and 2.4% of those in industry.

## 2. Analyses of Structures, Functions and Development Policies of the Kraków Municipal Area

### The administrative structure

The Kraków Metropolitan Area is composed of 51 administrative units (NUTS 5). Part of them are urban and rural units, part of them are urban units, and there are entirely rural units, too. All of them are located within the borders of 9 counties (NUTS4), and one of those counties covers the city of Kraków within its administrative borders.



**Fig. 3. Małopolska Region, Administrative division**

*Elaboration: Grażyna Korzeniak, Agnieszka Rozenau-Rybowicz  
base on data BDR GUS, BDO GUGiK*

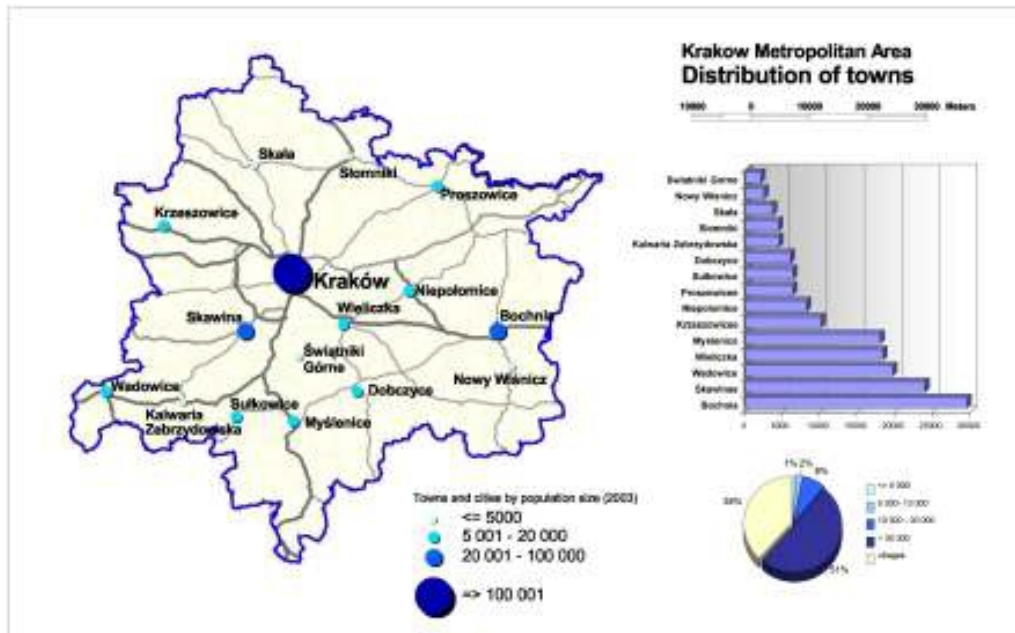
## Demography

The Kraków Metropolitan Area is inhabited by ca. one and a half million people, and the area's population concentrates mainly in Kraków, which has the population of 757 000, that is almost half of the whole area population.

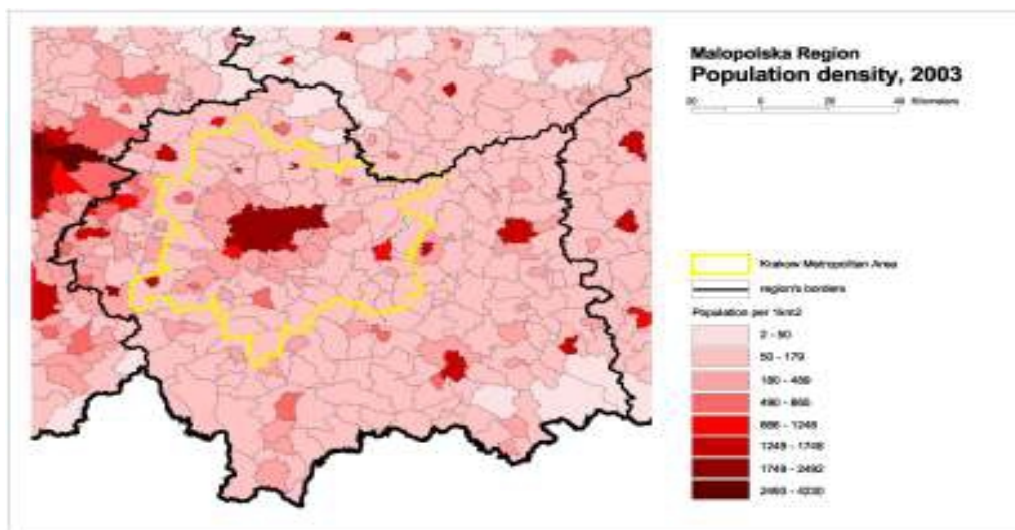
Besides Kraków, there are 13 other towns in the Kraków Metropolitan Area. The largest of them is Bochnia, with the population of 29 390. The second largest is Skawina (23 810). Small towns include Wadowice (19 590), Wieliczka (18 250), Myślenice (17 870), Krzeszowice (10 060), Niepołomice (8110), Proszowice (6260), Sułkowice (6260), Dobczyce (5960), Kalwaria Zebrzydowska (4450), Słomniki (4400), Skąta (3650), Nowy Wiśnicz (2530), and Świątniki Górne (2080).

51% of the area's population live in Kraków; 3.7% live in medium-sized towns (>20 000<100 000); 6.3% in small towns (5001-20 000), and 1.2% in other small towns (<5000). The rest of the area's population, that is 38.3%, lives in rural areas.

The Kraków Metropolitan Area encompasses both the areas of a large city, small and medium sized towns, and rural areas. Therefore, the population density is highly diversified, and ranges from the highest in Kraków (2244 persons/km<sup>2</sup>) to the lowest in villages (58 persons/km<sup>2</sup>). The average population density in the area, amounting to 338 persons/km<sup>2</sup>, is about three times higher than the average national index (123 persons/km<sup>2</sup>). In addition to high population density in Kraków and in other towns, one can find concentration of population in rural areas located in the neighbourhood of Kraków, except for the east and north-eastern parts of the area.



**Fig. 4. Krakow Metropolitan Area, Distribution of towns**  
 Elaboration: Grażyna Korzeniak, Agnieszka Rozenau-Rybowicz  
 base on data BDR GUS, BDO GUGiK

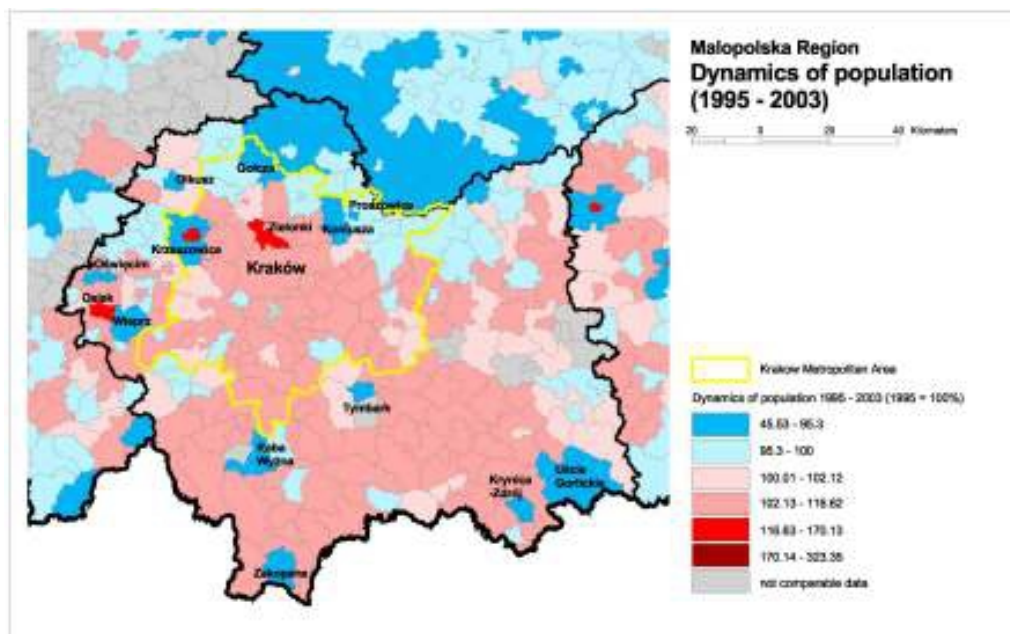


**Fig. 5. Malopolska Region, Population density, 2003**  
 Elaboration: Grażyna Korzeniak, Agnieszka Rozenau-Rybowicz  
 base on data BDR GUS, BDO GUGiK

This results from both the agricultural functions of those lands, and from their lower investment attractiveness.

The population dynamics in the Kraków Metropolitan Area in the period of 1995-2003 is more favourable than in many other regions of Poland. Here the population number increased by ca. 40 000, including the increase by ca. 17 000 in Kraków itself. Except for few rural areas in the north part of the Kraków Metropolitan Area, no decline in the area population can be noticed. The suburbanization processes in the Kraków surroundings are

distinct, however, they are not followed by the decline of population in the central city. They are also less significant than those in the neighbourhoods of Warsaw, Gdańsk, and Poznań.



**Fig. 6. Małopolska Region, Dynamics of population (1995-2003)**

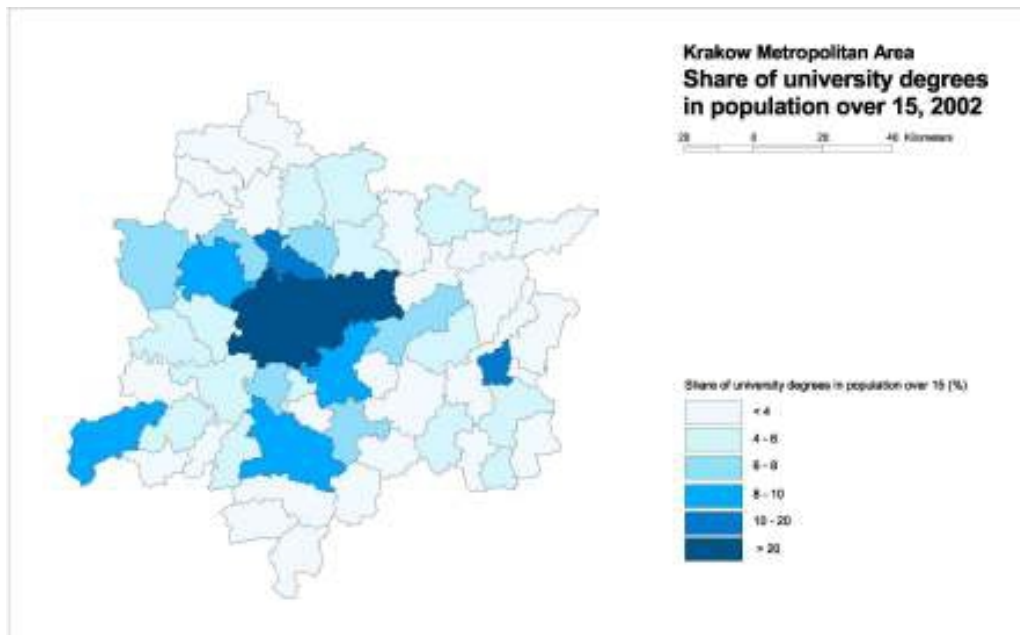
*Elaboration: Grażyna Korzeniak, Agnieszka Rozenau-Rybowicz  
base on data BDR GUS, BDO GUGiK*

The level of population education in the Kraków Metropolitan Area is higher than in the region, and also above the national average value. The thing that draws one's attention is diversification of the level of higher (tertiary) education. The highest shares of people with higher education were recorded in 2002 in Kraków (more than 20% of the population aged 15+). Relatively high percentage parts of that group were found in the suburban zone of the Kraków Metropolitan Area, where people with higher education constituted >10% of all adult residents. The peripheral areas, especially those in the north, had education structures typical for rural areas, and people with higher education constituted only 2-4% of the population there.

As far as the population age structure is concerned, the Kraków Metropolitan Area can be divided into 2 parts: the north part and the south part. The north part is distinguished by advanced population ageing processes, while in the south part those processes are in their initial phase. While in the north part 18-22% of the whole population are people aged >60, in the south of the Kraków Metropolitan Area that subpopulation does not exceed 14% in general.

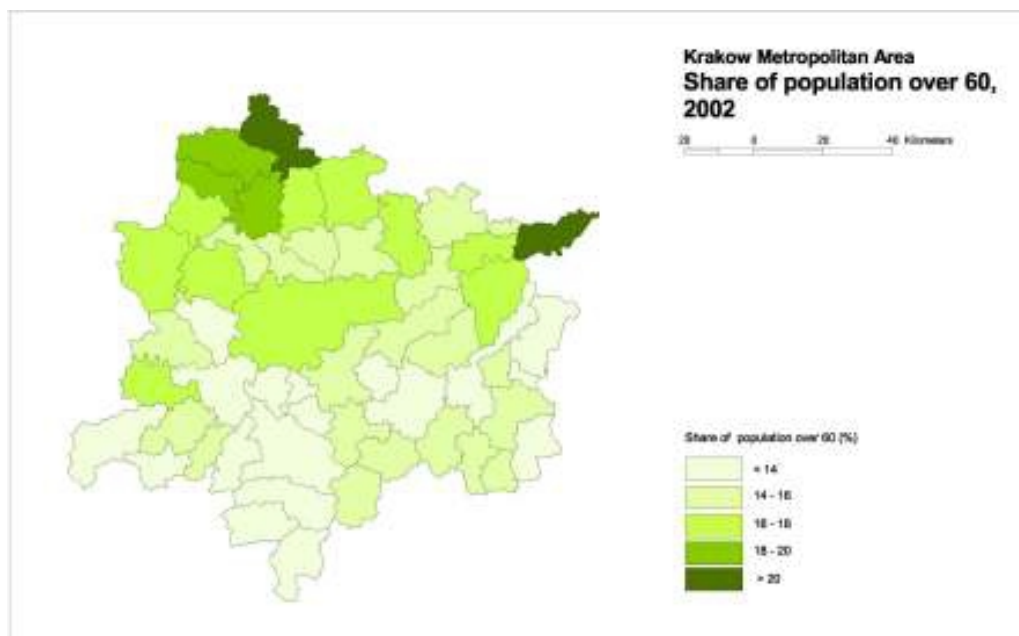
Based on the population age structures, as well as the share of people with higher education, and such measures as the number of those, who live off farming, the unemployment rate, coefficient of the definitive migration balance, the share of foreign emigrants in all emigrants, as well as the equality index, there were five levels of social and demographic development of the Kraków Metropolitan Area isolated in 1998-2002. They were: very low, low, moderate, high and very high levels. The whole area of the Kraków Metropolitan Area can be divided

into three zones of social and demographic development that have a parallel latitude arrangement: 1. north zone, 2. central zone, 3. south zone.



**Fig. 7. Krakow Metropolitan Area, Share of university degrees in population over 15, 2002**

*Elaboration: Grażyna Korzeniak, Agnieszka Rozenau-Rybowicz  
base on Andrzej Zborowski*



**Fig. 8. Krakow Metropolitan Area, Share of population over 60, 2002**

*Elaboration: Grażyna Korzeniak, Agnieszka Rozenau-Rybowicz  
base on Andrzej Zborowski*

The north zone is marked by the lowest level of social and demographic development (low level of education, high indexes of demographic old age, low birth rate,

high percentage of population who live off farming (30-40%), small but constant decline of the population number).

The central zone, situated along the main west-east communication axis, is marked by high level of higher education, high inflow of population, developed suburbanization processes, low birth rate but a relatively high dynamics of its population. The central city of Kraków is located within that zone.

The south zone includes rural communes and small towns of a very high population dynamics that results from a high birth rate and a positive balance of the definitive migration. Lowly advanced processes of the population ageing, as well as low unemployment rate also distinguish that zone.

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### **Migrational impacts**

Transition to the market economy in the 1990s had fundamental significance for changes in population migrations in Poland.

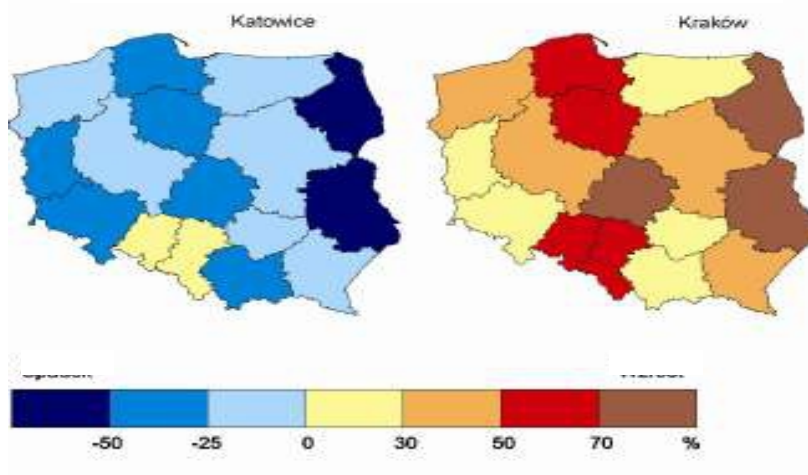
In the 1990s, radical changes took place in the Kraków Metropolitan Area in the pattern of the definitive migration directions of the population. Those changes took the forms of a considerable reduction of migration streams flowing from villages to towns and of the increase in the role of migrations between cities/towns and from cities/towns to villages. That second instance concerned migrations from the central city to its suburban zones (the phase of suburbanization in the urban cycle). Apart from suburbanization, there followed the process of reterritorialization of the so-called migration basins, consisting in the change of reach of migration streams flowing from towns and communes to the metropolitan centre. In the 1990s, the migration basin of Kraków extended (at the expense of Katowice) as a result of the change in ranks of those two metropolises within the settlement system of Poland during the post-industrial era.

Towards the end of the 1980s, the balance of migration between Kraków and the Katowice region was negative, while Kraków recorded positive and high values of the migration balance with the neighbouring regions.

In the 1990s, there followed radical changes in the impact of Kraków upon its neighbourhood, and also in relationships with the Katowice region, measured by means of the population migration intensity and directions. Following the restructuring of mining and heavy industries in the Upper Silesia, and the resultant liquidation of many job places, the inflow of population from all regions of Poland (including the south-eastern Poland) to the Katowice region became considerably reduced. At the same time, there began an unprecedented outflow of population from the Katowice conurbation. Outflows of population from the Upper Silesia to Kraków in the early 1990s began to substantially exceed population inflows to the Upper Silesia, which fact determined the positive migration balance with the Katowice region (Fig. Warych). That tendency continued, and even began to deepen



starting from 2000. In the same period there was an increase in the power of Kraków's influences on a supraregional scale. In 1999-2004 the city recorded an increase in the number of migrants, who came from the whole area of Poland.



**Fig. 9. Changes in migrations to Krakow and Katowice 1999-2004**

Source A. Zborowski, 2007, *Reterytorializacja migracji w układzie regionalnym i lokalnym w Polsce południowo-wschodniej [w:] Przekształcenia regionalnych struktur funkcjonalno-przestrzennych, Uniwersytet Wrocławski, Wrocław, s. 371-382.*

The highest dynamics of the increase was seen within the so-called "east wall" region, as well as in the meridional belt, formed by several Regions, from the Śląskie to the Pomorskie one. During the reviewed period, Katowice recorded a drop in the inflow of migrants, which concerned nearly the whole Poland, except for the regions of Silesia and of Opole. Those migration tendencies, as mentioned above, show the increase in the power of influences exerted by Kraków on a national scale, with the simultaneous drop of the significance of Katowice in an all-Poland arena.

During the system transformation period, migration processes of a deconcentrating nature begin to acquire greater and greater significance. Those processes are related to the phase of suburbanization in the urban development cycle (Grzeszczak, 1996; Zborowski, 2005b). The processes of suburbanization in the neighbourhood of Kraków are distinctly noticeable, however without a decline of the population in the central city. They are also less significant than those in the neighbourhoods of Warsaw, Gdańsk, and Poznań.

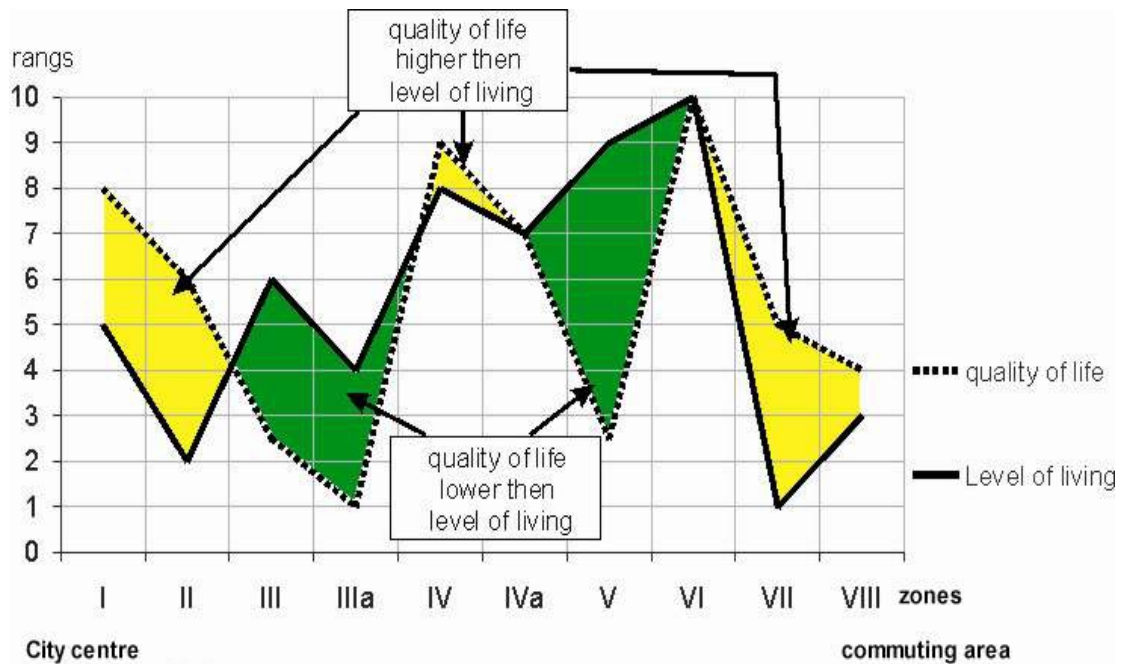
Changes in the influences exerted by large cities upon their neighbourhoods in regional systems seen from the angle of definitive migrations of their populations were linked with transformations of their migration fields, formed by migrants registered for temporary residence.

Research concerning the social background of students at the Faculty of Biology and Earth Sciences of the Jagiellonian University in Kraków show that the reach of the

influence of Kraków as an academic centre increased in the 1990s. (Piela) This was related to the redistribution and extension of the city's influences upon its neighbourhood on a supraregional scale in the field of temporary migrations for the period of more than 2 months. The increase in the number of university students concerned the Śląskie Region and individual counties of central and eastern Poland.

### Level and quality of life

The Kraków Metropolitan Area stood out against all Poland as regards high level of life. However, that level decreased on the Area's peripheries. Within the Kraków Metropolitan Area, the domination of Kraków over small towns in its suburban area was strongly marked. Especially low level of life was noticed in the smallest towns of up to 10 000 residents. The situation in larger units of a dozen or so thousand dwellers was better, since it was shaped, first of all, by three elements, namely good municipal infrastructure, favourable environmental protection parameters, and a substantial cultural activity of local residents.



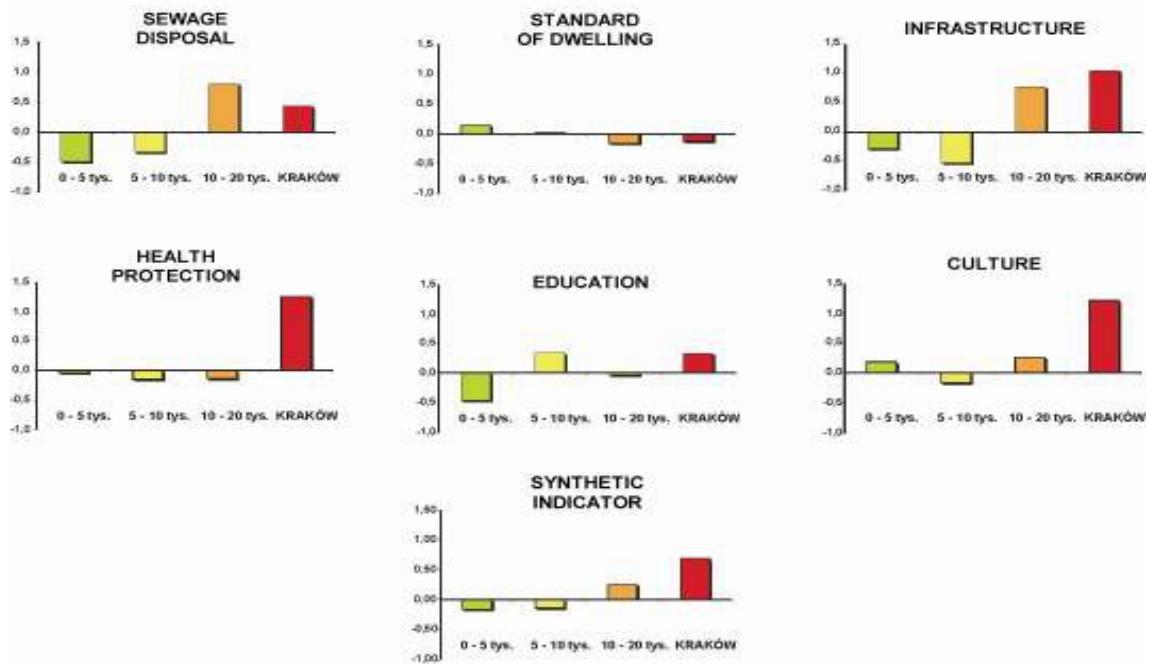
**Fig. 10. Level of living and quality of life in Kraków's Metropolitan Area**

Source: A. Zborowski, 2005, *Przemiany struktury społeczno-przestrzennej regionu miejskiego w okresie realnego socjalizmu I transformacji ustrojowej (na przykładzie Krakowa)*, (The change of spatial social structures in urban regions during the real socialist period and the system transformation period. The Cracow case) IGiGP UJ, Kraków, s. 428.

The level of life, measured with objective features (housing conditions, households furnished with durable consumer goods and properties owned) displayed a rising tendency when passing from central zones to the suburbs.

In the suburban zones, as well as in the commuting zone the level of life was seen to be rapidly decreasing, and the decrease gradient included extreme values, from the maximally high level of life in the suburbs to the minimal level in the suburban zone. Such a wide gap between the ranking values indicates the existence of a threshold or a social

barrier to the development of the urban region of Kraków. This is a legacy of the strong demographic and infrastructure concentration that persisted during almost the whole period of real socialism not as much in the administrative borders of the city, as within the morphological agglomeration. One notes low level of life in the central zone, as well as in the centre of the Kraków's district of Nowa Huta. A relatively high level of life is in the zone of large housing estates.



**Fig. 11. Krakow Metropolitan Area, Standard of living**

A. Zborowski, A. Winiarczyk-Raźniak, 2007, *Poziom życia w małych miastach Obszaru Metropolitalnego Krakowa (centrum versus peryferie)* [w:] *Biuletyn KPZK PAN*, s. 147-163.

The examination of the quality of life *sensu stricto* measured with objective features (assessment of satisfaction with particular fields of life) shows a generally different breakdown of that category. The graph of life quality curve in the centre-suburbs profile reveals considerable fluctuations of life quality levels that take the form of a sinusoid. In Centre I we record a high level of life quality, which is reflected, first of all, by high satisfaction of respondents with many daily life fields. The subjective evaluation of life quality decreases essentially in the centre edge zone. This can be justified by the feeling of a high, relative deprivation on the part of dwellers of that interwar zone of Kraków, once inhabited by educated people and intellectuals. Surprisingly, the evaluation of life quality raises quite suddenly in the zone of large housing estates, and is one of the highest in the urban region of Kraków. Another, considerable decrease in the subjective evaluation of life quality can be seen in the suburban zone, where – just like in the centre edge zone – there is a feeling of deprivation among local residents. That feeling of a low quality of life can be justified by the "social shadow" of a large city, cast on its suburban zones that have often preserved specific suburban climates. That evaluation may additionally become lower upon confrontation of the life level (usually relatively high) with its extremely high counterpart in the

suburbs. The quality of life decreases again in the suburban zone, and then in the commuting zone.

In contrast to the relatively high satisfaction with life, felt by respondents in the historical centre of Kraków and in the centre edge zone, the lowest level of life quality among all zones of the region is recorded in the centre of the district of Nowa Huta. The low, subjective evaluation of life is clearly worse than the actual level of life. Reasons for such a strikingly low evaluation of one's satisfaction with life can be attributed to the unfulfilled hopes that the Nowa Huta workers, the then vanguard of the "Solidarity" movement, pinned on the system transformation. Part of those reasons is related to the peripheralization of the Nowa Huta centre.

### Spatial settlement structure

The centre of the Kraków Metropolitan Area is the city of Kraków that has a diversified internal structure. Housing and service development dominate in the central part of Kraków. In the old town part service functions are well developed. In addition to the central part, the multi-family housing functions are located in large, prefabricated-concrete housing

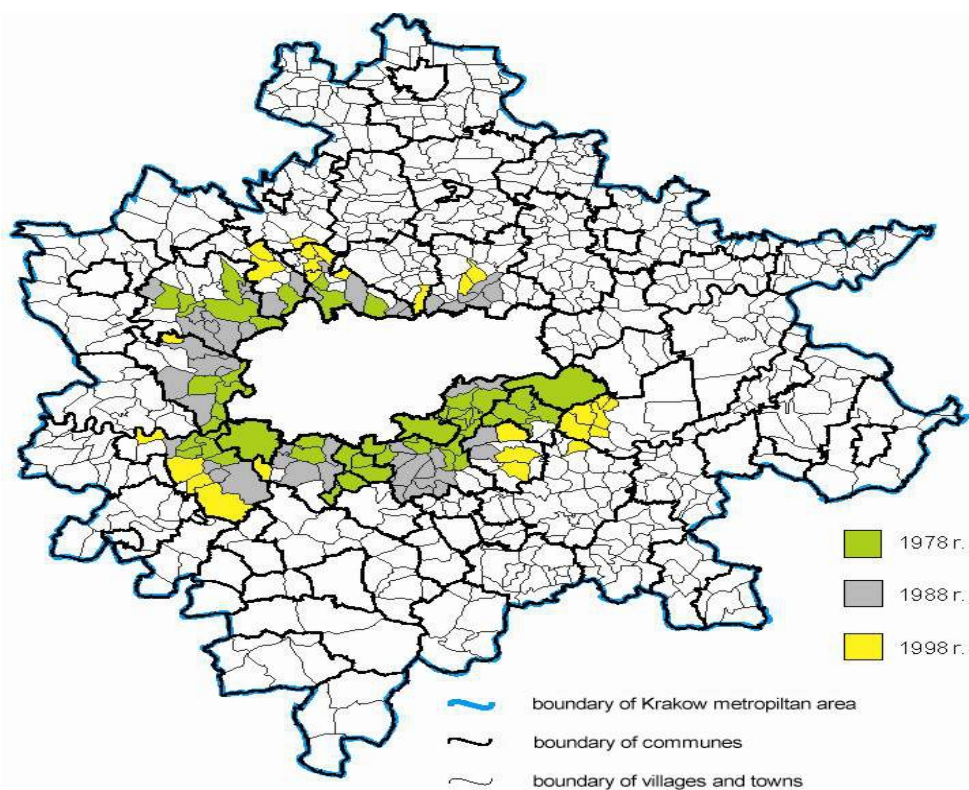


Fig. 12. Enlargement of the suburban area on the metropolitan area

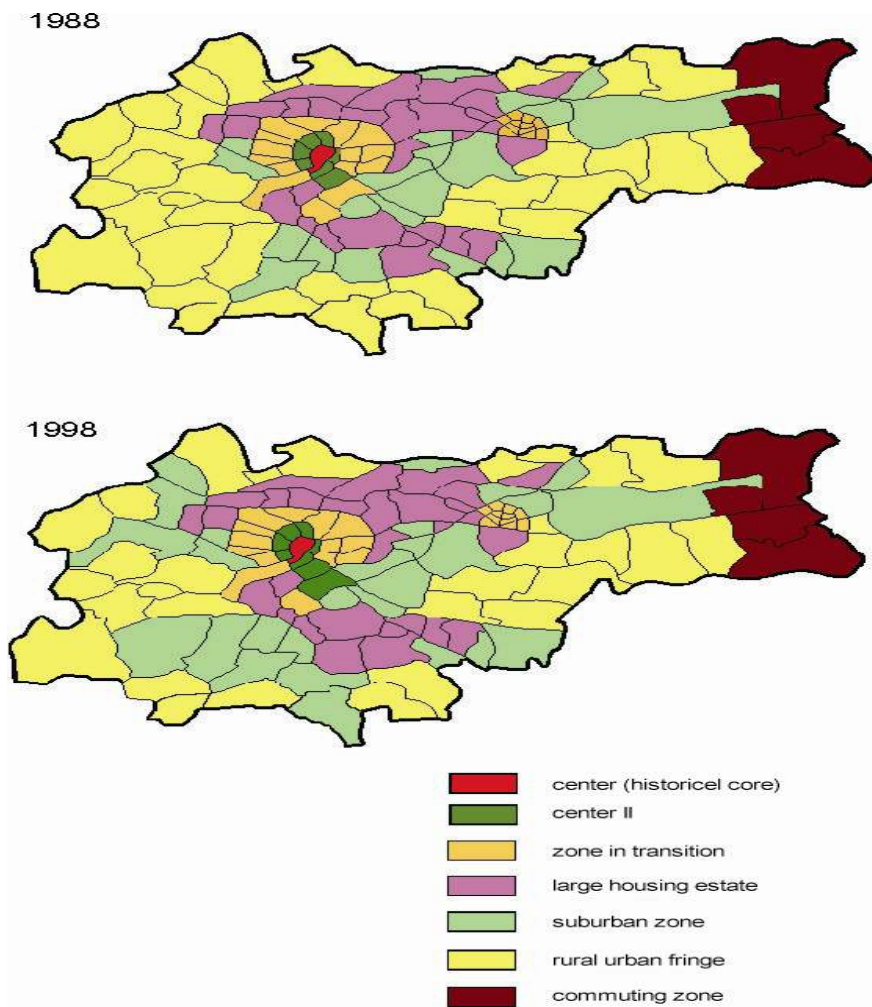
Source: A. Zborowski

estates that date back to the 1970s and the 1980s, mainly in the south and north edges of the city. The multi-family housing development continues, though with the use of new

construction technologies, also in the city peripheries, and also in land enclaves located closer to the city centre.

Single-family housing estates in the city of Kraków are located either outside the centre, in separate districts, or in land enclaves in multi-family development areas.

A separate, industrial district of the city is located to the east of it, and called Nowa Huta. It was built after World War II, along with a large steelworks. That location caused a fundamental change of the previous settlement and social structures of the city. The construction of industrial plants was accompanied by the growth of large housing estates. Areas located to the east of the industrial plants have remained undeveloped, due to



**Fig. 13. Functional-spatial zones in Krakow**

Source: A. Zborowski, 2005, *Przemiany struktury społeczno-przestrzennej regionu miejskiego w okresie realnego socjalizmu I transformacji ustrojowej (na przykładzie Krakowa), (The change of spatial social structures in urban regions during the real socialist period and the system transformation period. The Cracow case) IGiGP UJ, Kraków, s. 142.*

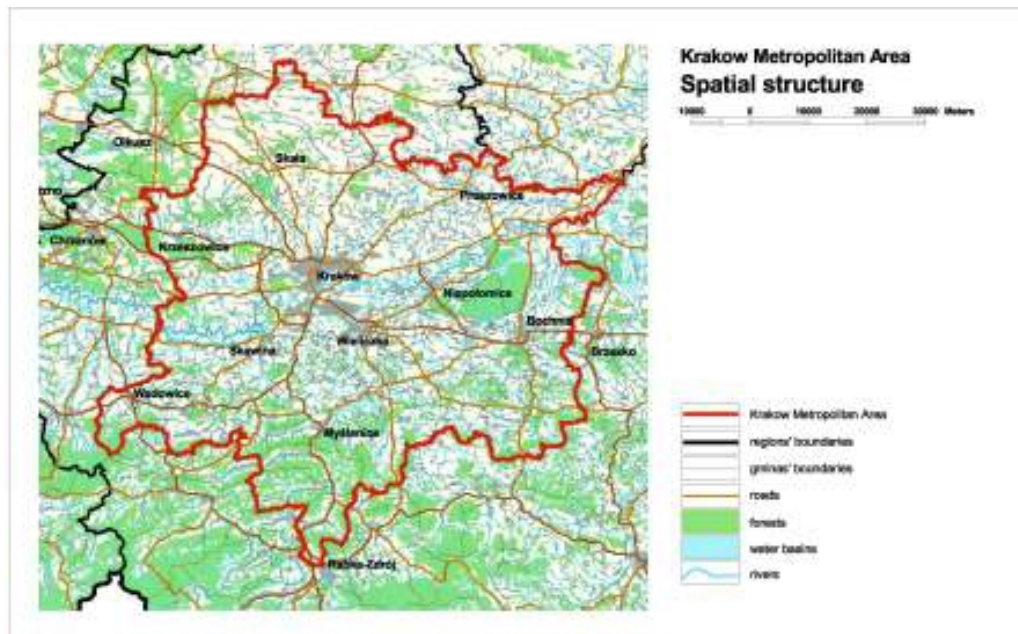
the considerable level of air and soil pollution. Despite the ongoing processes of industry restructuring, that east part of the district is still undeveloped.

Besides the east district of the city, as mentioned before, industrial and logistic functions are developed also in other parts of the city located closer to its centre, mainly in the south-eastern part.

Transformations of the spatial structure of Kraków that have taken place in recent years are as follows:

- liquidation of an industrial development in the central part of the city, restructuring and rehabilitation of those areas oriented towards the growth of services and modern industry,
- increase of development density in the central part of the city through the location of housing buildings and service facilities,
- locating big shopping centres in peripheral parts of the city, often in large housing estate zones,
- development of single-family housing estates (suburbs and exurbs) in peripheral districts of the city with attractive landscapes,
- development of technological parks,
- development of an academic and housing district, related to the construction of a large, new campus of the Jagiellonian University,
- development of internal road network and construction of ring roads,
- development of office centres in the central city and in the suburban zone.

Besides Kraków, there are 12 other towns and rural centres of a diversified nature that make up the Kraków Metropolitan Area.



**Fig. 14. Krakow Metropolitan Area, Spatial structure**

*Elaboration: Grażyna Korzeniak, Agnieszka Rozenau-Rybowicz*

Two towns are located in the direct vicinity of Kraków, and they are morphologically linked with the development of the city. They are Skawina and Wieliczka. Rural units separate the remaining towns, while development strips of particular villages generally

maintain their spatial links. There is a high degree of development fragmentation in a considerable part of the area. That phenomenon is particularly noticeable in the south neighbourhood of Kraków.

Only parts of rural areas are agricultural in their nature, as housing estates develop in the neighbourhood of Kraków (suburbanization processes) and agricultural functions vanish.

The rural areas are the **natural feeding** sites for urbanized areas. They provide water, and also fulfil recreation, food supply and communication functions.

Main changes in the spatial structure of the Kraków Metropolitan Area that take place beyond the central city are the following:

- an intensive increase of housing development in the neighbourhood of Kraków,
- development of service centres in the neighbourhood of Kraków and also in part of urban centres,
- moving and locating new industrial plants in areas outside Kraków, which are better accessible and cheaper (industrial and service suburbanization),
- vanishing of agricultural functions and development of a small-scale production and services in rural areas,
- construction of ring roads around town and village centres,

development of the John Paul II international airport in Kraków-Balice (the initial phase of the creation of the so-called "aeroville").

The Regional Spatial Development plan classified the towns of Wadowice, Bochnia, and Myślenice as supralocal units of the 1st class. Proszowice, Wieliczka, Skawina, and Krzeszowice were classified as supralocal units of the 2nd class, while the remaining towns and commune villages as local centres.

### **Economic functions**

In 2003, the dominating type of employment within the Kraków Metropolitan Area was that related to services.

Kraków is a typical, multi-functional, large urban centre, with developed metropolitan, basic and specialized (sector IV services, tertiary education, specialized hospitals, drama and music theatres, art galleries, museums, cabarets) and industry. The major part of job places in industry and in services of the metropolitan area is located in Kraków.

The remaining towns of the Kraków Metropolitan Area have diversified functional specificities.

Bochnia belongs to the group of service towns. In addition to education and services of a higher level of a subregional reach, the town has also developed specialized sanatorium services, related to the former salt mine.

Service functions dominate also in Wieliczka which, at the same time, is a housing background area for Kraków. The employment of the residents of Wieliczka is based, to a large extent, on the labour market of the central city. The town itself is one of the main

tourist centres of the area, as it boasts an old salt mine, a world heritage facility entered on the UNESCO list.

Skawina is a town of a strongly developed industry. The arduous metallurgical industry which developed there during the Communist era has been modernized. In addition, industrial ceramics, building and food industries develop in Skawina.

Niepołomice is a small town, with industry that develops dynamically and is based on foreign capitals and on high local entrepreneurship. At the same time, in view of its history and nature assets, the town is an important culture centre.

Myślenice, Wadowice, and Kalwaria Zebrzydowska are service and industry centres.

Myślenice develops the electrotechnical and food industries, while being at the same time an important centre of recreation, Wadowice – mechanical, shoe-making and food industries, and Kalwaria Zebrzydowska – furniture and shoe-making industries. Wadowice and Kalwaria are also important pilgrimage and tourism centres: Wadowice is the birthplace of John Paul II, while Kalwaria Zebrzydowska has its sanctuary, entered on the UNESCO's World Culture Heritage list.

Krzeszowice is a town of recreation and healthcare service functions; also rock materials are mined there.

Proszowice, Słomniki, and Nowy Wiśnicz are service centres that provide services to the surrounding agricultural areas, with well-developed crafts and farming-related production. In view of its culture values, Wiśnicz is also a tourist centre.

Subregional clusters of shoe-making and furniture industries were developed in the economic spatial structure in the Kalwaria-Wadowice areas. These are areas of favourable development indexes.

### **Tourist functions**

Kraków is one of the strongest tourism centres of Poland. 7 million tourists visited Kraków in 2005.

The bases of the development of tourism are culture values that comprise the medieval layout of the city with 7 thousand facilities and historical complexes. The old town part of Kraków is a complex entered on the UNESCO's World Culture Heritage list. Other items on the list that are located in the Kraków Metropolitan Area include the historical salt mine in Wieliczka, and the Architectural and Landscape Complex of the Sanctuary in Kalwaria Zebrzydowska dating back to 1600. The Jewish district of Kazimierz enjoys a high tourist interest. Every year there are Jewish culture festivals of a worldwide reach organized there.

Culture assets are also related with other towns, including the town of Niepołomice, which is a former royal seat, with a 14th-century royal castle, later modified during the Renaissance era, and with old royal hunting grounds, as well as the town of Wiśnicz with a 17th-century monumental, fortified castle. The majority of towns and villages of the area have their culture values, too. They are exhibited, among others, through thematic trails that have been routed for tourists, e.g. the trail of wooden architecture, the Gothic trail, etc.



An event called the "Culture Heritage Days of the Małopolskie Region" is a regular element of historical education that fulfils both promotional and integrating functions.

Within the Kraków Metropolitan Area there are also places of nature values, including the Ojcowski National Park, the Jurassic landscape parks, numerous nature reservations, as well as the Puszcza Niepołomicka forest, which presently is also a hunting ground.

A unique thing, when one considers Kraków being a large city, is the spa located in the area of Kraków. Spa curing is also offered in Bochnia, Wieliczka, and Krzeszowice.

The cultural legacy, in addition to the strongly developed cultural institutions, is one of the fundamental elements that attract the ever-growing crowds of tourists, both from Poland, and from abroad (Fig. – slajd 7 z prezentacja Koter). Except for Warsaw, today Kraków is the most important tourist centre in Poland, and the number of foreign tourists and the number of overnight accommodation services provided to them keep growing constantly, thus placing the city on the first position in Poland (Fig. slajd 8 prezentacja Koter). The main hotel resources of the metropolitan area are connected with Kraków. They offer services also to visitors coming in great numbers to the Auschwitz-Birkenau Nazi concentration camp.

The number of tourist accommodation places in Kraków itself amounts to more than 30 000 (in 2001 there were only 11 000 of them). In 2006, that number comprised 297 facilities, including 6 five-star hotels, and 10 four-star ones. There is a noticeable tendency to develop the hotel network also outside the central city itself. The system is supplemented by the constantly expanding network of gastronomic outlets and various eating places, which included about 3 000 various-type facilities in 2006.

### **Functions of Kraków as a centre of science and new technologies**

Kraków is one of the most important scientific and academic centres in Poland.

In addition to the Jagiellonian University, which is the oldest Polish university established in the 14th century, there are many public and private schools and colleges in Kraków. All subjects and fields of study are represented there.

The absolute number of students in Kraków is lower than that in Warsaw, but the index of the number of students per 1,000 residents is 211, thus being higher than that in Warsaw and the highest (along with Poznań) in Poland.

Based on the university resources of Kraków, the Kraków Technological Park was established in the metropolitan area. The Park occupies the surface area of ca. 260 ha, with international and domestic high-tech concerns and companies located in it. A large part of the Park (140 ha) is located in Niepołomice.

Considering the intellectual potential of Kraków, a biotechnological park and the division of Google have been planned to be established in the near future.

### **Labour market**

In 2003, there were 324 482 job places in the Kraków Metropolitan Area in addition to the individual farming, with 240 426 (74%) out of them in Kraków. The number of job places in industry in Kraków constituted 66% of total employment in industry in the Kraków

Metropolitan Area and 33% in the whole Region (that is a unit of the administrative division of Poland). Even a greater superiority of Kraków to the whole metropolitan area concerns services, which constitute 45% of the employment in services within the Region and 79% within the Kraków Metropolitan Area. In spite of a considerable domination of Kraków, the remaining towns, and also part of rural areas are essential elements of the labour market. Besides Kraków, there have developed 18 centres with job places exceeding 1000, including 4 towns of Wadowice, Bochnia, Skawina, and Myślenice, where the number of job places exceeds 5000. In Wadowice, the second largest job centre in the Krakow Metropolitan Area, there are 9545 job places, which is equivalent to ca. 8% of job places in Kraków. In addition to towns, an important employment centre is also the rural commune of Zabierzów, located in the direct vicinity of Kraków, which developed service facilities of a supralocal significance. The spatial distribution of communes of the highest job place numbers, and of ratios of job places and population numbers higher than the region's average, relates to the main communication routes of Kraków-Katowice, Kraków-Zakopane, and Kraków-Bielsko Biała.

Table 1

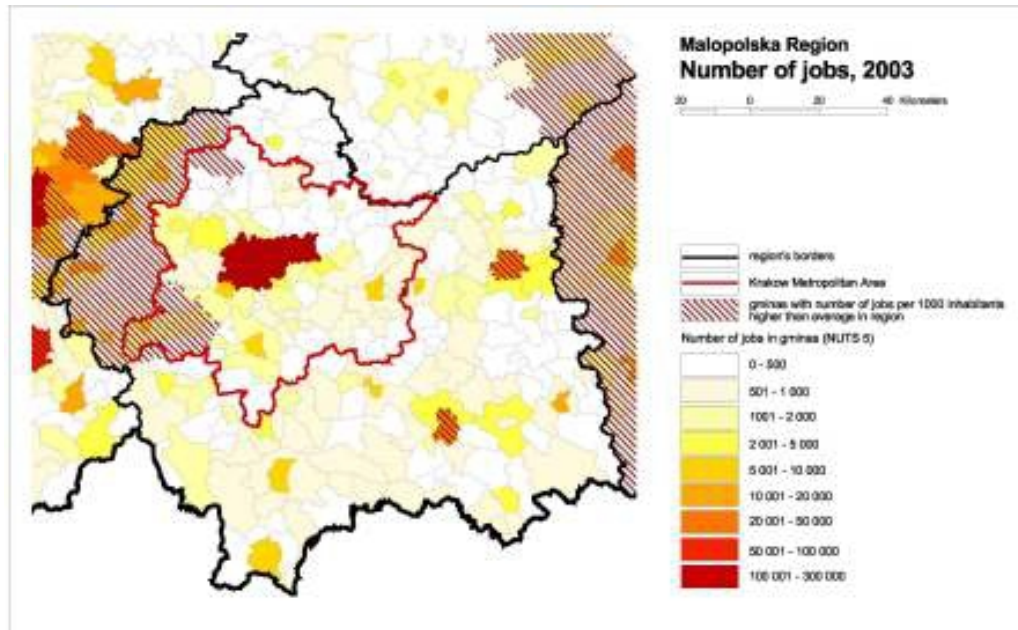
Jobs in services and industry in Krakow Metropolitan Area, 2003

Name	Total number of jobs	Population			Jobs in services			Jobs in industry and construction		
		size	share in total area's population	share in region's population	number	share in total area's number of jobs	share in region's number of jobs	number	share in total area's number of jobs	share in region's number of jobs
Kraków	240765	732261	51,68	22,65	168908	78,95	44,31	68572	65,76	32,57
Wadowice	10913	37544	2,65	1,16	5538	2,59	1,45	5176	4,96	2,46
Skawina	8333	41210	2,91	1,27	3244	1,52	0,85	5125	4,91	2,43
Bochnia	8252	29392	2,07	0,91	4697	2,20	1,23	3382	3,24	1,61
Myślenice	7338	39891	2,82	1,23	4479	2,09	1,17	2979	2,86	1,42
Wieliczka	5215	45852	3,24	1,42	3020	1,41	0,79	1510	1,45	0,72
Zabierzów	4015	21563	1,52	0,67	1619	0,76	0,42	1645	1,58	0,78
Niepołomice	3978	21490	1,52	0,66	1547	0,72	0,41	2849	2,73	1,35
Krzyszowice	3766	31387	2,22	0,97	2219	1,04	0,58	1470	1,41	0,70
Kalwaria Zebrzydowska	2986	19055	1,34	0,59	1117	0,52	0,29	1797	1,72	0,85
Proszowice	2214	16494	1,16	0,51	1829	0,85	0,48	380	0,36	0,18
Dobczyce	2104	13567	0,96	0,42	804	0,38	0,21	971	0,93	0,46
Sułkowice	1681	13471	0,95	0,42	649	0,30	0,17	855	0,82	0,41
Zielonki	1598	14720	1,04	0,46	664	0,31	0,17	856	0,82	0,41
Nowy Wiśnicz	1284	12510	0,88	0,39	630	0,29	0,17	544	0,52	0,26
Słomniki	1162	13569	0,96	0,42	725	0,34	0,19	490	0,47	0,23
Mogilany	1064	10408	0,73	0,32	377	0,18	0,10	346	0,33	0,16
Pcim	1046	10187	0,72	0,32	445	0,21	0,12	556	0,53	0,26
Świątniki Górne	964	8461	0,60	0,26	299	0,14	0,08	596	0,57	0,28
Kłaj	963	10971	0,77	0,34	524	0,24	0,14	487	0,47	0,23
Gdów	915	15946	1,13	0,49	650	0,30	0,17	184	0,18	0,09
Liszki	879	14973	1,06	0,46	497	0,23	0,13	305	0,29	0,14
Skala	861	9442	0,67	0,29	554	0,26	0,15	194	0,19	0,09

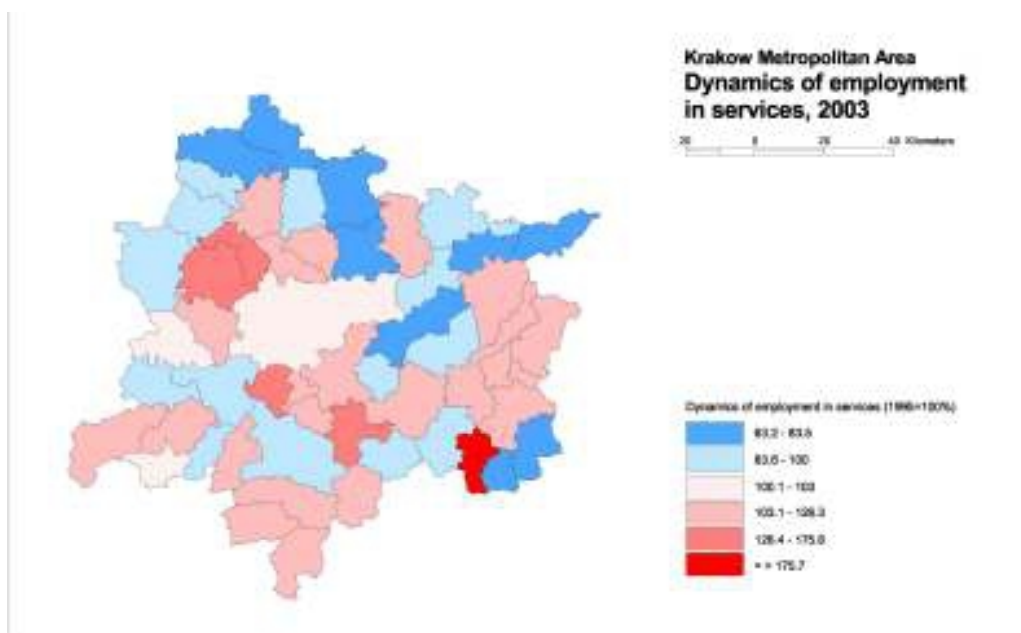
Name	Total number of jobs	Population			Jobs in services			Jobs in industry and construction		
		size	share in total area's population	share in region's population	number	share in total area's number of jobs	share in region's number of jobs	number	share in total area's number of jobs	share in region's number of jobs
Wielka Wieś	851	8957	0,63	0,28	452	0,21	0,12	177	0,17	0,08
Bochnia	715	16884	1,19	0,52	461	0,22	0,12	186	0,18	0,09
Czernichów	650	12727	0,90	0,39	495	0,23	0,13	148	0,14	0,07
Łapanów	616	7320	0,52	0,23	474	0,22	0,12	183	0,18	0,09
Rzezawa	602	10444	0,74	0,32	331	0,15	0,09	215	0,21	0,10
Siepraw	557	7522	0,53	0,23	260	0,12	0,07	246	0,24	0,12
Koniusza	488	8575	0,61	0,27	432	0,20	0,11	25	0,02	0,01
Lubień	463	9074	0,64	0,28	273	0,13	0,07	157	0,15	0,07
Kocmyrzów-Luborzyca	462	12818	0,90	0,40	411	0,19	0,11	100	0,10	0,05
Lanckorona	460	5767	0,41	0,18	313	0,15	0,08	167	0,16	0,08
Brzeźnica	447	10101	0,71	0,31	338	0,16	0,09	136	0,13	0,06
Zegocina	436	4974	0,35	0,15	416	0,19	0,11	170	0,16	0,08
Trzyciąż	390	7231	0,51	0,22	300	0,14	0,08	149	0,14	0,07
Michałowice	380	7258	0,51	0,22	216	0,10	0,06	73	0,07	0,03
Jerzmanowice-Przegonia	370	10447	0,74	0,32	370	0,17	0,10	31	0,03	0,01
Gołcza	347	6447	0,45	0,20	294	0,14	0,08	121	0,12	0,06
Tokarnia	342	7977	0,56	0,25	283	0,13	0,07	40	0,04	0,02
Trzciana	340	5096	0,36	0,16	73	0,03	0,02	112	0,11	0,05
Iwanowice	337	8114	0,57	0,25	310	0,14	0,08	32	0,03	0,02
Raciechowice	315	6036	0,43	0,19	256	0,12	0,07	43	0,04	0,02
Lipnica Murowana	314	5509	0,39	0,17	284	0,13	0,07	77	0,07	0,04
Igołomia-Wawrzeńczyce	309	7625	0,54	0,24	274	0,13	0,07	7	0,01	0,00
Wiśniowa	308	6672	0,47	0,21	256	0,12	0,07	34	0,03	0,02
Stryszów	302	6755	0,48	0,21	190	0,09	0,05	95	0,09	0,05
Drwinia	293	6312	0,45	0,20	191	0,09	0,05	57	0,05	0,03
Nowe Brzesko	286	5727	0,40	0,18	254	0,12	0,07	56	0,05	0,03
Koszyce	275	5793	0,41	0,18	194	0,09	0,05	128	0,12	0,06
Biskupice	270	8409	0,59	0,26	237	0,11	0,06	34	0,03	0,02
Sułoszowa	261	6033	0,43	0,19	268	0,13	0,07	11	0,01	0,01
TOTAL	324482	1416968	100,00	43,82	213941	100,00	56,12	104279	100,00	49,53

While the population of the Kraków Metropolitan Area increased in 1995-2003 by ca. 40 000 (that is ca. 3%), the number of job places decreased by ca. 41 000 (that is ca. 11%). The greatest change in employment concerned industry in Kraków: from 112 000 to 68 000. Therefore, the number of job places in Kraków in 2003 constituted only 60% of the number recorded in 1995. The drop of employment in industry took place also in the second, important industrial centre of Skawina. This is mainly due to the collapse of the largest industrial plants and the economy restructuring. The increase of employment in the industry took place beyond the central city, based on new development centres, whose distribution also relates to the main communication routes. The highest increase in the

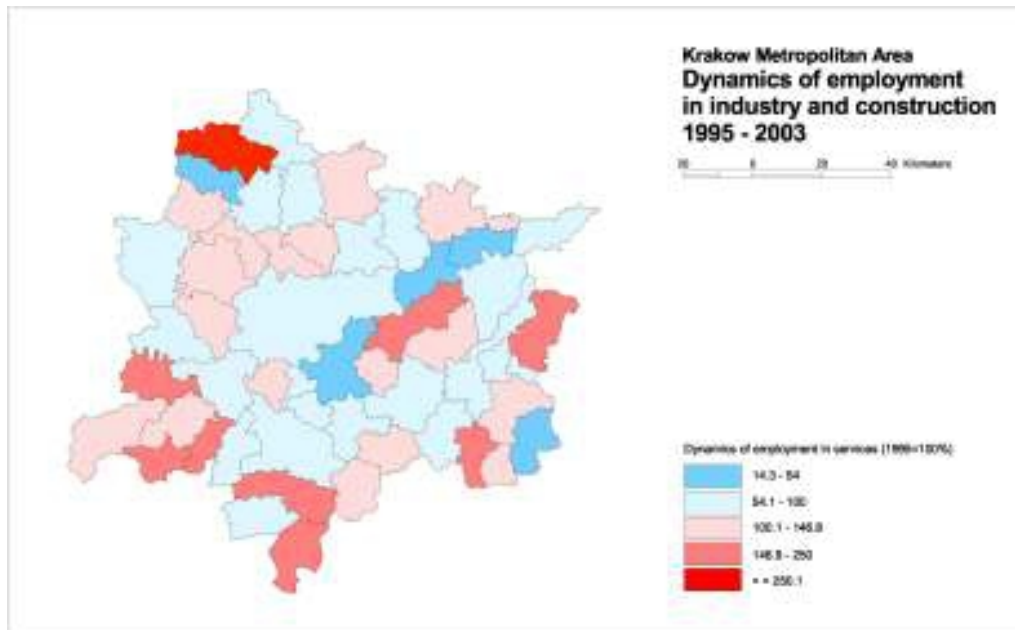
number of job places in industry took place in Niepołomice, where the employment in industry has doubled.



**Fig. 15. Małopolska Region, Number of jobs, 2003**  
 Elaboration: Grażyna Korzeniak, Agnieszka Rozenau-Rybowicz  
 base on data BDR GUS, BDO GUGiK



**Fig. 16. Krakow Metropolitan Area, Dynamics of employment in services, 2003**  
 Elaboration: Grażyna Korzeniak, Agnieszka Rozenau-Rybowicz  
 base on data BDR GUS, BDO GUGiK

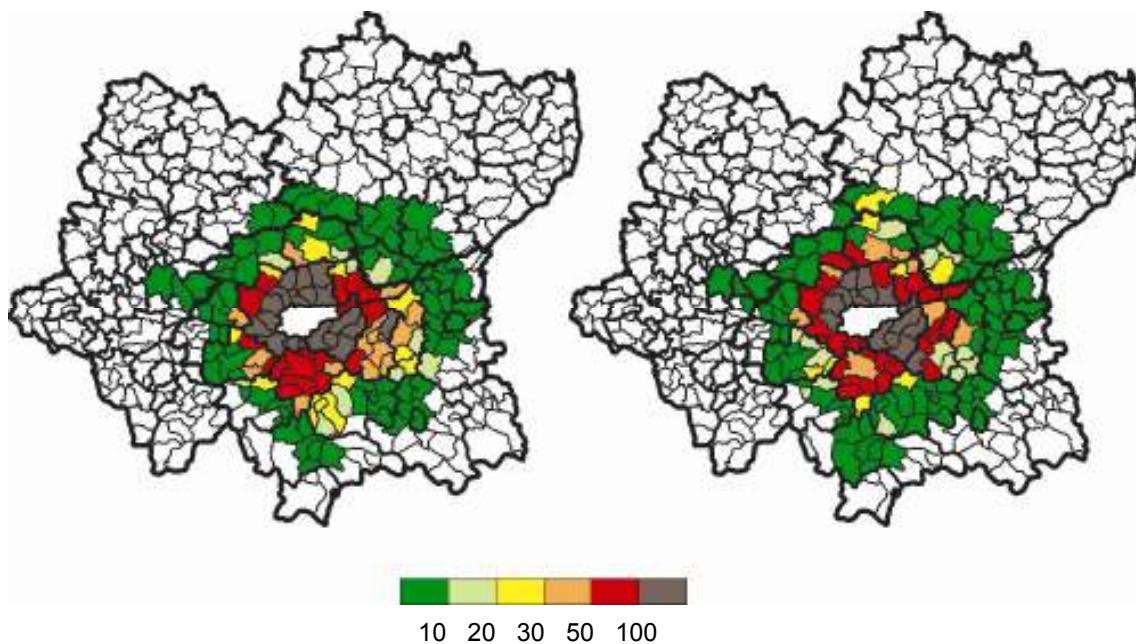


**Fig. 17. Krakow Metropolitan Area, Dynamics of employment in industry and construction 1995-2003**

*Elaboration: Grażyna Korzeniak, Agnieszka Rozenau-Rybowicz  
base on data BDR GUS, BDO GUGiK*

In 1995-2003, the employment in services in the whole Kraków Metropolitan Area increased only slightly, by some 4000 job places, with the increase by ca. 2700 in Kraków itself. Besides Kraków, the increase in the number of job places in services took place mainly in the neighbouring communes of Zabierzów and Mogilany. A higher increase in the number of job places is recorded also in the south part of the area, while the highest decline of employment in the rural areas of the north and south. Its should be stressed, however, that a large number of job places developed there in small service outlets, which are not included in statistical data.

Changes on the labour market must have also been demonstrated in transformations of the influence of Kraków upon its neighbourhood. During the system transformation period, one recorded a drop of the number of those commuting to work in Kraków, from 67 to 62 thousand people in 1988-1996. However, that drop concerned, first of all, the suburban communes, in which new job places were created. Thus part of those communes' residents could be able to work in their dwelling places. Small decline in the number of commuting migrants resulted also from the quick progress of ageing of the Kraków population. Young persons from outside Kraków often replaced those residents who worked in Kraków and had to retire. Those processes resulted in relatively small changes in the reach of the city's spatial influence. Instead, the spatial distribution of the commuting intensity changed radically but that did not affect changes in the reach of the city's spatial influence. Those changes were the most wide-ranging in the north part of the urban region, where some agricultural communes extended its area.



**Fig. 18. Commuting in Cracow during 1988 and 1996**

Source: A. Zborowski, 2005, *Przemiany struktury społeczno-przestrzennej regionu miejskiego w okresie realnego socjalizmu i transformacji ustrojowej (na przykładzie Krakowa)*, (*The change of spatial social structures in urban regions during the real socialist period and the system transformation period. The Cracow case*) IGiGP UJ, Kraków, s. 128.

Despite a certain decline in the number of those employed during the system transformation period, the urban field of Kraków has not reduced its spatial reach. So, what are the factors of growth of its spatial influences in the groundbreaking period under discussion?

The increase in the number of commuters is fostered by the existing mechanism of definitive migrations, and, first of all, the processes of residential suburbanization. When leaving the central city, residents of Kraków do not break their links with it. Those links continue to exist and are maintained due to their "Kraków-based" job places. The definitive migrations also indirectly influence the increase in daily migrations. This is connected with moving private companies from Kraków to the suburban zone by part of entrepreneurs, once the businessmen have moved out of Kraków themselves. That industrial and service suburbanization increases the number of job places on the local, suburban labour market. Local residents, who previously used to commute to the central city, take those places. In turn, places vacated by them, are occupied by residents of communes located farther from the central city, in the commuting area. In this way the commuting area is extended, while the intensity of commuting from the direct catchment area of a large city is decreased. The continued ageing of the large city dwellers, as well as earlier retirement taken by numerous employee groups additionally enhance the increase in the spatial reach

of commuting. The increase in the number of commuting is in a way forced by high prices of flats, not only on the primary market, but on the secondary market, too. Those prices constitute clear barriers to the inflow of residents of suburban and commuting zones, who hold worse paid positions in services. The increase in the number of commuters is also fostered by the growth of the number of private cars, as well as the raising of housing standards and the improvement of technical infrastructure in suburban areas.

### Transport services

The Kraków-Balice Airport provides air transport services for the Kraków Metropolitan Area. Following the Council Decisions No. 96/1692/EEC and 01/1346/EEC the airport was classified as the Community Connecting Point. The airport is the second largest airport in Poland as regards the number of passengers and its significance.

The number of passengers of the Kraków-Balice airport systematically increases in a significant way. In the last years, once the airline market has been liberalized following the introduction of the so-called cheap lines, Kraków gathered an unprecedented dynamics of the increase in passenger numbers, which grew from 0.8 million in 2004 to 2.6 million in 2006 and was higher than that scheduled for 2010. It is expected that the number will grow to reach 7.0 million in 2025. The Kraków-Balice airport provides air connections with 39 cities in Europe, with New York and Chicago, as well as with Tel Aviv.

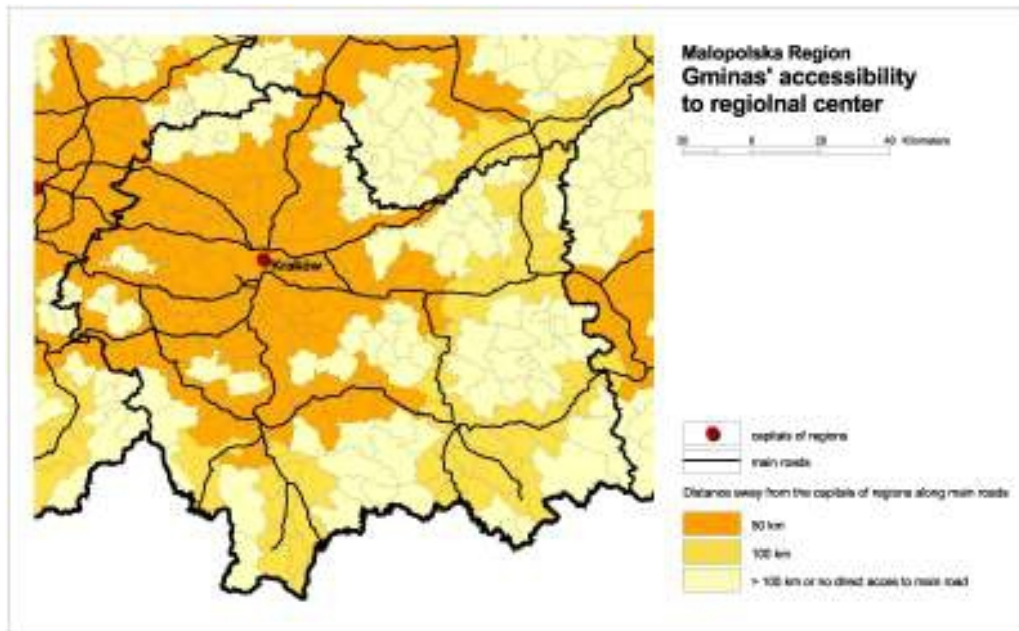


**Fig. 19. Balice Airport Expected number of passengers**

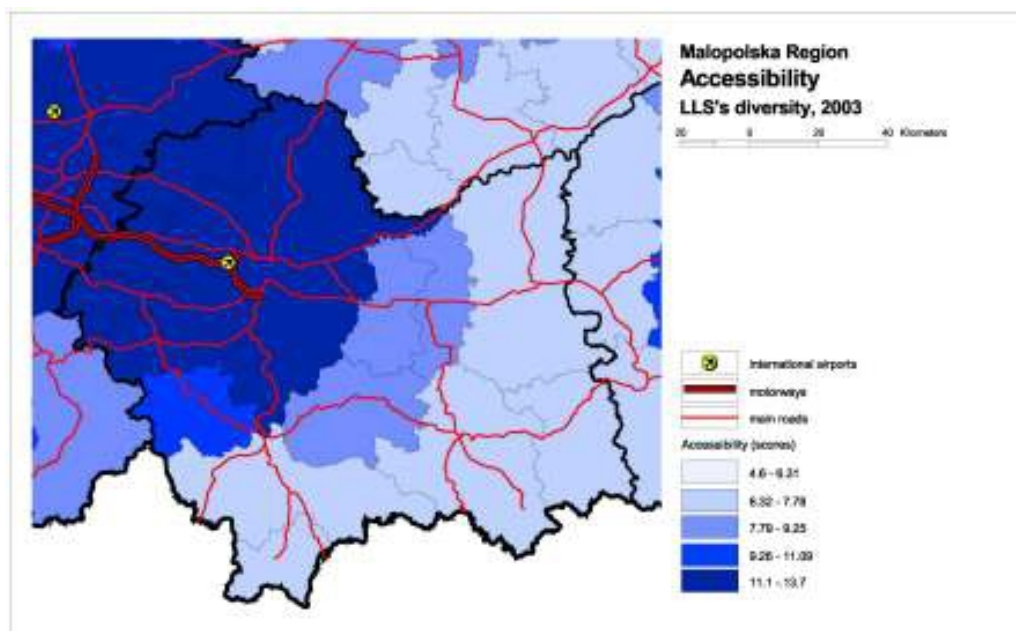
Source: [www.maloposka.pl/pliki/2005/balice.pdf](http://www.maloposka.pl/pliki/2005/balice.pdf)

The Kraków Metropolitan Area can be accessed by means of the A4 motorway, 6 national roads and 10 regional roads. Owing to its motorway connection, the area has a better accessibility, especially from the west, than many other large urban centres in Poland. The unfavourable feature is the lack of a motorway connection with Warsaw.

Due to the anticipated construction of the next part of the A4 motorway, also connection with the east part of the country, as well as with the areas of Ukraine will considerably improve.



**Fig. 20. Małopolska Region, Gminas' accessibility to regional center**  
 Elaboration: Grażyna Korzeniak, Agnieszka Rozenau-Rybowicz, Ireneusz Wójcik  
 base on data BDR GUS, BDO GUGiK



**Fig. 21. Małopolska Region, Accessibility LLS's diversity, 2003**  
 Elaboration: Grażyna Korzeniak, Agnieszka Rozenau-Rybowicz, Ireneusz Wójcik  
 base on data BDR GUS, BDO GUGiK

The assessment conducted within the framework of national analyses showed that in addition to a relatively favourable (when compared with national standards) external accessibility of the Kraków Metropolitan Area, also the internal accessibility of the Area, as regards the density of its road networks and accessibility of the central city, was generally favourable. However, part of peripheral areas is poorly accessible, when compared



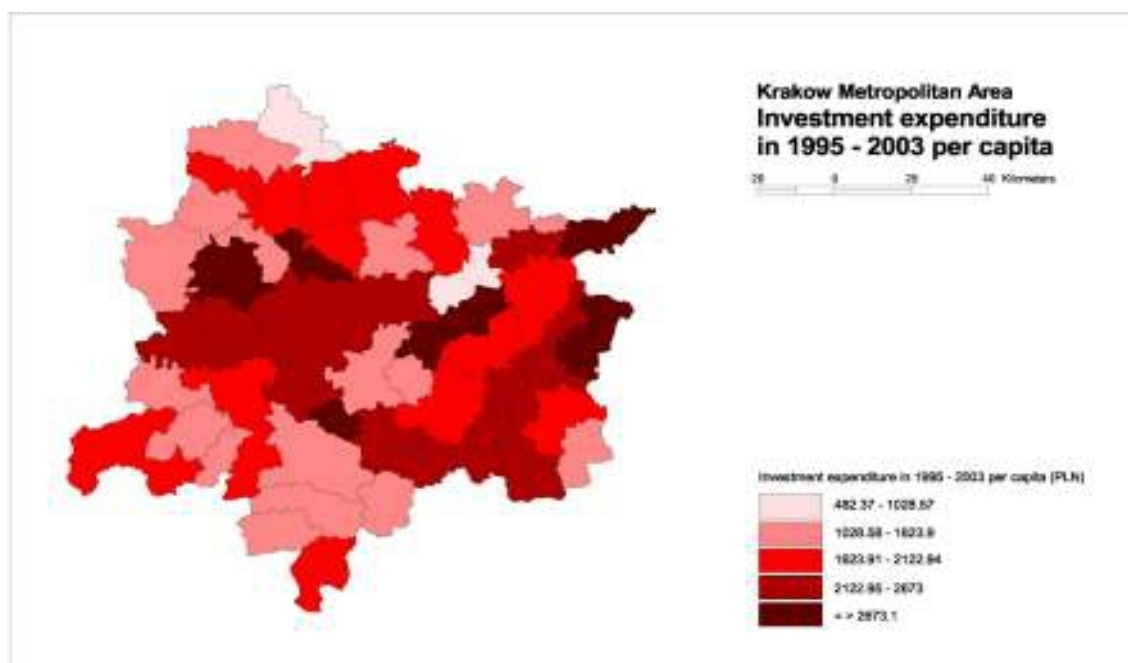
to standards that are typical of metropolitan areas. Also unfavourable is the lack of some missing parts of the Kraków ring road.

### The investment climate

In 2006, the Małopolskie Region was assessed in respect of its investment climate<sup>12</sup>. Comparison between Kraków and other largest Polish cities conducted on the basis of economic indicators and those related to social, cultural and educational infrastructures showed both Kraków's favourable situation (as regards education of its residents, research personnel, number of students, employment in ICT, cultural offerings, catering facilities), and the less favourable situation in the city (concerning such economic indicators, as entrepreneurship and activities of international businesses). On a regional scale, also worse was the situation regarding the level of preparation of land for capital investment projects. The location of foreign capitals is mainly related to Kraków and two industrial and service towns in its direct vicinity, i.e. Skawina and Myślenice.

### Budgets

The commune budget expenditures *per capita* in the Kraków Metropolitan Area are by ca. 20% higher than the average national value and by ca. 13% higher than the average regional value. However, the internal diversification of the Area as regards that indicator is very great.



**Fig. 22. Krakow Metropolitan Area, Investment expenditure in 1995-2003 per capita**

*Elaboration: Grażyna Korzeniak, Agnieszka Rozenau-Rybowicz  
base on data BDR GUS, BDO GUGiK*

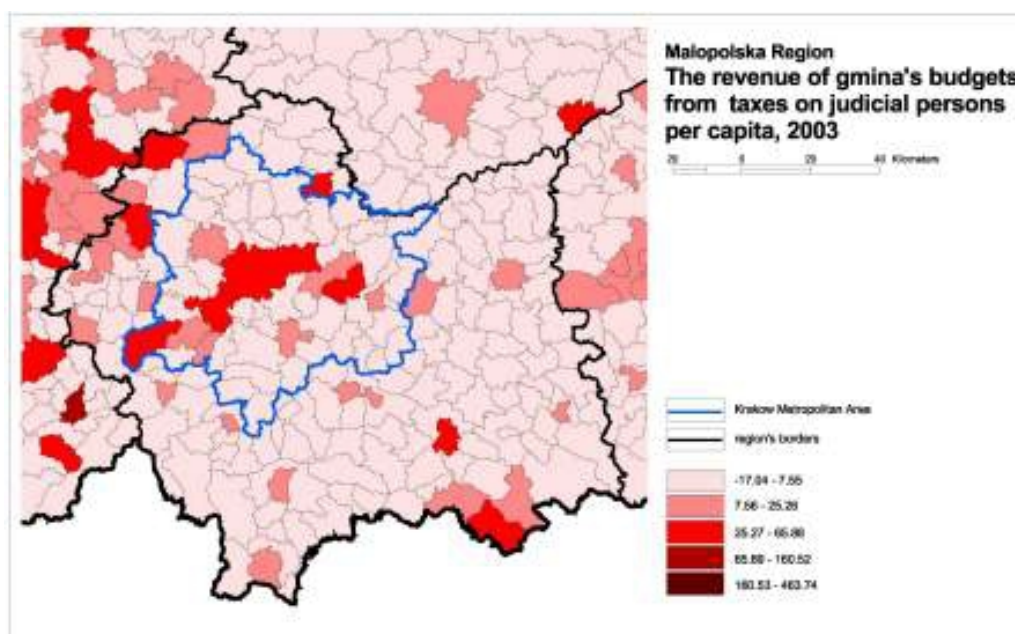
<sup>12</sup> Klimat inwestycyjny w województwie małopolskim [The Investment Climate in the Małopolskie Region], ed. by Bolesław Domański and Wojciech Jarczewski, Department of Economy and Infrastructure, Regional Assembly Office of the Małopolskie Region, Kraków 2006.

The highest indicators can be found in communes located in the direct neighbourhood of Kraków, which also record an increase in employment and in population. High capital investment expenditures are also incurred by one of the rural communes which, at the same time, conducts a pro-investment spatial policy in connection with the planned motorway running across the commune.

The differentiation of commune incomes *per capita* in the Kraków Metropolitan Area is lower than in many regions of the country. There are no poorest communes in the Area. Besides Kraków, the wealthiest communes are the industrial towns of Skawina and Niepołomice, as well as the housing area of the village of Zielonki.

The diversification of commune budget incomes originating from individual taxes shows that those incomes are higher in the central city and in its direct neighbourhood than incomes earned by peripheral communes. In the agricultural north and east zones of the Area, the share of taxes paid by their residents in commune budgets is lower.

The spatial distribution of communes with the highest shares of taxes paid by business entities reveals a belt of economic activity stretching from Kraków through Skawina to Wadowice, and in the area along the main A4 communication route.



**Fig. 23. Małopolska Region, The revenue of gmina's budgets from taxes on judicial persons per capita, 2003**

*Elaboration: Grażyna Korzeniak, Agnieszka Rozenau-Rybowicz  
 base on data BDR GUS, BDO GUGiK*

## Spatial policy

### Regional policy

The Regional Spatial Development Plan<sup>13</sup> delineated the reach of the metropolitan area and defined its metropolitan functions, which included political and administrative

<sup>13</sup> Spatial Development Plan of the Małopolskie Region, Regional Assembly Office of the Małopolskie Region. 2003.

functions, those of national and cultural heritage, as well as those related to culture, education and science, economy, finances, tourism, communication, information technology and logistics. The Plan also indicated a list of projects to support the metropolitan functions of the Area, such as technological parks, extension of the airport, extension of the Jagiellonian University campus, construction of the opera building and a congress centre, modernization of the spa, development of sports and recreation facilities.

The spatial policy aims at the increase of the polycentricity of the metropolitan area, in order to prevent the peripheralization of the centre neighbourhood and to reduce disproportions in employment in services between the centre and its neighbourhood. Forming supralocal centres of science and culture, creating conditions for the development of business both in the centre and in its neighbourhood, or developing public transport are activities, which serve that very purpose.

The regional spatial policy utilizes the bi-polar system of Kraków-Katowice in order to increase competitiveness of both areas through joint activities for the protection of environment, joint utilization of poorly available services, development of technical infrastructure, development of compatible communication, preservation and utilization of recreation areas, and exchange of highly qualified personnel.

#### *Local policies*

Local spatial policies reflect the character of the spatial structure of the metropolitan area, as well as its development tendencies, including spatial strips of the whole area development.

The most important stipulations of those policies concern the routes of main roads, both planned and modernized, and the reach of areas designed for various investment projects. Main or modernized roads include the next part of the A4 motorway from Kraków to Bochnia, a new route of national road to Warsaw, a modernized national road to Zakopane and the Slovakian border, as well as sections of the Kraków ring road.

Main strips of development areas run along the existing and planned communication routes. A strip of such land is clearly noticeable in relation to the route of the new A4 motorway section. Also clearly noticeable are the processes of suburbanization in areas that are attractive in respect of their nature and landscape assets. Generally, the share of areas designated for investment decreases together with the increase of distance from the central city.

The distribution of land designed for new business investment projects demonstrates the pro-investment spatial policy of communes, also those located beyond the central zone, however, in relation to the communication network.

### **Internal and external relations and relationships**

#### *Main connections within the metropolitan area*

As far as their organization is concerned, spatial relationships between different local governments that make up the Kraków Metropolitan Area are based on regional policy, which is controlled by the Regional Spatial Development Plan, regional strategy

of development, and regional sector plans. Within the metropolitan area itself, coordination of local governments' actions is provided by regular meetings of the "Kraków Metropolitan Area Communes' Forum".

Formal coordination of local governments' activities takes place also on the level of subregional administrative units, that is counties.

Kraków and other local governments are members of communes' associations, established for the attainment of common objectives, including the following:

The Jurassic Communes' Association, with the objectives of:

- promotion of tourism in the Jura Krakowsko-Częstochowska Jurassic Rock Region by means of different kinds of publications, advertising and promotional actions in mass media, as well as participation in various tourist fairs,
- support in getting in touch with Polish and foreign partners in order to encourage them to invest in that area,
- protection and preservation of landscape, culture and nature assets of the Jura Krakowsko-Częstochowska Jurassic Rock Region,
- aspiration to the economic and cultural integration of the Jura region communes,
- cooperation and exchange of experience on the functioning of local governments,
- popularization and planning of development projects for promoting agritourism in the Jura region.

The Union of the Upper Raba River Communes and Kraków, with the objectives of:

- initiating joint actions aimed at restoring and maintaining the Raba River basin water in a natural cleanliness condition (the river being the main source of potable water for Kraków and other areas).

The strongest functional relationships within the metropolitan area are connected with commuting to work, as 74% of all job places are located in Kraków, with the share of the residents of Kraków in the whole population of the metropolitan area amounting to 51%.

The town of Wieliczka, located in the direct neighbourhood of Kraków, is an urban centre with a high share of commutes to the central city. At the same time, Wieliczka is an important job centre for the neighbouring rural areas.

A different situation is in the remaining towns that border on Kraków, and which developed industrial functions, that is in Skawina and Niepołomice. There is a considerable level of intensive, mutual commuting between those two towns. Niepołomice is an interesting example of a small town with a dynamically developing labour market.

Another, fundamental element of those relations is the provision of a higher-level services to the whole area, including educational, cultural, financial, and IT ones.

Functional relationships between Kraków and its direct neighbourhood concern the development of typical housing areas in its suburban zone for people working in Kraków, as well as the development of service centres and employment centres in the neighbouring administrative units, also for the residents of Kraków.

In addition to typical agricultural ones, functions of rural areas in relation to Kraków include, first of all, the supply of water. Also there are important recreational functions, which are developed both in attractive landscape areas close to Kraków, in peripheral zones

of the metropolitan area, and in other areas of the region, especially in the mountain areas.

#### *External domestic connections*

Kraków is a member of the Union of Polish Metropolises, which unites the largest cities of Poland. The statutory goals of the Union include:

- supporting the development of territorial and economic self-government;
- building the civic society;
- promoting initiatives and actions aimed at building regional and local structures, especially those emerging in metropolitan areas;
- solving jointly specific problems of large cities;
- cooperating with government agencies and national, foreign and international organizations to enhance the role of metropolises in a nation-state and in the process of European integration.

A specific system of inter-regional connections has developed between the Kraków Metropolitan Area and the Upper Silesia agglomeration. Those connections manifest themselves in the areas' morphology, exchange of labour force (especially the qualified one), scholarly and educational exchange on the university level, teaching specialized personnel in the largest school in Kraków, i.e. the University of Science and Technology (AGH), which trains personnel for industry and information technologies.

Connections between Kraków and the Upper Silesian agglomeration concern also nature areas, which are under legal protection.

The most important aspects of the bilateral system of the Kraków and Katowice metropolitan areas (the cities are located in the distance of 70 km to each other) include their common location on a European communication route and the existence of a motorway link between them. Owing to that small distance, both urban centres utilize the airports in Kraków and in Katowice interchangeably.

The reach of areas served by the Kraków airport also concerns the neighbouring regions.

#### *International connections*

In addition to business activities within the framework of operation of international companies and concerns, international connections of the Kraków Metropolitan Area concern also establishing international cooperation of regions and local governments. The Małopolskie Region cooperates with 11 European regions, as well as with one Indian and one Chinese region. Cooperation concerns the fields of economy, science, education, culture, and tourism and consists in the exchange of information and experience, organization of visits, internships, seminars, mutual promotion, as well as initiating partnership relations between local governments. Kraków is also a member of EUROCITIES, an association whose goals include representing the interests of large cities towards the European Union, and fostering cooperation between the cities.

International connections of Kraków, either formalized or existing without any special contracts, operate on the basis of contacts established within the frameworks of partner city

schemes. Kraków is marked by a high level of activity in that respect, which is manifested by close contacts established with many European and non-European cities.

Based on the concentration of the population and economy potential in the border areas of Poland and in the north part of the Czech Republic, it seems purposeful to establish an international Kraków-Bielsko-Biała-Ostrava-Opole-Częstochowa cluster. That region has a population of ca 7 500 000 and its economy is strongly developed. The strengthening of connections in that area will make it possible to develop an economy centre of a high significance in the European space. The conception of establishing that cluster is developed under the Poly METREXplus Project.

### **3. Examples of Instruments to Stimulate the Development of a Small Town Within the Metropolitan Area**

The town of Niepołomice provides one of the most distinctive examples of control over the development of a small town located within a metropolitan area.

In terms of an administrative classification, Niepołomice is an urban and rural community, with the total population of 21 490, including 8 108 people living in the town of Niepołomice. The town is located directly in the vicinity of the east border of the Kraków Metropolitan Area, in the distance of ca. 25 km from the centre of Kraków. Niepołomice is located close to the large forest complex of 100 km<sup>2</sup>, protected under the NATURE 2000 scheme.

Presently, there is a national road crossing the town itself, while the planned motorway will cross the rural areas. The Kraków-Balice airport can be reached in 20-30 minutes. A railway line also services the area, however, the railway station is located beyond the town.

Niepołomice is a historical town located near the large Puszcza Niepołomicka forest, which has been a hunting place of the kings of Poland since the Middle Ages. Culture heritage and nature values are factors that nowadays shape the town's identity.

0.66% of the region's population live in the town and in its rural area. The share of job places beyond individual farming is also similar. Niepołomice is the 8th job centre and the 6th industrial centre in the whole metropolitan area. The share of jobs in industry is higher (1.35%) while the share of jobs in services is lower (0.41%) than the share of the town's population in the region. In 1995-2003, the significance of Niepołomice in the region as regards the employment in industry increased, while it relatively decreased on the service market. The industry located in Niepołomice is based on modern technologies. Several projects with foreign capital shares were implemented there. The developed industry branches include food industry (the Coca-Cola plant and meat product factory), building materials, plastics processing plants, cosmetic industry. MAN trucks factory will start production in mid 2007, employing 650 people.

Niepołomice is a centre, which develops dynamically, not only in the field of economy, but also socially and culturally. One can notice that this is not followed by the increase in the significance of service functions. Based on the historical heritage of the area, this is now an important centre of culture. The renovated royal castle hosts

a historical museum. Presently, the gallery of the 19th-century Polish art is placed there, with pictures moved from the National Museum in Kraków for the period of its modernization and redecoration. Niepołomice has also a Museum of Modern Arts. Numerous cultural events take place in the town. The royal castle was also utilized to create an attractive conference centre.

Niepołomice conducts an active policy, aimed at the stimulation of the growth of the town as a separate administrative unit. In the beginning of the transformation period, Niepołomice was marked by unfavourable development conditions, resulting from the collapse of the main workplaces located in that commune and a drastic reduction of employment in large factories in Kraków, lack of technical infrastructure, poor condition of historical buildings, as well as an overwhelming atmosphere of a social apathy. Active efforts undertaken by local authorities were oriented towards overcoming of those limitations.

Location of a town within a metropolitan area provides one of its development bases. That asset has been consciously utilized in Niepołomice. However, in addition to localization benefits, also other activities are undertaken.

The basic instruments, which are applied, include the following:

1. Protection of natural environment resources.

Areas with natural values, including the whole of forests, are subject to protection under the spatial economy. Nature areas are adjusted for tourist needs; hunting functions are developed. One promotes nature assets and builds the residents' identity based on them. The Puszcza Niepołomicka forest is an important subject of research. Activities and projects aimed at complete solving of waste treatment problems are undertaken and implemented.

2. Protection of the culture heritage.

Historical monuments are under legal protection and one carries out restoration of them. The taking over of the royal castle by the local government in 1991 and commencing the restoration of the castle was a particularly significant event. The royal castle became an important object of culture and tourism, and of creating a positive image of the commune.

3. Creation of social links and beliefs in the need and sense of action, development of a common good idea and arousing the feeling of a civilization advance.

One of the first actions included the construction and modernization of schools needed in rural units, with the co-participation of local residents. Social committees for the construction of various utility infrastructure facilities are set up. There are numerous associations acting in the town and its commune. Attractive living conditions are provided, also through the construction of recreation facilities and support of cultural community centres.

4. Building up of an efficient administrative service and reliability of the commune authorities.

It is the work organization of the town office, which serves this purpose. The Web page provides extensive information about the organization of the commune authorities and important events, both to local dwellers and to potential investors. Transparency and full information about spatial policy are critical factors. Social satisfaction with such a way

of action has been confirmed by the fact that the same town mayor has been re-elected several times.

5. Active pro-investment policy.

The pro-investment activities include the following:

- an orderly spatial policy, owing to which the Niepołomice Investment Area was developed and investing conditions have been clearly defined,
- legal preparation of areas to be offered to potential investors,
- allocation of financial expenditures to infrastructural furnishing of future project areas, without the application of tax exemptions for the investors,
- creating the municipal property resources to be transferred for investment projects,
- initiating actions, aimed at the improvement of road accessibility, including the endeavours to obtain a more favourable access to the designed motorway,
- cooperation with the authorities of the region and of the county in winning potential investors,
- active efforts to make investors interested in the commune and to create stable investing conditions,
- initiating efforts to improve road connections with Kraków.

6. Actions for a multilevel development of the commune.

In addition to developing industrial functions of the commune, there are activities conducted for the development of its culture and tourism functions on a supraregional level. The conference centre established in the castle is a good example of utilizing historical buildings for local development purposes. Recently, also efforts aimed at the development of housing functions have been undertaken. The result of those efforts is the construction of a large, high-standard housing complex, with service outlets and recreation grounds, and the abandonment of high and multi-family development, in order to maintain the scale and character of the town.

#### 4. SWOT Analysis

FIELD	STRENGTHS	WEAKNESSES
Accessibility	<ul style="list-style-type: none"> <li>❖ location on a European transportation route</li> <li>❖ motorway connection with the west part of the country</li> <li>❖ the airport, which develops dynamically</li> <li>❖ high density of regional roads</li> <li>❖ activities undertaken by regional authorities for the integration of the public transport system</li> </ul>	<ul style="list-style-type: none"> <li>❖ lack of motorway connection with Warsaw</li> <li>❖ lack of motorway connections with Budapest, Vienna and Bratislava</li> <li>❖ inadequate quality standard of roads</li> <li>❖ poor accessibility of peripheral part of the metropolitan area</li> <li>❖ lack of the complete system of Kraków ring roads</li> </ul>
Spatial structure and land use	<ul style="list-style-type: none"> <li>❖ developed, separate settlement units of consolidated local identity and determined economic specialization</li> <li>❖ spatial development of urban and rural settlement units beyond the central city</li> <li>❖ ongoing processes of restructuring and ordering the city's spatial structure</li> </ul>	<ul style="list-style-type: none"> <li>❖ spatial structure of the east part of Kraków, which requires transformation and rehabilitation</li> <li>❖ high extent of development dispersion in rural areas</li> <li>❖ lack of strict coordination of local spatial development within the whole metropolitan area</li> </ul>



	<ul style="list-style-type: none"> <li>❖ diversified degree of the area urbanization, with the preserved spatial nature system both in rural areas, and in towns</li> <li>❖ presence of rural areas of developing, non-agricultural functions</li> <li>❖ pro-investment, spatial policy of local government that constitutes one of the area polycentricity factors</li> <li>❖ presence of areas with recreation values</li> </ul>	<ul style="list-style-type: none"> <li>❖ too small an amount of land prepared for capital investment projects, especially in the central city</li> <li>❖ small part of the area of Kraków, for which plans of land designation and rules of investing have been prepared</li> </ul>
Demography and human resources	<ul style="list-style-type: none"> <li>❖ continuing positive balance of migration, both in the central city and in the suburban area</li> <li>❖ favourable level of education of Kraków population in comparison to other areas of Poland</li> <li>❖ high potential of research personnel and highly-qualified specialists</li> </ul>	<ul style="list-style-type: none"> <li>❖ discernible processes of the population ageing in part of the area</li> <li>❖ low integration of communities in particular administrative units for the development of the metropolitan area</li> </ul>
Economy and labour market	<ul style="list-style-type: none"> <li>❖ developed metropolitan functions</li> <li>❖ diversified economy structure, both in Kraków and in the whole metropolitan area</li> <li>❖ advanced processes of heavy industry restructuring</li> <li>❖ job centres developing beyond the central city</li> <li>❖ developed industrial clusters in the central city and beyond it</li> <li>❖ local services are well developed in small and medium-sized towns</li> <li>❖ higher-level functions developed in Kraków</li> <li>❖ developing industry and high-tech services</li> <li>❖ developing non-agricultural functions in rural areas</li> <li>❖ developing service functions in Kraków and outside of the central city</li> <li>❖ activities of the Regional Development Agency of the Małopolskie Region</li> </ul>	<ul style="list-style-type: none"> <li>❖ considerable drop in employment in part of the areas</li> <li>❖ continuing high share of the unemployed in the productive-age population</li> <li>❖ low level of entrepreneurship in the peripheral zone</li> <li>❖ poor utilization of the existing research potential</li> </ul>
Social and technical infrastructures	<ul style="list-style-type: none"> <li>❖ developed secondary education in many local centres</li> <li>❖ high concentration of specialized medicine connected with research facilities</li> <li>❖ dynamic development of waste water treatment plants</li> </ul>	<ul style="list-style-type: none"> <li>❖ provision of care of the old and the disabled persons insufficiently developed</li> <li>❖ problem of treatment and discharge of liquid waste is inadequately solved</li> <li>❖ issue of waste management is insufficiently solved</li> </ul>
Tourism	<ul style="list-style-type: none"> <li>❖ outstanding culture values of Kraków, including buildings and facilities entered on the UNESCO list</li> <li>❖ tourist values of local places based on culture resources of an international significance, including buildings and facilities entered on the UNESCO list</li> <li>❖ presence of nature tourist areas in a not far away from the central city</li> <li>❖ the airport, which develops dynamically</li> <li>❖ developing regional railway connections</li> <li>❖ spas and their operation</li> <li>❖ developed medium- and high-class hotels in Kraków</li> <li>❖ developed catering establishments</li> </ul>	<ul style="list-style-type: none"> <li>❖ lack of a congress centre</li> <li>❖ lack of a prepared, complex tourist product that would encompass the whole area</li> <li>❖ insufficiently developed system of public transport geared towards handling the tourist traffic and bad condition of regional and local roads</li> <li>❖ insufficient parking facilities and services</li> <li>❖ too poor a tourist information</li> <li>❖ poor tourist infrastructure outside of Kraków</li> <li>❖ the spa potential is insufficiently utilized</li> </ul>

	<ul style="list-style-type: none"> <li>❖ activities undertaken by local governments to increase the tourist attractiveness</li> </ul>	
Environmental protection	<ul style="list-style-type: none"> <li>❖ completed restructuring of industry, which considerably improved the air purity condition</li> <li>❖ high values of natural environment that ensure biodiversity, the NATURE 2000 areas, a national park, landscape parks</li> <li>❖ constantly improving volumes of liquid waste subjected to treatment</li> </ul>	<ul style="list-style-type: none"> <li>❖ periodically, locally exceeded admissible air pollution levels, especially those attributed to cars</li> <li>❖ continuing pollution of surface waters</li> <li>❖ lack of complete, comprehensive solutions in the field of waste management and recycling</li> </ul>

OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>❖ development of metropolitan functions through projects: construction of a congress centre, construction of an opera building, exhibition centres and other public buildings, in compliance with the form uniqueness requirement in relation to buildings that consolidate the city's identity</li> <li>❖ development of metropolitan functions through the development of information technologies and services, as well as business attendance services</li> <li>❖ development of modern technology centres based on the research potential of Kraków and creation of job places to prevent university graduates from migration</li> <li>❖ increasing the international exchange of students and research personnel</li> <li>❖ increasing the investment attractiveness and accessibility of Kraków through the planning and legal preparation of land and ensuring communication accessibility and provision of infrastructural services</li> <li>❖ shortening the investment process procedures</li> <li>❖ preparation of a comprehensive programme of investment area development on the whole metropolitan area scale, combined with the development of communication, transport and infrastructure services in those areas</li> <li>❖ increasing the complexity and integration of actions undertaken by various entities; development of public and private partnership</li> <li>❖ growth of an integrated public transport system</li> <li>❖ continued modernization of streets and extension of parking facilities</li> <li>❖ continued construction of the A4 motorway and contemplated national roads</li> <li>❖ completion of the construction of Kraków ring road system and fast connections between local development centres and the central city</li> <li>❖ creation of extended tourist offerings that would cover also facilities outside of Kraków and other traditional visit places</li> <li>❖ development and promotion of spa services, which create extended tourist products, in addition to those traditional ones</li> <li>❖ initiating actions for inter-regional and international cooperation within the framework of the Kraków-Upper Silesia Cluster conception</li> </ul>	<ul style="list-style-type: none"> <li>❖ prolonged procedures concerning major public projects</li> <li>❖ delays in scheduled road projects</li> <li>❖ lack of actions for the facilitation of investment processes</li> <li>❖ further delays in the preparation of spatial development plans, which could ensure the stable investing conditions</li> <li>❖ lack of efficient activities for winning potential investors</li> <li>❖ lack of integration in activities of local governments for the development of infrastructure, creation of business parks, preparation of tourist offerings, protection of the nature system</li> <li>❖ lack of cooperation between big and small companies for the creation of networks</li> <li>❖ lack of support of the central government authorities in the distribution of the EU funds</li> <li>❖ activities of the central government authorities, supporting further concentration of higher-level functions in Warsaw</li> </ul>

## 5. Conclusions

1. The metropolitan area is characterized not only by its diversified morphological and functional structure, but also by diversified development processes.

2. In metropolitan areas that are adjacent to each other processes of balancing migrations and labour markets occur.

3. In the Kraków Metropolitan Area, there was an increase in the population number in the period of 1995-2003. That increase took place both in the central city, and in other settlement units.

4. In addition to Kraków, the highest increase in the population number took place in part of communes that neighbour on the central city, as a result of the suburbanization processes. It also occurred in the majority of remaining towns, which constitute local labour centres. The decrease in the population number took place in Bochnia, the second largest town after Kraków. Population decreased also in small towns that were traditional centres of services provided to rural areas.

5. The decrease in the population size took place also in part of rural communes, which were not located in the neighbourhood of the central city. This, in turn, is related to the processes of agriculture structure transformations.

6. The whole metropolitan area recorded a drop in employment level in the period of 1995-2003.

7. There has been no general increase in employment in Kraków, which would be matched by the increase in the city's population. Kraków suffered a high decrease in employment in industry, balanced by the growing employment in services.

8. The co-occurrence of the increase in population and in employment at the same time concerns a few settlement units only. They are, first of all, small industrial towns, with the town of Niepołomice making a name for itself, as well as part of rural areas, that border on the Kraków metropolitan area. The remaining towns close to Kraków, that is Wieliczka and Skawina, faced an increase in their population numbers and a drop of employment at the same time.

9. In 1995-2003 in the whole of the metropolitan area there was a drop in employment in industry by ...%. This was mainly due to the collapse of heavy industry there. The ongoing processes of industry restructuring in the metropolitan area take place along with the introduction of modern hi-tech industries and development of the construction industry.

10. There was a slight increase in employment in services, as assessed on the whole metropolitan area scale. Especially, that increase took place in the dynamically developing suburban communes, where services of a supralocal reach were located, as well as in part of those towns and villages where previously there had been a low level of service provision.

11. There were the following variants of relationships between employment in services and employment in industry in the metropolitan area:

- a significant, absolute increase in the number of job places and services, followed by the decrease in employment in industry, that is a process of function changes.

That process developed in Kraków, in the town of Wieliczka being adjacent to it, as well as in Bochnia, the second largest town of the region and in several other, smaller towns.

- an increase in the employment in industry, followed by the drop of employment in services.

The example of the town of Niepołomice is the most distinctive one, as the town conducts an active pro-investment policy. Other examples include several small towns, in which a location of some production facility balances partly the general employment decline.

- an increase in employment both in industry, and in services, which took place mainly in those towns that formed a local industrial cluster, and in part of communes of a favourable road location.
- a drop in employment in both industry and in services.

This is the case of an industrial town of Skawina, located in the neighbourhood of Kraków, as well of those villages that have preserved their agricultural functions.

12. Local development, based on a modern industry, does not exclude a sustainable social and cultural development and preservation of nature assets, despite of an imperceptible development of service functions.

13. Shaping the image of a city on the basis of respect for its natural values and culture heritage is a factor, which fosters investment projects.

14. The noticeable factors, which contribute to development processes beyond the central city, expressed in terms of increase in population and employment, include the following:

- location in the direct neighbourhood of the central city,
- location on main road routes,
- specialized production, connected with the development of a local cluster.

15. The basic instruments, used by local authorities, which stimulate the endogenic development and, through that, create favourable conditions for the polycentric development are, as follows:

- protection of natural environment resources and culture heritage,
- creation of social links and beliefs in the need and sense of action, development of a common good idea and arousing the feeling of a civilization advance,
- building up of an efficient administrative service and reliability of the commune authorities,
- an active pro-investment policy,
- actions for a multilevel development of the commune.

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