

## **THE FUNCTION OF ZAGREB AS A FACTOR OF THE TRANSFORMATION OF THE GREATER ZAGREB GIRDLE – WITH A SEPARATE COMMENTARY ON DAILY MIGRATION**

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### ***Abstract***

#### **The Function Of Zagreb As A Factor Of The Transformation Of The Greater Zagreb Girdle – With A Separate Commentary On Daily Migration**

With an almost monocentric development, the most powerful central functions in Croatia are concentrated in Zagreb. These functions have a powerful influence on the transformation of the area towards which they gravitate. This influence is greatest on the geographic area of the Greater Zagreb girdle area, i.e. Zagreb County. The processes of the transformation of the Greater Zagreb girdle relate above all to the urbanisation and suburbanisation of the area. These processes extend to rural areas in a very spatially differentiated way, depending primarily on the level of development and the spatial distribution of the transport network. Spatial differentiation and the level of urbanisation and suburbanisation in the Zagreb environs are illustrated through an analysis of the intensity and distribution of daily migration in Zagreb and through expressed changes in the spatial distribution of inhabitation. These processes were considered to be in parallel in the period from 1948 to 2001, the period of the most intensive change.

### ***Key words***

greater Zagreb girdle, spatial distribution of inhabitation, daily migration, suburbanisation, spatial differentiation

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## 1. Introduction

Croatia experienced intensive industrialisation and tertiary processes in the second half of the 20th century. The basic structure of its population underwent significant change – from what had been, until then, an agrarian country, Croatia developed into a society of developed secondary and tertiary-quaternary activities. This key change in the professional structure led to deep reaching changes to other elements of the structure of the population and to changes to the spatial picture of inhabitation, way of life, etc. There are intensive processes of de-agrarisation and de-ruralisation and, on the other hand, of urbanisation and suburbanisation. These processes occur in a very spatially differentiated way. They are most intensive around cities, especially large ones with a wide gravitational zone.

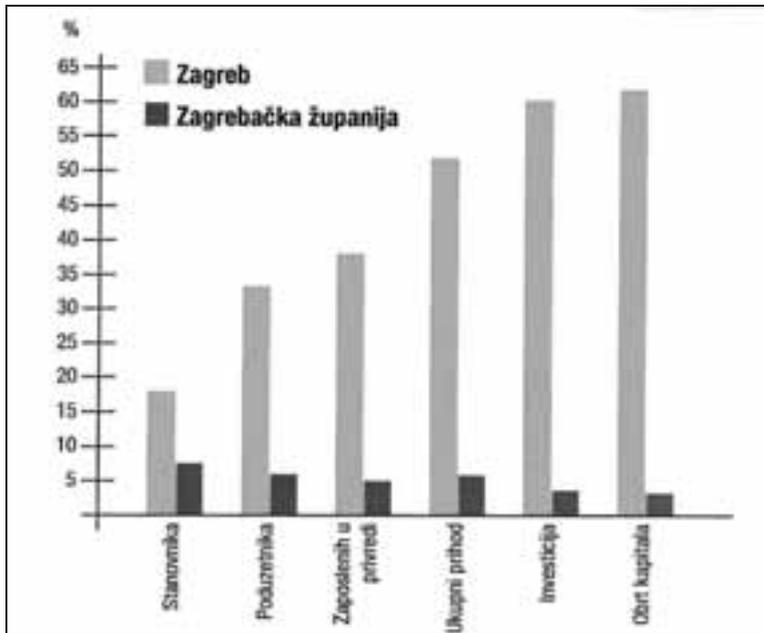


Fig.1: The percentile participation of Zagreb and Zagreb County in some basic indicators in Croatia in 2007 (inhabitants, entrepreneurs, employed in the business sector, total earnings, investments, banking capital turnover).

We can define the process of the urbanisation of what had been until then, rural areas, simply as the growth of cities. It is a matter of the transformation of village and mixed settlements into municipal (urban) settlements, i.e. of the expansion of municipal structures and way of life to rural areas. Suburbanisation, however, is the process of the merging of the suburban environs and their population with non-agrarian elements and activities. The city's rural environs gradually take on the characteristics of urbanity.

The greatest focus of expanding urbanisation and suburbanisation in Croatia is the capital city of Zagreb. The Croatian metropolis has grown in population from about 300,000 in 1848 to almost 800,000 in 2001. Zagreb drew the greatest number of people, especially in the initial and mid phases of development, from the rural girdle that surrounds it. That is why the population of Zagreb grew by 159 percent from

1948 to 2001 and by only 38 percent in the girdle, i.e. in Zagreb County. Just how massive the strength of Zagreb is as the hub of central functions and its effect on the gravitational zone is evident from data on its monocentricity in Croatia.

The gravitational zone of Zagreb, therefore, encompasses a large part of the country, with emphasis on Central Croatia. In the frame of this spatial differentiation, the greatest influence of Zagreb on the expansion of the process of urbanisation and suburbanisation is precisely in the directly neighbouring rural environs, i.e. on the geographic area of Zagreb County.

## 2. Daily migration as an indicator of change in the greater municipal area

According to the population census of 31 March 2001, 99,938 workers and students travelled to Zagreb to their place of work or school. This number includes daily migrants from outlying areas within the administrative borders of the City of Zagreb. From outside the administrative borders of the City of Zagreb, i.e. from the 8 counties of central Croatia, 75,872 migrants travel to Zagreb every day. The greatest number of these daily migrants – 56,231 migrants, or 56.3 percent of the total figure – come from Zagreb County. In the structure of daily migrants travelling every day to Zagreb from Zagreb County, about 76 percent is accounted for by employees, 13 percent are primary and secondary students and 11 percent are post-secondary students.

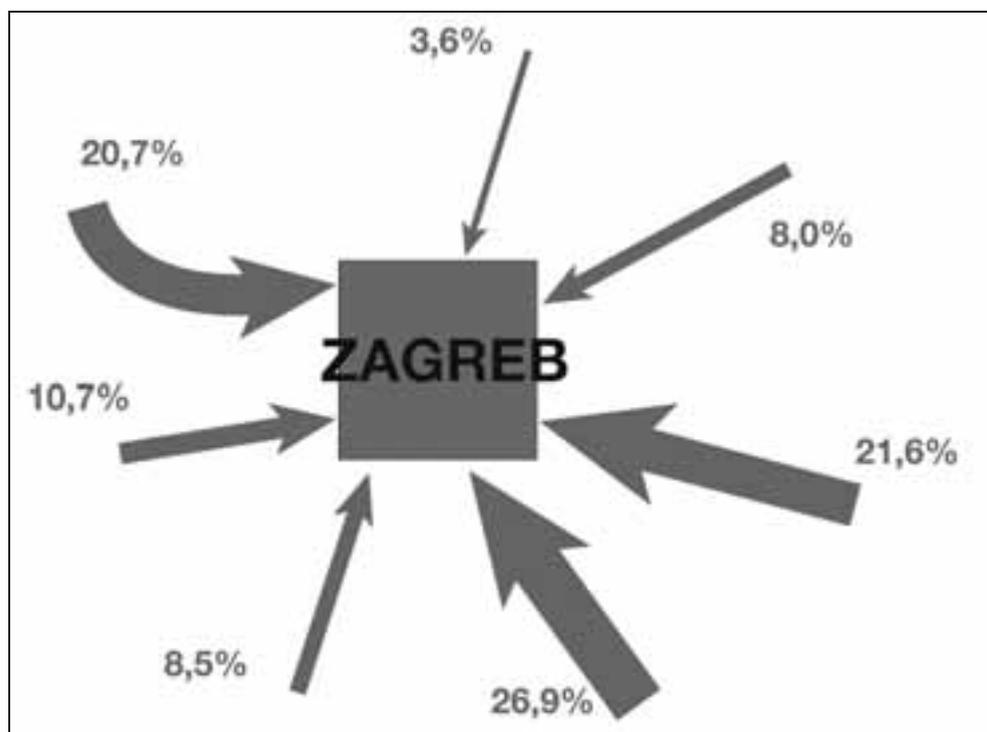


Fig.2: The basic directions of daily migration to Zagreb in 2001.

The volume of daily migration remains large, so this phenomenon has a powerful effect on the transformation of the geographic area of Zagreb's environs. In line with the phases of Zagreb's industrialisation and the strengthening of its tertiary and quaternary functions, the share of daily migrants in the number of persons employed was greatest in the 1970s – upwards of 200,000 migrants travelled daily to Zagreb at the time. The aspiration of daily migrants to relocate to their place of work as soon as possible is logical, so many move to Zagreb, contributing to its demographic growth. The 1980s saw a stagnation and significant reduction in daily migration and a slowing of Zagreb's demographic growth.

In relation to the situation thirty years ago, the spatial distribution of daily migrants in Zagreb's gravitational zone has changed. There is a drop in the number of daily migrants from distant settlements, and a proportional increase from nearer ones. Nowadays the greatest portion of daily migrants to Zagreb lives in a radius of up to 50 km from the city – about 90 percent.



Fig.3: The spatial distribution of daily migrants to Zagreb in 2001 (radius is indicated at every 25km from Zagreb).

The zone of daily migration spreads radially depending on the level of development of the transport network and extends to Novska in the east, Duga Resa and Petrinja in the south and southeast, Bregana in the west, Mura na Sutli in the northwest, Čakovec in the north and Koprivnica and Bjelovar in the northeast. To get to work or school, some daily migrants spend as much as four hours in total on transportation.

Daily migrations are also an appropriate indicator of changes in the process of urbanisation and suburbanisation in the Zagreb girdle. Daily migrants are a significant and influential factor in introducing change and innovation in the geographic space. Having become employees in Zagreb, daily migrants have altered the structure of the population in terms of area of activity. Non-agricultural professions have become the dominant source of earnings, while agriculture has become only an additional and increasingly less important line of work. Daily migrants are the quickest to accept innovation in their way of life and the agrarian, rural way of life is gradually replaced by a metropolitan, urban one. A higher, metropolitan standard of living is adopted, which alters the architectural and urban picture of the settlement. There is a speedier development of the overall municipal standard, primarily in the transport network. The processes of suburbanisation penetrate significantly quicker into settlements in which a proportionally greater number of daily migrants live.

This also means that the spatial distribution of daily migrants provides a credible picture of the differentiated spatial distribution of the processes of suburbanisation in Zagreb County. The greatest number of daily migrants live in settlements to the west of Zagreb – in the municipalities of Stupnik, Sveta Nedelja, a part of Samobor, Zaprešić, Brdovec, Marija Gorica, Pušća and Bistra. The second larger concentration is to the east and southeast of Zagreb – in the settlements of the municipalities and cities of Velika Gorica, Dugo Selo, Ivanič Grad, Brckovljani and Vrbovec. There is a significantly less intensive concentration of daily migrants from the south – towards Klinička Selo and Jastrebarsko, and the lowest concentration is from the northeast, i.e. from Sveti Ivan Zelina.

There are a very small number of daily migrants in the traditional, almost patriarchal settlements farther away from Zagreb and the main roads. This refers primarily to the settlements of Samoborsko gorje (Samobor highlands) and Žumberak, to the south along the Kupa River, and to the northeast – the municipalities of Bedenica, Preseka, Gradec, Farkaševac, Dubrava and others. The differences in the level of the development of daily migration are very pronounced – from the settlements of the municipality of Stupnik, for example, about 32 percent of the total population travel to Zagreb on a daily basis, about 25 percent from the municipality of Bistra, only 2 percent from the rural municipality of Preseka, and 3 percent from the municipality of Rakovec. There are also similar differences in the spatial distribution of the processes of suburbanisation, i.e. changes to the geographic space of the Zagreb girdle.

A developed transport network is significant to the intensity of the processes of suburbanisation, and especially to daily migration. Forty years ago, during the intensive industrialisation of Zagreb, most daily migrants used the train. Taking the "train to Zagreb" was a synonym for going to work in Zagreb. Now, this structure has changed entirely – the greatest number of daily migrants travel by car, then by bus and the least by train. The development and routes of the transport network,

roads in particular, have adapted to this new transport structure. The highest intensity in daily migration and in the processes of suburbanisation occur in settlements that are closest to Zagreb and which have organised public transport to exurban areas. The Zagreb public transport authority, ZET, has 54 lines with 467 bus stations serving out-of-town areas in the settlements of the cities and municipalities of Velika Gorica, Zaprešić, Bistra, Luka, Stupnik, Klinča Selo and Jakovlje. The Croatian railway authority, Hrvatske eljeznice, maintains lines on two out-of-town routes: Dugo Selo-Zagreb-Savski Marof and Zagreb-Velika Gorica.



Fig.4: The percentile participation of daily migrants to Zagreb (out of the total number of inhabitants) in cities and municipalities of Zagreb County in 2001.

### 3. The new spatial picture of inhabitation

As a result of the effect of Zagreb's central functions, the spatial picture of inhabitation has changed in the girdle area, i.e. Zagreb County, with greater speed than elsewhere in Croatia. The basic characteristic of this new picture of the spatial distribution of the population is the de-population of traditional rural settlements and the ever-greater concentration in the number of inhabitants in settlements closer to Zagreb and main roads. These changes are very intensive, have not been completed and correspond spatially with the differentiated spatial distribution of daily migrants.

There were 309,696 people living in Zagreb County in 2001 in 686 settlements (9 of which are cities). The average settlement, therefore, amounts to 452 inhabitants and 314 in the average rural settlement. When comparing the population censuses of 1948 and 2001, a drop in the number of inhabitants was recorded in as many as 494 settlements, i.e. in 72 percent of all settlements. Given that the total number of inhabitants in Zagreb County is continually growing, there is an ever-greater concentration of inhabitants in settlements that have seen demographic growth.

There are 192 of these settlements, or 28 percent of the total number. They are, of course, situated close to Zagreb and the main roads.

The differences in the spatial picture of inhabitation are very pronounced. While most of the settlements of Žumberak and the Samobor highlands have been affected by the process of demographic extinction (and some have disappeared from maps), the number of inhabitants in some of the settlements on main roads and close to Zagreb has grown more than sevenfold (from 1948 to 2001). The settlement of Bestovje near Sveta Nedelja, for example, has grown in population by 748 percent, and Novo Čiče near Velika Gorica by 560 percent, Puhovo near Dugo Selo by 611 percent, and so on, while the settlement of Sopote on Žumberak has lost 97 percent of its population, Brezovac Žumberački has seen a population drop of 82 percent, Čučići near Krašić 98 percent, Kladešćica near Sveti Ivan Zelina has dropped by 98 percent, Podgorje Jamničko near Pisarovina by 85 percent, and so on. Changes in the spatial picture of inhabitation of this magnitude have caused significant changes in the structure of the population, the way of life, urbanisation and other characteristics of the geographic space of the Zagreb girdle area.

It can be concluded from all that has been put forth here that Zagreb's central functions have played the most important role in the transformation of the girdle area, i.e. of Zagreb County. Once a typical, and even traditional, rural space, it has now adopted a new spatial picture of inhabitation and an altered population structure, and has undergone a pronounced process of suburbanisation. However, analysing all of the elements and intensity of suburbanisation and comparing them with the level of intensity in the environs of other European metropolises, we can conclude that the influence of Zagreb on the transformation of the surrounding area is less than what could be expected and possible.

The first phase of suburbanisation – the employment of the rural population in Zagreb – was and remains very intensive. This is evident from the level of development in daily migration. The second phase of suburbanisation, however, that being a new validation and a growth in the value of the surrounding area, has not achieved the level present in other European metropolises. The diversification or expansion of city-based companies to the surrounding area and a more massive level of employment in the settlements of the girdle area, has thus far given poor results. The more pronounced resettlement of wealthier and more educated inhabitants from the Zagreb core to the more valuable surrounding area was expected, as is the case in most European metropolises. We call this the process of de-metropolitisation, which, in the case of Zagreb, is only in the nascent phase.

In spite of these significant effects of Zagreb on the transformation of the girdle area, the third phase of suburbanisation is also continuing in the settlements of Zagreb County. This is the drawing, i.e. settlement, of people from distant parts of Croatia. They are relocating to the Zagreb girdle area less because of the offer of employment, but above all because of the lower cost of homebuilding and lower cost of living. Most of these people take advantage of the proximity of the city and the development of the transportation network, and find employment in Zagreb and its urban satellites.

## **5. Conclusion**

When one summarises the effects Zagreb has on the girdle area, it can be concluded that the city has, thus far, taken more from its surroundings than it has contributed to them. However, the processes of transformation of rural areas continue. The Zagreb girdle area is entering new changes, with an increase in the value of its space. In 1948 only 8.5 percent of the total population of Zagreb County lived in its nine cities, while in 2001 the figure stood, by a conservative estimate, at 31.3 percent. That is still significantly less than the Croatian average (about 56 percent). The processes of suburbanisation are intensively penetrating the girdle area, and their quickening can be expected in the coming period.

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### ***Summary***

The greatest focus of expanding urbanisation and suburbanisation in Croatia is the capital city of Zagreb. With an almost monocentric development, the most powerful central functions in Croatia are concentrated in Zagreb. These processes occur in a very spatially differentiated way. The gravitational zone of Zagreb encompasses a large part of the country, with emphasis on Central Croatia. In the frame of this spatial differentiation, the greatest influence of Zagreb is precisely in the directly neighbouring rural environs. According to the population census of 31 March 2001, 99,938 workers and students travelled to Zagreb to their place of work or school. The volume of daily migration remains large, so this phenomenon has a powerful effect on the transformation of the geographic area of Zagreb's environs. The zone of daily migration spreads radially depending on the level of development of the transport network. Daily migrations are an appropriate indicator of changes in the process of urbanisation and suburbanisation in the Zagreb girdle. A developed transport network is significant to the intensity of the processes of suburbanisation and especially to daily migration. The basic characteristic of this new picture of the spatial distribution of the population is the de-population of traditional rural settlements and the ever-greater concentration in the number of inhabitants in settlements closer to Zagreb and the main roads. These changes are very intensive, have not been completed and correspond spatially with the differentiated spatial distribution of daily migrants. The processes of suburbanisation are intensively penetrating the girdle area and their quickening can be expected in the coming period.

