FORMS OF URBAN GROWTH IN SOUTHEAST EUROPE:

TRANSITIONING TOWARDS URBAN RESILIENCE AND SUSTAINABILITY

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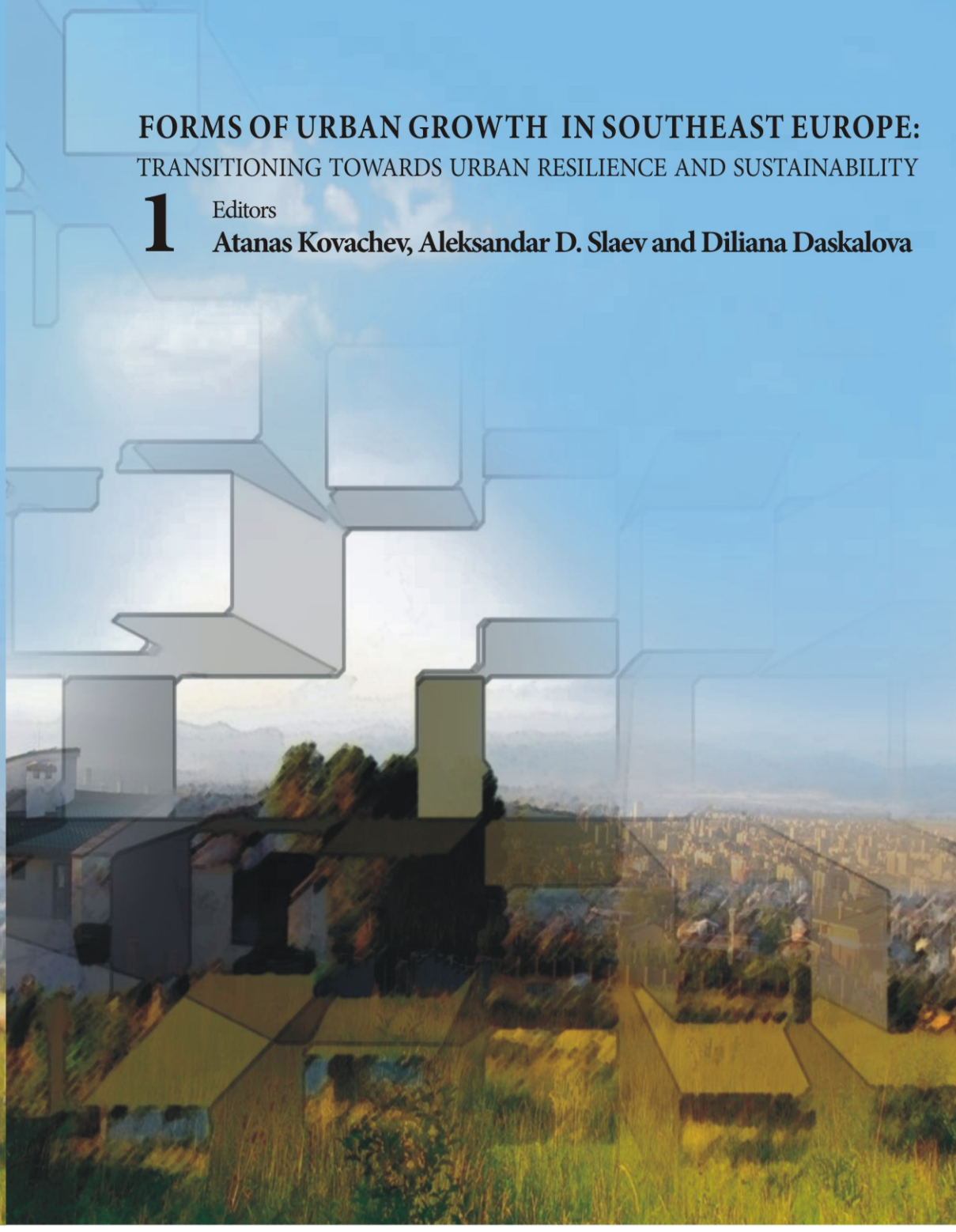
Editors
Atanas Kovachev, Aleksandar D. Slaev and Diliana Daskalova



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VOLUME 1

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Atanas Kovachev
Aleksandar D. Slaev
Diliana Daskalova

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1.

URBAN GROWTH AND SUBURBANIZATION IN SOFIA, BELGRADE AND ROME: THE INTERACTION BETWEEN URBAN PLANNING AND THE MARKET

Authors of all parts on Sofia:
Atanas Kovachev, Aleksandar D. Slaev, Diliana Daskalova and Peter Nikolov

Jasna Petrić, Nikola Krunić and Tanja Bajić - authors of:
- Population dynamics in the urbanized areas of Belgrade
- Demographic trends in Belgrade
- Historical formation of residential preferences in Belgrade
- Analysis of current residential preferences in Belgrade

Slavka Zeković, Miodrag Vujošević and Tamara Maričić - authors of:
- Factors for availability of suburban land in Belgrade
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- Conclusions on the role of urban planning in Belgrade

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1.1. Introduction

Over the past decades, cities around the world are experiencing accelerating and increasingly more complex processes of expansion. For 40 years the world's population grew by four-fifths - from 4.1 billion in 1975 to 7.4 billion today (Wu et al., 2011). In the same period, however, the world's urban population grew more than 2.5 times - from 1.5 billion to over 3.7 billion (World Health Organization, 2009). Urban growth in such scales inevitably generates expansion and expansion takes different forms that have their important implications in all areas of human development. Accelerated expansion of cities is evident in Europe as well. The continent's share of the urban population is already more than 75 percent.

Nowadays the process of expansion of cities in many parts of the world and Europe in particular is characterized by accelerated trends of suburbanisation. Suburbanisation is defined as growth of urban functions in peri-urban territories and is generally indicated by increases in the number of population in those territories at the expense of delayed or negative trends in central areas (Fee and Hartley, 2011).

Furthermore, modern suburbanization often takes the form of urban sprawl (Daskalova and Slaev, 2015). As Salvati notes (2014, p. 2), at the city level suburbanization trends are often characterised by a "large imbalance between a place's spatial expansion and its population change (where the former increases much more rapidly than the latter)". Two already "classical" definitions are those of Brueckner (2000) and Ewing at al. (2002). Brueckner defines sprawl as "excessive spatial growth of cities". According to Ewing at al. (2002, p.3) sprawl is "the process in which the spread of development across the landscape far outpaces population growth". According to a more detailed definition by the European Environment Agency (EEA, 2006, p.6) sprawl is "the leading edge of urban growth", which is characterised by development that is "patchy, scattered and strung out, with a tendency for discontinuity. It leap-frogs over areas, leaving agricultural enclaves. Sprawling cities are the opposite of compact cities - full of empty spaces that indicate the inefficiencies in development and highlight the consequences of uncontrolled growth ".

Processes of urban sprawl have been observed in North American cities yet in the first half of the twentieth century, but accelerated after World War II (Jackson, 1985). In the post-war period, similar trends are observed in the western and northern parts of Europe (Lupi and Musterd, 2006) parallel with those in North America or with some delay. To describe historical trends the EEA (2006, p. 5) states that "European cities were more compact and less sprawled in the mid-1950s than they are today, and urban sprawl is now a common phenomenon throughout

Europe. Moreover, there is no apparent slowing in these trends". With regard to the drivers of expansion, suburbanization and sprawl in the post-war period and in recent decades, the EEA (p. 6) recognizes that "the growth of cities has been driven by increasing urban population". However, in Europe today, even where there is little or no population pressure, a variety of factors are still driving sprawl. These are rooted in the desire to realise new lifestyles in suburban environments, outside the inner city."

Important for this study is the fact researchers consider sprawl an inefficient form of urban expansion with multiple drawbacks that pose serious threats to the environment and sustainable development (e.g., Nivola, 1998; Couch et al., 2007; Munafo et al., 2010; Salvati et al., 2012 – to name but a few). To Laidley (2015, p. 2) sprawl is an "urban pathology, a signifier of unchecked development which consumes an excess of resources through land speculation and low-density dispersion". Researchers criticize sprawling urban forms for high car dependence, poor non-automotive access to jobs and services, high levels of social segregation and, above all, overconsumption of rural and virgin land (grasslands and woodlands) and natural resources (EEA, 2006; Chin, 2002; Galster et al., 2001; Ewing et al., 2002, Couch et al, 2007). The EEA (p. 10) notes that during the ten year period 1990–2000 urban sprawl and associated development of roads and infrastructure throughout Europe "consumed more than 8 000 km^2 (a 5.4 % increase during the period), equivalent to complete coverage of the entire territory of the state of Luxembourg". Other identified drawbacks of sprawl are the poor mix of uses, lack of retails and service centres integrated with housing areas, and poor pedestrian accessibility (Ewing et al. 2002).

Another important to this research factor is the relative variety of forms of urban expansion in Europe compared to that in North America. The "classical" type of sprawling suburbanization, characterized by low-densities, dispersed scattered or leap-frogging patterns, generated by the flight of the middle and upper classes from the centre to the periphery (Fishman, 1987) is only one of the forms of expansion observed in the Old Continent. A second type is sprawl caused by immigrants who came to the city from agricultural areas and smaller cities in search of livelihood (Korcelli, 1990). This flow is another driver of growth on the urban periphery, but the main motive of these immigrants is the cheaper suburban land; thus the resulting housing patterns are characterized by relatively higher densities. Similar to the third type, yet characterized by different housing patterns and different urban environment, is the development of peripheral settlements as a result of spontaneous (illegal) housing construction (Nedovic Budic, 2001, Nedovic-Budic and Tsenkova; Tsenkova, 2012). A fourth type of suburbanisation/sprawl characteristic of cities in Southern European is the one generated by movement to the urban fringe of both more affluent new settlers as well as residents of lower layers (Leontidou, 1990, Leontidou et al., 2007; EEA, 2006; Zitti et al., 2015). Finally in many Eastern and Southeast European cities a fifth type of peripheral and suburban development can be observed – that of the "socialist suburbia" – the large real estates of prefab housing developed in the socialist period (Hirt and Kovachev, 2006; Daskalova and Slaev, 2015). Though the urban landscape of most of these estates has changed over

the past two decades, they still form a considerable part of the urban fringe of cities in the region.

In the former communist countries in central and eastern parts of the continent, the process of suburbanisation and sprawl started with some delay. It was the end of the Soviet period in the early 90s of the twentieth century that marked the beginning of modern suburbanisation in Eastern Europe, The process was first manifested in Central Europe and the Baltic countries. EEA (2006) finds that whereas "clusters of compact cities are also evident in the former socialist countries of central and eastern Europe [...] [t]oday, these cities are facing the same threats of rapid urban sprawl as the southern European cities as the land market is liberated, housing preferences evolve, improving economic prospects create new pressures for low density urban expansion, and less restrictive planning controls prevail ". Jansons (2011, p. 51) states that "the establishment of market economy and liberal planning system after the breakdown of the Soviet Union have resulted in low political priority being given to long-term spatial planning. This has created preconditions for urban sprawl". According to Krisjane and Berzins (2012, p. 302), since the beginning of the transitional period "suburban growth during the transition period in these countries is linked with the development of new residential areas and considerable in-migration flows".

Trends of accelerated suburbanisation have been observed in Southeast Europe a little later than in Central Europe and the Baltic states, so they have been less explored. In comparison to research on the processes in Central Europe and the Baltics, the trends of suburbanisation in Southeast Europe thus far have been studied by a smaller number of researchers such as Nedovic-Budic and Tsenkova (2006), Nedovic-Budic et al (2012), Hirt (2007), Slaev and Kovachev (2014), Zeković et al (2016). Because of the insufficient level of research on suburbanization in Southeast Europe, it is not possible to achieve consensus on how these processes are similar to or different from the processes in the Western, Northern, Central and Southern Europe. This is an important question because the proper identification of the type of suburbanisation in the region would help define relevant policy measures to steer and regulate urban development. However, the difficulties of finding the answer to this question are underlined by the findings of some researchers (e.g., Daskalova and Sleaev, 2015; Slaev and Nikiforov, 2013) concerning the specific character of suburbanisation in Southeast Europe. Pichler-Milanovic (2008, pp. 18-19), for instance, explores some differences in the specifics of urban development throughout Central, Eastern and Southern Europe. In distinguishing between different factors for these trends, Pichler-Milanovic finds that "cultures of urbanism in Southern Europe have created compact cities in combination with infrastructure-related urban sprawl after long periods of informal suburbanisation as a means to survival (e.g., Athens)" and "state controlled/induced sprawl in Central and Eastern Europe has deconstructed the compact city/pastoral landscape dualism through the development of new suburban landscapes, which are usually not only residential after 1990s (e.g., Leipzig, Ljubljana). The role of central and new local governments (municipalities, regions) with regards to the sprawling process varies between and within Central- East and South-East European societies (e.g., illegal sprawl)".

In exploring the specifics of suburbanization in Southeast Europe, the present study draws a comparison to suburban trends in Southern Europe. There are two reasons for this comparison. First reason is the geographic closeness. Second is the similarity of certain aspects of urban development, which imply possible similarities in the trends. Indeed urban densities in South-east Europe are generally similar to those in Central Europe, Germany and France (Bertaud, 2004), whereas densities in most Mediterranean cities are much higher, but the compact forms on the urban periphery, the well-defined urban fringe is a common feature of the Southeast European and many Southern cities. Whereas virtually all studies of suburbanization trends in the post-socialist countries in Central Europe and the Baltics have found numerous similarities of these trends to the trends in the Western countries, Daskalova and Slaev (2015) observe that certain characteristics of Southeast European suburbanization deviate from the "classical" western model. It should be noted that deviations from the "classical" western model have been observed in many Southern/Mediterranean cities too (Leontidou, 2007, Tombolini et al., 2013). That is why the present research is a comparative exploration of peri-urban trends in two Southeast European cities and one Southern/Mediterranean – Sofia, Belgrade and Rome.

Therefore, the goal of this research is to explore the characteristics of suburbanization and urban sprawl in the cities of Southeast Europe and to identify whether the trends observed should be referred to other European types of suburbanization. How does the heritage form the period of state socialism influence the expansion of these cities today? Are the processes on the urban fringe of Southeast-European cities similar to those observed in Western and Northern Europe, as is sprawl in the post-communist cities of Central Europe and the Baltics? Or should those trends be considered more of the Southern European Type? These are the questions that the present study explores and proposes answers to.

1.2. Processes of expansion in Sofia, Rome and Belgrade – urban growth or sprawl?

Two concepts that are fundamental to resilience in urban development will be the topic of this study. The first concept is related to the capacity of large cities to be incubators of socio-economic advancement. Indeed, cities have oft been compared to locomotives of regional development. The second concept deals with the negative perception of urban sprawl. Sprawl is a process that has been criticized for excessive consumption of natural resources (such as land, biodiversity and energy), automobile dependence and arbitrary or ill-suited zoning regulations, which render city suburbs into "bedroom-zones." Unchecked sprawl has also been blamed for thwarting town centers, public services and inflaming social segregation. While the first concept affirms the benefits of population growth for competitive cities, the second underscores the criticisms held against certain forms of urban expansion.

We acknowledge that population growth of cities is virtually always associated with territorial expansion. The two extremes of territorial expansion (modes of growth) are compact growth and urban sprawl. On one end is perfectly compact growth, where total residents increase more than total area. On the other end, sprawl results in territorial increases that eclipse the total growth of residents. Thus, the relationship between residents and urban area is a relevant measure for the following analysis urban growth in the case study cities Sofia, Belgrade and Rome.

An appropriate model for sprawl-shaped growth is that of a cone of sand that spills onto the surrounding area and in the process leads to enlargement of the surrounding (occupied) terrain and simultaenous reduction in the height/density of the center of the cone, as cited by Couch et al in "Urban Sprawl in Europe" (2007). The following graphs further illuminate the difference between the two alternative modes of growth.

The figures below set residential density as a function of distance from the city center. Sprawl-shaped expansion is characterized by a decreasing gradient in the density of occupation (Figure 1.1) while consistent gradient indicates compact growth (Figure 1.2). The first indication of sprawl is a mean increase in population and growth of an urban area. In order to determine roughly that growth is compact, the percentage increase in population must be greater than the square of the percentage of territorial expansion. Due to the many intricate geographical, economic, social, etc. factors involved however, the application of detailed formulas is rather conditional. Even far-reaching research projects on sprawl in Europe (such as URBS PANDENS, 2003-2005) adhere to simple criteria, such as the most basic

comparison between population growth and that of urban area. Thus, comparing the marginal expansion of city territory to the marginal growth of population will be the fundamental method of comparison for this study urban form.

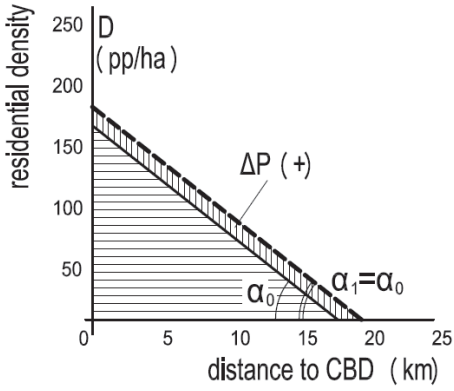


Figure 1.1: Gradient of population density typical of compact urban growth

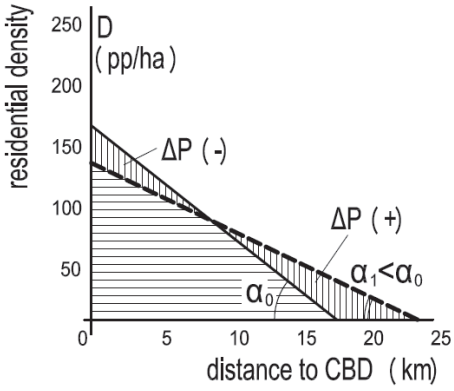


Figure 1.2: Gradient of population density typical of urban sprawl

The population dynamics between central and suburban areas or in other words, the ratio of central to suburban growth provides us with a second criterion to explore the form of suburbanization. Here again, we can look at the difference between the two models of development presented in Figures 1.1 and 1.2. The compact development pattern (Figure 1.1) is characterized by positive urban growth in all urban areas. In contrast, sprawl (Figure 1.2) is characterized by negative growth in the number of residents in central city areas and positive growth in the periphery and suburban areas. Therefore, the second method to determine urban form will be a comparison between growth exhibited in suburban populations against the growth of central populations.

Another area of distinction between sprawl and compact developments is the driving forces behind them. While urban expansion can be generated by many, different processes, there are typically two causes for suburban sprawl. The first, typical of modern western suburbanization, is driven by middle and upper class residents moving from central urban areas to the city's outskirts in pursuit of higher residential standards. Respectively, this type of suburbanization is characterized by high quality housing with large plots and low densities, abundant and lush landscaping. Further in the text, we refer to this type of urban expansion as "middle and upper class suburbanization" or "type 1". In contrast, the second distinguishable type of suburbanization is generated by migration of new urban citizens from smaller urban areas or rural areas to big cities in pursuit of livelihood. These residents usually settle on the urban fringe because suburban land is cheaper than urban land. They typically settle in smaller plots to economize the price of land even further. Therefore, this type of suburbanization is characterized by relatively high

residential densities. Throughout the rest of the text, we refer to this type of urban expansion as "suburbanization caused by rural-to-urban migration" or "type 2".

1.2.1. Comparison of population dynamics in urbanized areas in Sofia, Belgrade and Rome

Research questions: - Is the marginal (in percentage) increase in the number of residents equal, larger or smaller than the marginal (in percentage) increase of the urbanized territories in the cities Sofia, Rome and Belgrade?

How do growth rates (demographic trends, housing development) on the urban fringe correlate to growth rates in central areas? Is suburban growth greater or less than the growth experienced in the centre?

Population dynamics in the urbanized areas of Sofia

The town of Sofia has existed for more than two thousand years and has always been a centre of regional importance. It was a Thracian settlement as early as the 7th century B.C. and in the 3rd century A.D.; it was the capital of *Dacia Mediterranea*. However, the modern city only experienced considerable population growth after it became the capital of Bulgaria, once the country gained its independence from the Turkish Empire. In 1879, the year the city was proclaimed the capital, the population was only about 20 000.

Until the end of the 1980's, Sofia experienced remarkable growth: in 60 years (by 1939) the population grew by 380,000 (20 times) and in the next 46 years (by 1985) by another 900,000. By then, the number of residents had grown to 1,200,000. It is informative to note how municipal authorities as well as the public perceived this growth. Their views are manifested in the main master plans for Sofia in the XX century. The most widely discussed master plan before World War II was the one prepared by the German architect Adolf Muesmann. The municipal authorities commissioned Muesmann to elaborate a plan that (Kovachev, 2005) "should not expand the city's territory, but – on the contrary – compress it, because a population of 300 thousand, at that time, or 600 thousand, in the future, could not afford investing in the improvement of urban utilities [infrastructure] on such a large scale".

After World War II, changes in socio-economic conditions required a new policy of development. Within the next year, another master plan was prepared and approved (State Gazette, December 1945). By that time, Sofia had reached half a million residents. The new plan forecasted population growth of 300,000 new residents over the next 20 years. Actual population growth in fact exceeded these expectations and just a decade later, population growth had reached 720,000. With respect to the study of Work Package 5, it is important to note that this plan was the first to introduce the concept of a polycentric urban structure.

In 1956 the Council of Ministers declared a competition for the preparation of a new general plan. The plans of two teams became popular, after the names of the team leaders – Neikov and Siromahov. The Neikov plan envisaged compact population growth and accommodated for 1,050,000 inhabitants (prognosis for 1980) within the compact city of Sofia through densification of the urban fabric. While the

number of inhabitants was to grow, the territory was to remain the same and even to shrink in some locations. On the contrary – the plan of Siromahov supported the ideas for urban expansion and development of a polycentric type. New housing estates of a socialist type were to be built upon undeveloped lands in the city's outskirts (Labov 2000, Hirt 2005).

The Neikov plan was approved and adopted in 1961. Although this plan was formally in force for more than 40 years, it was not in fact the plan that was implemented on the ground. Aspects of this plan were weakened by amendments passed after its adoption. The deviation from the Neikov plan was fuelled primarily by still greater increases of unforeseen population growth. Ongoing socialist industrialization boosted rural migration to cities and urbanization, resulting in pressure on the housing supply. City authorities, who retained strict control over housing development, implemented high occupancy prefabricated housing blocks to meet this high demand. These large scale prefabricated housing complexes required ample space, quantities which were only available in the urban periphery. Nearly half (more precisely - 47.3 percent) of Sofia's existing housing stock was built during the socialist-era rapid prefab construction which took place between 1970 and 1990 (NSI, 2012). (See Figure 1.32 in section 1.4.4.) Therefore, it is ultimately the Siromahov plan - with its vast, peripheral "socialist suburbs," which characterized s the capital city today.

In order to determine whether the territorial enlargement that occurred during socialism is urban sprawl, two main questions should be answered:

- What was the density of the peripheral neighborhoods compared to the historical densitities in the city?
- Was the city expanded continuously and uniformly?

The answers give grounds to classify Sofia's urban expansion of 1970s and 1980s as a process of growth rather than sprawl. The average gross population density in the peripheral housing estates varies between 80 and 150 inhabitants per hectare. That is several times higher than what is considered "typical" sprawl. Furthermore, socialist estates are relatively compact, continuous with the preexisting urban fabric and with clear-cut urban rim (Hirt, 2007). They thus have little in common with "leapfrogging" and scattered development forms characteristic of urban sprawl. To conclude, despite the implementation of the Siromahov plan, Sofia's urban structure throughout the 20th century is typified by compactness and high densities, permeating from the city center to the urban fringe.

Population dynamics in the urbanized areas of Belgrade

The Belgrade metropolitan region (the City of Belgrade), which functionally connects the Vojvodina - Panonia - Danube area and the middle Balkan part of Serbia, has always held a distinctive position and status in the country. It was only after the World War II, and especially after the 1960s, that Belgrade experienced a true economic and demographic boom. This boom would initiate the suburbanization process. At this time, Le Corbusier's concept of urban development was applied to the expansion of Belgrade on the left bank of the river Sava (New

Belgrade). This development followed to a great extent the example of other socialist metropolises; a lack of housing space initiated the construction of multistory buildings, which eventually yielded high population densities. This type of development also fostered land-use separation between places of work, living and leisure, typically concentrating places of work in the urban core.

From a demographic point of view, the Belgrade metropolitan region has grown over 2.6 times (from 634,003 to 1,659,440 or 1,025,437 inhabitants) in the period between 1948-2011 (predominantly through to 1990). In the analysed period, the administrative area of the City of Belgrade has grown from the 52 settlements of the City of Belgrade and Belgrade County (Beogradski Srez) in 1948 to the present 166 settlements, out of which 27 are urban and the other 139, so-called 'other' settlements.

Population dynamics in the urbanized areas of Rome

Rome, like many major Italian cities, experienced remarkable growth in the decades preceding World War II. This was related to industrial growth across the nation, which attracted large rural populations to cities. The reconstruction after World War II gave rise to large suburban developments in proximity to large cities that drew emigrants from villages and small. Over the next decades, the suburbanization of Rome gradually turned the city into a "widespread metropolis," marked by a slow but steady erosion of agricultural areas and natural coastline.

Since both the Province of Rome and the Municipality of Rome have a border on the sea, coastal areas have suffered the impact of the urbanization, particularly in the municipality. Over the last decade there has been an accelerated soil sealing of coastal areas with percentages of artificial covering (soil sealing) reaching over 60 percent. This is a problem facing not only Rome but the entire nation. The share of land with artificial covering in Italy is estimated at 7.3 percent of total land whereas the EU average is just 4.3 percent. In 2011, 20,300 square kilometers were covered by inhabited areas and over 17,500 square kilometers by towns. This was an increase of nearly 1,200 square kilometers (+7.1 percent) since 2001.

However, the scope of territorial expansion is not proportional to the population growth. Between 2001 and 2009, new housing licenses in Rome increased by 6.7 percent while the population increased by only 5.3 percent. This is a sure indication that growth in Rome resembles sprawl. Indeed, it appears that Italian cities are characterized by a decreasing gradient in the density of occupation (sprawl) as proven by an analysis undertaken by ISTAT of the 13 largest municipalities in Italy (Rome and Turin, Milan, Genoa, Venice, Bologna, Florence, Ancona, Naples, Bari, Reggio Calabria, Palermo and Cagliari). The study observed a gradual loss of population in metropolitan centers. In the period between 1951 – 2010, the total resident population in large cities compared to the total area, had decreased from 70.3 to 56 percent.

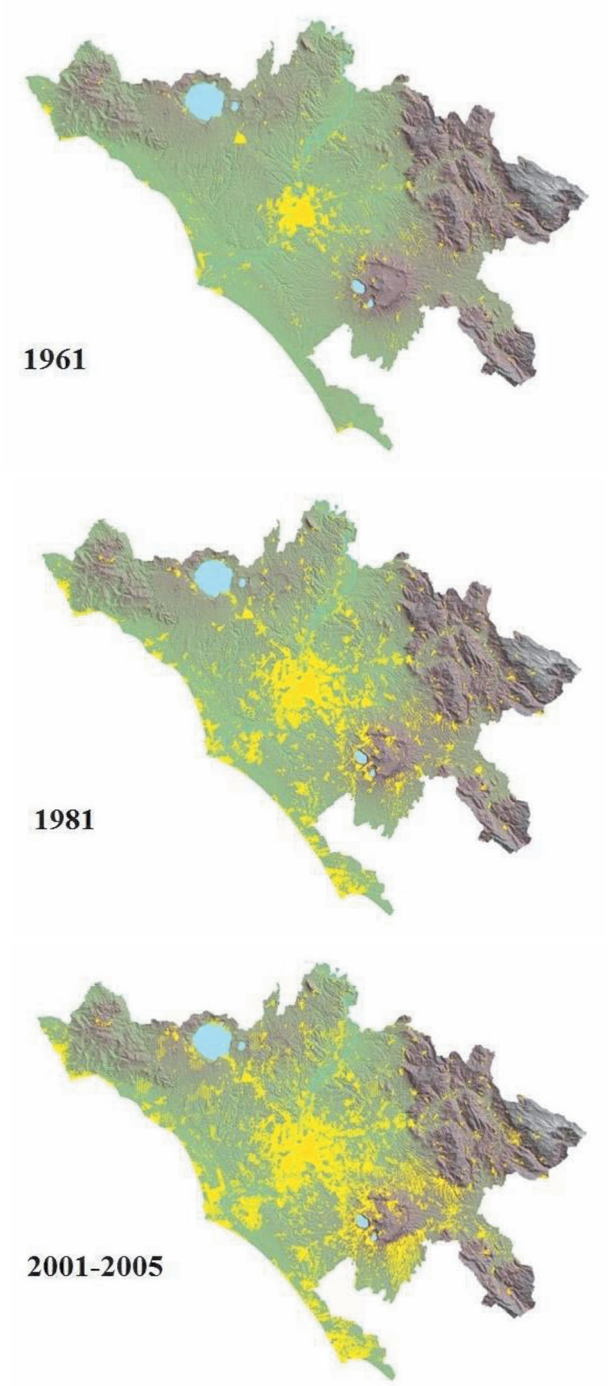


Figure 1.3: Development of the settlement network of Rome (1961 -2005)
Source Province of Rome – Piano Territoriale Provinciale Generale

Comparison between the basic indicators of urban growth in Sofia, Rome and Belgrade

Table 1.1 summarizes population growth data of the three cities. The overall growth of the two South East European capitals after 1990 is pronounced, whereas the overall growth of the population of Rome is modest. However, the three cities have parallel trends with regard to the balance between central and suburban growth.

Table 1.1: Comparison between the basic indicators of urban growth in Sofia, Rome and Belgrade

Types of districts	1991[1], 1992[2]	2001, 2002[3]	2011	Change 1992- 2011
Sofia				
Central districts	116,524	94,651	100,786	-13.5%
Intermediate districts	454,425	468,174	512,772	12.8%
Peripheral districts	399,651	386,989	420,826	5.3%
Suburban districts	219,535	221,028	257,207	17.2%
TOTAL	**1,190,135**	**1,170,842**	**1,291,591**	**8.5%**
Southern suburban districts	*106,780*	*123,972*	*156,606*	*46.7%*
Northern suburban districts	*112,755*	*97,056*	*100,601*	*-10.8%*
Belgrade				
Central communes	181,951	156,434	143,905	-20.91%
Intermediate communes	450,627	449,394	474,955	5.40%
Intermediate/suburban	597,360	629,128	681,135	14.02%
Suburban communes	101,371	114,161	127,726	26.00%
Rural communes	220,842	227,007	231,719	4.93%
TOTAL	**1 552 151**	**1 576 124**	**1 659 440**	**6.91%**
Rome				
Central/Centro Storico	130,296	122,619	128,454	-1.41%
Intermediate communes	730,375	675,707	644,068	-11.82%
Intermediate/suburban	1,615,746	1,609,014	1,625,777	0.62%
Suburban communes	367,188	393,920	477,835	30.13%
TOTAL	**2 843 605**	**2 801 260**	**2 876 134**	**1.14%**

Notes: *[1] 1991 for Belgrade and Rome, [2]1992 for Sofia, [3]2002 for Belgrade.*

Table 1.1 summarizes population growth data of the three cities. The overall growth of the two South East European capitals after 1990 is pronounced, whereas the overall growth of the population of Rome is modest. However, the three cities have parallel trends with regard to the balance between central and suburban growth. The population of the suburban areas is growing quickly: for most suburban areas of the three cities, the growth in the last two decades is between 20 and 30-35 percent, with the highest growth (46.7 percent) taking place in the southern suburban districts of Sofia. As the population in the suburban areas has grown, the population of the central areas has dropped – in Sofia and Belgrade by 7.6 to 29.3 percent in varying districts and by 11.8 percent in Rome's wider central area (the intermediate communes). Population growth in the suburbs paired with population decline in the central areas is a key indication of suburbanization. Of course, growth is not uniform across all peri-urban areas. In Sofia in particular, a disparity among southern and northern suburbs exists. In contrast to the extreme growth in the southern zone, the northern suburban zone is, as a whole, experiencing negative growth: the variation oscillates between +20 and –46 percent in different districts. Because of the divergent trends in Sofia's southern and northern suburban zones, we have classified them as two different zones in Figure 1.4, Table 1.2, and throughout the rest of the paper.

In Rome, population growth was 1.43 percent while that of urban area is 6.80 percent between the years 1991-2001. In Sofia, population growth is forecasted to increase 18-20 percent by 2025, while the Grand Master Plan accommodates for 31.5 percent urban area growth for the same period(?). While residential density in Sofia has traditionally been 50-60 inhabitants/ha since before World War II up until the 60s and 70s, gross density in the urban area (excluding parks) has decreased to 43 inhabitants/ha according to data from 2001. The Grand Master Plan projects continued decrease to 39 - 40 inhabitants/ha. Of the three cities studied here, Belgrade has the smallest urban area. With a population of 1,576,000 residents in 2001, the total area of the city in the same year was 20,727 ha. This makes a gross density of 76 dwelling inhabitants/ha, which is 3.5 times higher than the density of occupation in Rome. This explains why the Master Plan of Belgrade projects the most significant spatial expansion of all three cities - almost 46 percent. Whatever the reasoning behind the provisions of the plan, the planned trajectory is of an urban structure that "spills over," more akin to sprawl than compact growth.

Conclusion concerning suburbanization in Sofia, Belgarde and Rome

According to the indices presented above, all three cities are suburbanizing because;

1) The percentage of the expansion of the urban territory exceeds the percentage of population growth in each case.

2) Central areas of each city are suffering a loss of population, while the number of residents in peripheral locations is growing.

1.2.2. Demographic trends in central and peripheral areas

Research question: - If the population of peripheral (or suburban) territories is growing, is it correlated with positive or negative population growth in the central territories?

Demographic trends in Sofia

The study will adhere to the following classification of districts, as broken down in Figure 1.4:

1) Central districts (city centre) – Sredets, Vazrazhdane, Oborishte
2) Intermediate or semi-central districts – developed during the first half of XX century – Krasno selo, Serdika, Poduyane, Slatina, Izgrev, Lozenets, Triaditsa, Krasna polyana, Ilinden
3) Peripheral districts – developed during the second half of XX century, mainly socialist housing estates (prefab housing) – Nadezhda, Iskar, Mladost, Studentski, Lyulin

The suburban districts are classified in two groups:

4) The very attractive southern suburban districts – located at the foot of Vitosha mountain – Vitosha, Bankya, Ovcha kupel, Pancharevo
5) The less attractive norther suburban districts – located in the plains to the north of the city – Kremikovtsi, Novi Iskar, Vrabnitsa

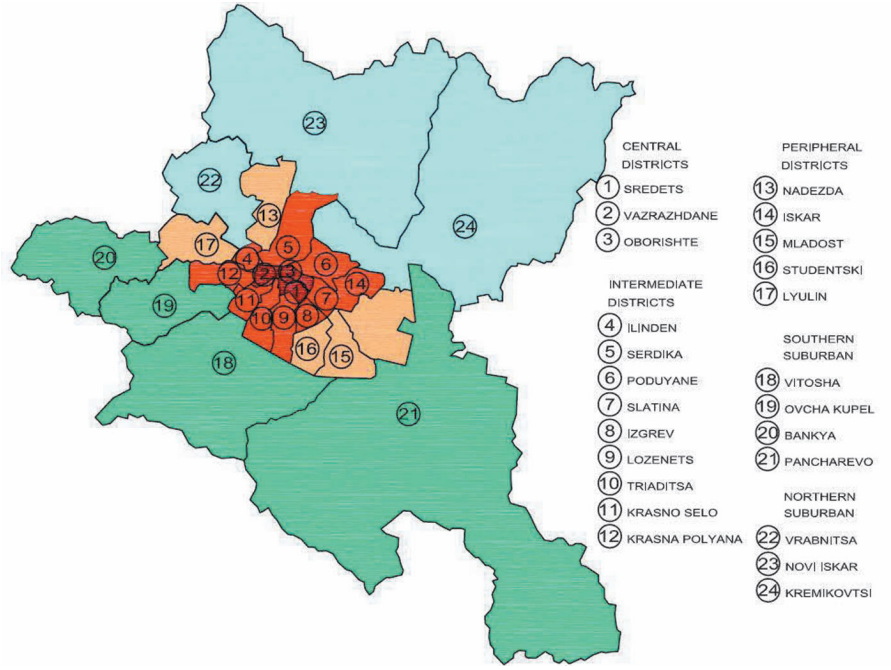


Figure 1.4: Map of the districts of the Municipality of Sofia by types

The diverse districts that comprise Sofia Municipality exhibit demographic trends with considerable disparities. These differences are distinctly indicative of a process of suburbanization. See Table 1.2.

Table 1.2: Trends of demographic development of the districts of Sofia in the period 1985- 2011

	1985	1992	2001	2011
Central districts	**147828**	**116524**	**94651**	**100786**
Srtedets	54464	41104	31108	32423
Vazrazhdane	47399	40365	34742	37303
Oborishte	45965	35055	28801	31060
Intermediate districts	**502311**	**454425**	**468174**	**512772**
Krasno selo	81576	77138	72302	83552
Serdika	51646	45259	45711	46949
Poduyane	57153	52809	75004	76672
Slatina	56846	56599	58281	66702
Izgrev	35552	30515	28639	30896
Lozenets	48840	38315	44679	53080
Triaditsa	69902	60568	55530	63451
Krasna polyana	61106	58120	54363	58234
Ilinden	39690	35102	33665	33236
Peripheral districts	**362615**	**399651**	**386989**	**420826**
Nadezhda	73891	70837	67847	67905
Iskar	48004	64670	64171	63248
Mladost	96773	102088	95505	102899
Studentski	37747	47849	50368	71961
Lyulin	106200	114207	109098	114813
Southern suburban districts	**90937**	**106780**	**123972**	**156606**
Vitosha	41445	38484	42953	61467
Ovcha kupel	17608	37012	47380	54417
Bankya	8299	8228	9297	12136
Pancharevo	23585	23056	24342	28586
Northern suburban districts	**98028**	**112755**	**97056**	**100601**
Vrabnitsa	22612	39768	47260	47969
Novi Iskar	31765	29265	26544	28991
Kremikovtsi	43651	43722	23252	23641

Prepared by the authors based on NSI 2012, Census 2011, Sofia (capital)

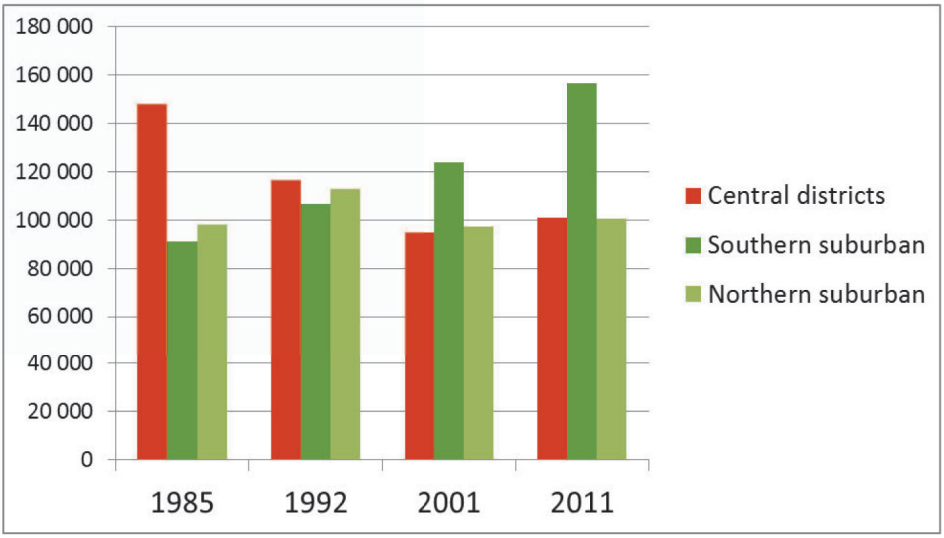


Figure 1.5: Changes in the number of the residents in the central and suburban districts of Sofia

Prepared by the authors based on NSI 2012, Census 2011, Sofia (capital)

Figures 1.5 and 1.6 illustrate the processes of change in absolute terms, i.e., by number of residents. The number of residents is greatest in semi-central and peripheral districts. More importantly, we see a decrease of population in central districts from 147,828 to 100,786, while the population of suburban district A is grows consistently from 67,352 to 128,020.

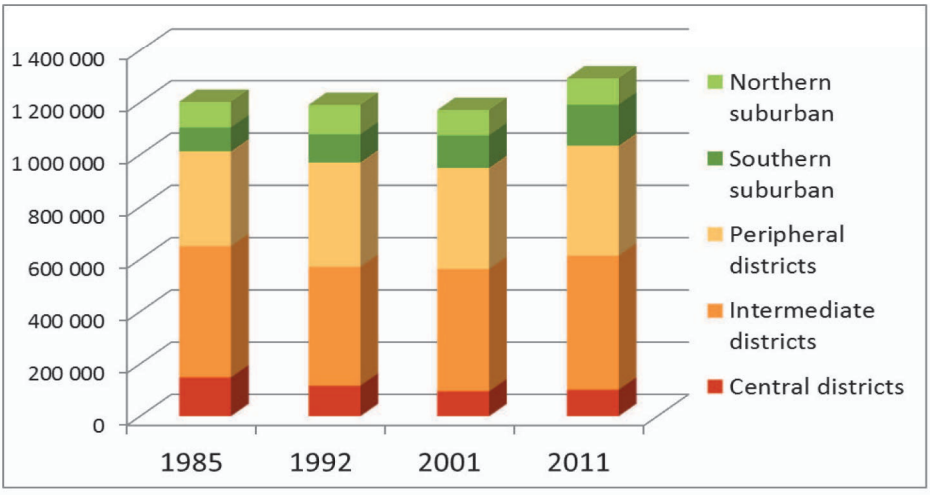


Figure 1.6: Share of demographic growth by district in Sofia

Table 1.3 and Figure 1.7 illustrate the same processes but in relative terms, as a percentage of total population growth by individual district. The population of central districts has decreased by 32 percent, while the population of the southern suburban districts has increased by 72 percent. Conversely, the population in northern suburban districts experienced only nominal gains. Therefore, the processes of intra-city migration during the last two decades has been directed primarily to the southern suburban districts – along the foothills of Vitosha mountain in the south of the city, rather than to suburban districts in the plains to the north.

Table 1.3: Changes and percentage of change in the number of the population in the different typs of districts of Sofia in the period 1985-2011

	1985	1992	2001	2011	Change 1985 - 2011
Central districts	147,828	116,524	94,651	100,786	**-31.8%**
Semi-central districts	502,311	454,425	468,174	512,772	**2.1%**
Pripheral districts	362,615	399,651	386,989	420,826	**16.1%**
Southern suburban	90,937	106,780	123,972	156,606	**72.2%**
Northern suburban	98,028	112,755	97,056	100,601	**2.6%**

Prepared by the authors based on NSI 2012, Census 2011, Sofia (capital)

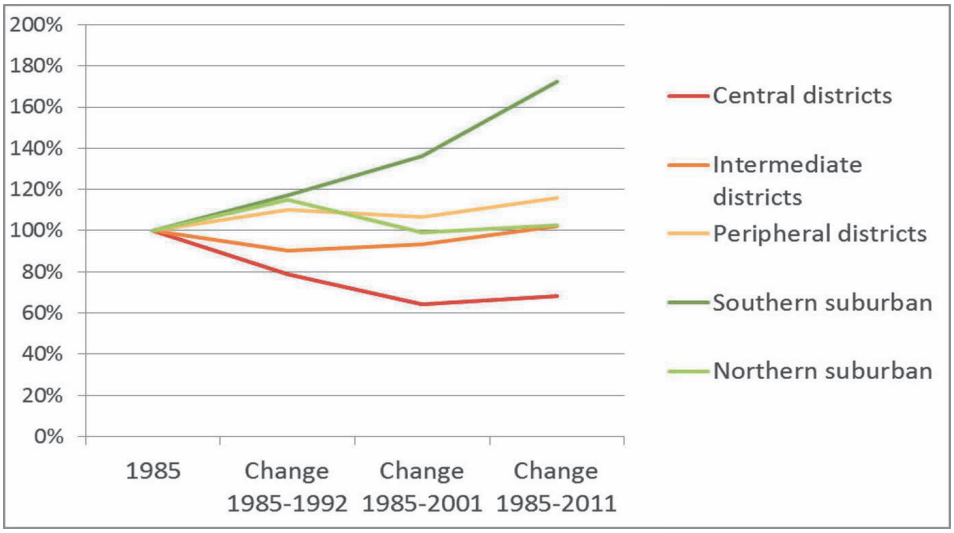


Figure 1.7: Percentage of change in the number of the population in the different typs of districts of Sofia in the period 1985-2011

Demographic trends in Belgrade

Belgrade metropolitan region is comprised of 17 communes/municipalities. Ten of these are urban (Voždovac, Vračar, Zvezdara, Zemun, Novi Beograd, Palilula, Rakovica, Savski Venac, Stari Grad, and Čukarica) and the other seven, suburban (Barajevo, Grocka, Lazarevac, Mladenovac, Obrenovac, Sopot, and Surčin). According to the Regional Spatial Plan of Administrative Territory of the City of Belgrade (2011), there are 3 parts of the City of Belgrade according to urbanization level: continuous urban territory (including 6 communes: Stari Grad, Vračar, Zvezdara, Savski Venac, Rakovica, and Novi Beograd, a total area of 126 km^2); inner urban territory of the city with peripheral belt of several individual settlements (including 4 communes: Voždovac, Čukarica, Palilula, and Zemun, a total area of 904 km^2); and the *suburban belt* (including 7 communes: Surčin, Grocka, Mladenovac, Sopot, Barajevo, Lazarevac, and Obrenovac, with a total area of 2,196 km^2).

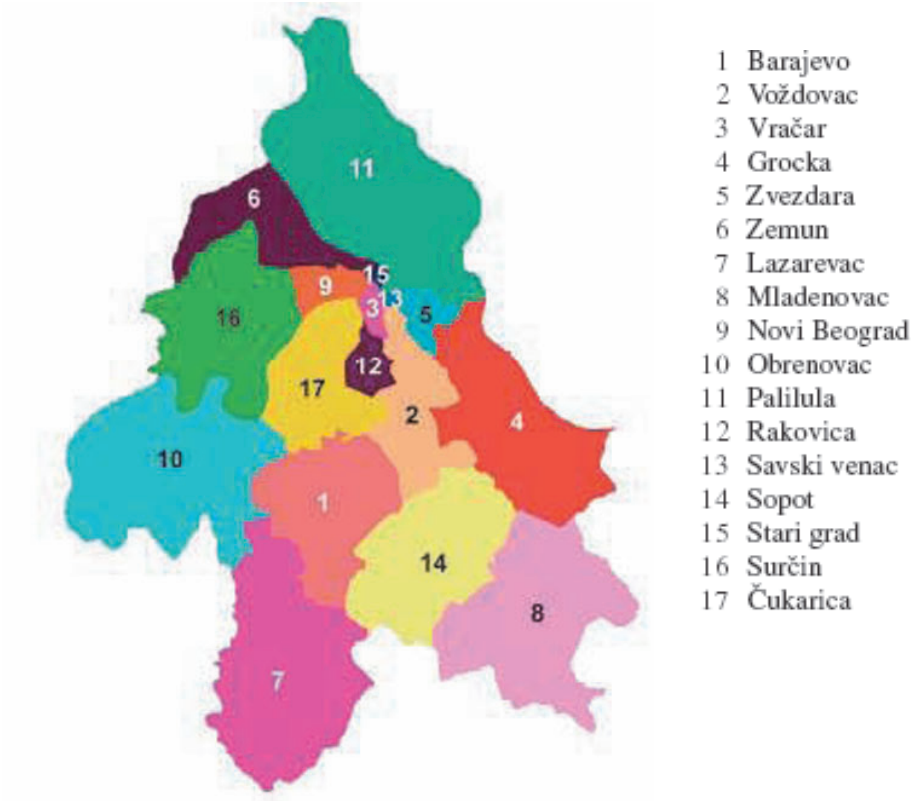


Figure 1.8: City of Belgrade communes by the Charter of the City of Belgrade in 2010

Table 1.4: Territorial encompass and the number of urban and other settlements within communes of the City of Belgrade

City of Belgrade communes (17 in total)	Type of commune (urban/ suburban)	Area (km^2) (year 2001)		Area (km^2) (year 2011)		Number of settlements	Urban settlements	Other settlements
		Total	Urban	Total	Urban			
Barajevo	suburban	213	-	213.12	-	13	-	13
Voždovac	urban	149	32	148.64	32.42	5	3	2
Vračar	urban	3	3	2.92	2.92	1	1	-
Grocka	suburban	289	-	289.23	-	15	1	14
Zvezdara	urban	32	32	31.65	31.65	1	1	-
Zemun	urban	439	100	149.72	99.92	2	1	1
Lazarevac	suburban	384	-	383.51	-	34	3	31
Mladenovac	suburban	339	-	339.00	-	22	1	21
Novi Beograd	urban	41	41	40.74	40.74	1	1	-
Obrenovac	suburban	410	-	409.95		29	1	28
Palilula	urban	447	45	446.61	45.36	8	3	5
Rakovica	urban	30	30	30.36	30.36	1	1	-
Savski Venac	urban	14	14	14.00	14	1	1	-
Sopot	suburban	271	-	270.75	-	17	1	16
Stari Grad	urban	7	7	6.98	6.98	1	1	-
Surčin*	suburban	N/A	N/A	289.00		7	2	5
Čukarica	urban	156	56	156.50	55.6	8	5	3
Total-City of Belgrade (the City region)		**3222.4**	**360.00**	**3222.68**	**359.95**	**166**	**27**	**139**
Islands		5.41						
Sava and Danube		22.25						

** Commune of Surčin was a part of the commune of Zemun until 2004*

Table 1.5: Total number of the population of the municipalities (communes) and changes in the number of residents in 2002 and 2011

City of Belgrade communes	Category of commune	Population 2002	Population 2011	Change	Percent of change
Vračar	urban	58386	56333	-2053	-3.52%
Zvezdara	urban	132621	151808	19187	14.47%
Novi Beograd	urban	217773	214506	-3267	-1.50%
Rakovica	urban	99000	108641	9641	9.74%
Savski Venac	urban	42505	39122	-3383	-7.96%
Stari Grad	urban	55543	48450	-7093	-12.77%
		605828	**618860**	**13032**	**2.15%**
Voždovac	urban+suburban	151768	158213	6445	4.25%
Zemun	urban+suburban	152831	168170	15339	10.04%
Palilula	urban+suburban	155902	173521	17619	11.30%
Čukarica	urban+suburban	168508	181231	12723	7.55%
		629009	**681135**	**52126**	**8.29%**
Barajevo	suburban	24641	27110	2469	10.02%
Grocka	suburban	75466	83907	8441	11.19%
Lazarevac	suburban	58511	58622	111	0.19%
Mladenovac	suburban	52490	53096	606	1.15%
Obrenovac	suburban	70975	72524	1549	2.18%
Sopot	suburban	20390	20367	-23	-0.11%
Surčin	suburban	38814	43819	5005	12.89%
		341287	**359445**	**18158**	**5.32%**
Total		**1576124**	**1659440**	**83316**	**5.29%**

Figure 1.9: Communes of the City of Belgrade by the level of urbanisation

Over the last ten years, some of the core urban municipalities have experienced a decrease in population, despite total population growth of the City of Belgrade. These are the communes Stari Grad, Savski Venac, Vračar, and Novi Beograd. As made evident in Table 1.5, the urban periphery is marked by the starkest population growth. The populations of the most remote suburbs (Mladenovac, Sopot, Lazarevac and Obrenovac) have not experienced any substantial change.

However, The population of all suburban territories around Belgrade has grown. What is more, this growth has occured at the expense of central areas. Among urban municipalities, Novi Beograd, Vračar and Savski Venac have lost 1.5, 3.5 and 8 percent of their population respectively. Stari Grad has been the most affected, with a loss of 12.8 percent.

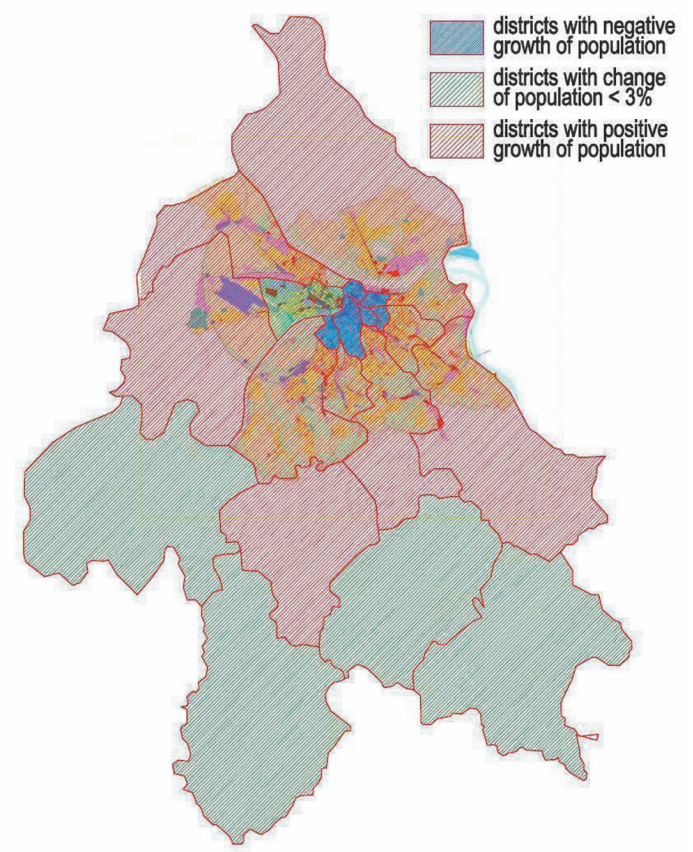


Figure 1.10: Changes in the number of the residents between 2002 and 2011 by districts

Demographic trends in Rome

The study undertaken by ISTAT (mentioned in the previous section) not only observed a loss of population in the metropolitan centers of the 13 largest Italian municipalities since 1951 – it confirmed the tendency of intra-urban migration to benefit neighboring peripheral municipalities at the expense of the center. The Province of Rome is an excellent example of this type of growth in peripheral and suburban locations.

The analysis of the Province of Rome found at least 8 peripheral or suburban areas which experienced substantial increases to their population between 1991 and 2001 (shown on Figure 1.11):

- the area along the sea coast in the north-west (Santa Marinella, Cerveteri, Ladispoli, Fiumicino) - an increase of 32%;

- the area along the sea coast in the south (Ardea, Anzio and Nettuno) - increase of 18.5%;
- the area of the lakes in the north – north west (Bracciano, Trevignano, Campagnano, Formello) an increase of 30%;
- the Sabina countryside in north area of the Province – an increase of 18% of population;
- the area of "countries" closer to Rome (Monterotondo, Fonte Nuova, Sant'Angelo Romano and Mentana) – an increase of 8% of population,
- the area outside Rome (Guidonia, Montecelio, Tivoli) – an increase of 8% of population;
- the area of the Castelli Romani in the south-east – an increase of 8.6 % of population;
- the area of Pomezia in the South – an increase of 17.2% of population.

Table 1.6. - Variation of population in the metropolitan area of Rome in historical series and in the forecast scenario.

Uraban and metropolitan regions	Variation in absolute value			Percentage variation		
	1991-2001	2001-2010	2010-2020	1991-2001	2001-2010	2010-2020
Center	-54,444	22,721	27,134	-11.7%	5.5%	6.3%
Semi-central	-49,543	-32,386	-38,682	-6.2%	-4.3%	-5.4%
Periphery	-21,716	-47,475	-57,513	-2.3%	-5.2%	-6.6%
Outer periphery	98,270	73,790	77,425	16.0%	10.3%	9.8%
Metropolitan area	100,302	244,274	281,704	14.7%	31.3%	27.5%
Suburban area	10,102	30,680	38,430	4.8%	13.8%	15.2%
Metropolitan periphery	-173	605	2,387	-0.6%	2.1%	8.3%
Border Communes	-244	-166	423	-3.8%	-2.7%	7.1%
Other (special functions)	6,503	11,338	14,657	57.8%	63.8%	50.4%
Not localized		40,563	48,446			
TOTAL	**89,057**	**343,944**	**394,411**	**2.4%**	**8.9%**	**9.4%**

Source: CRESME's processing on data provided by ISTAT, Anagrafe Comune di Roma and DEMO/SI

Data supplied by the Statistics Office of Rome about residents moving patterns in Rome's 19 municipalities is indicative of sprawl because the balance between

moving-in and moving-out is negative for the inner Municipalities. Municipio 1, the historical city – has the worst negative balance (–8660), while the peripheral municipalities have positive balances. Municipios 13 and 8 have the highest positive balances (+14204 and +13560).

The main driver of the increase in peripheral populations of Roma Comune is the cost of housing. Young families and even retired people looking to optimize housing costs move to the periphery and other more affordable Comuni surrounding Rome and located within the Metropolitan area.

Table 1.7 –Balance of internal flows per Municipality (2002-2008).

Municipality	Amount
8	14204
13	13560
12	4347
10	3934
4	2985
19	1595
20	1574
18	-732
16	-1486
15	-1787

Municipality	Amount
2	-1806
3	-2158
11	-2999
17	-3022
7	-3703
9	-3943
5	-5005
6	-5502
1	-8660

Source: Processing of Statistics Office of Municipality of Rome data

Metropolitan Rome is characterized by strong international (legal and illegal) immigration. During the years 2002 – 2008, foreigners accounted for 11.5 % of displacement in Rome. This trend has intensified over recent years, accompanied bya decrease in Italian population. Between 2002 and 2003, Italian population decreased by 10,000. Over the next five years, the number of displaced reached 108,000 units. The official survey of international immigrants within the metropolitan area goes from the 131,000 in 2001 to 442,000 persons in 2010.

Most immigrants, who come to Rome, come in search for livelihood. They seek out housing in the lowest range of market cost, which is typically found in the peripheral zones and surrounding Comuni. The new areas being built in surrounding Comuni are built in response to this consistently rising demand for housing for families cannot afford to live in the city. All the trends indicating population flows from already built to external areas result in dwindling densities across the board (e.g. one large apartment is occupied by only one person or a couple). This fact must be considered as among the top causes of urban sprawl.

It is relevant to note that the peripheral Comuni are ill prepared to manage the intensive soil demand and transformation. Obsolete and inefficient master plans, lack of professionalism among public officers, poor design, lack of adequate infrastructure (parking, facilities) and insufficient quality of building construction are several negative aspects characterising the urbanization and consequent soil sealing, driven by constant and growing demand for affordable housing.

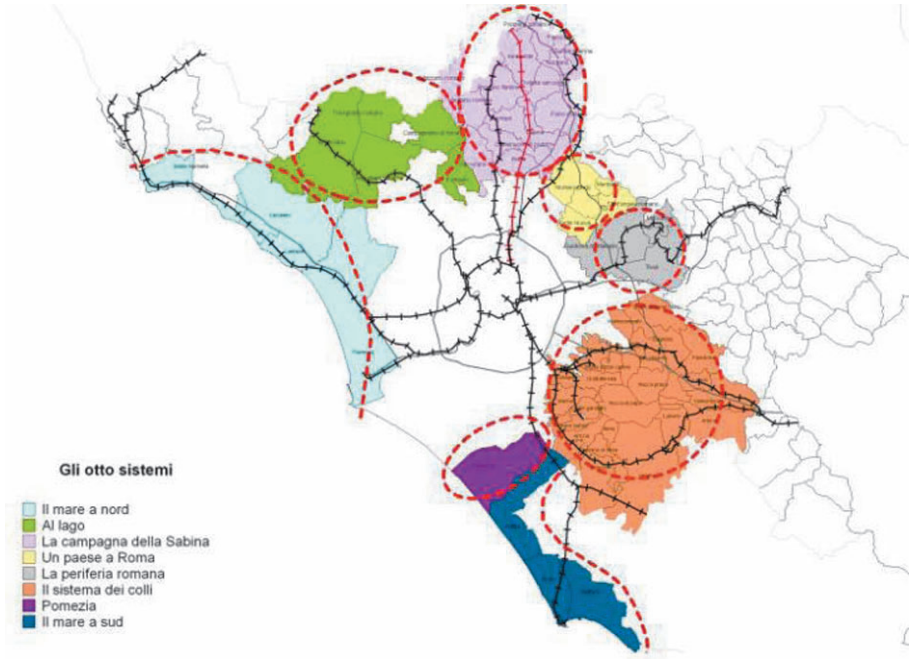


Figure 1.11 - The eight dynamic areas of the Province of Rome

1.3. Preferences of the population – market demand as a major determinant of urban development

Research question: - What residential preferences have been formed during the course of historical development in the cities Sofia, Rome and Belgrade and under what circumstances, particularly with regard to settlers in the suburban territories.

1.3.1. Historical development in Sofia, Belgrade and Rome and the formation of a specific type of market demand

In a market society, it is ultimately those who settle in the urban fringe who are the major driver of suburbanization. Thus, in post-socialist society, it is important to understand the nature of the drivers behind the decisions of individuals. Investigating the factors, which encourage residents to favor sprawling forms, can shed some light on market supply and demand.

Although the forms of market driven urban expansion demonstrate impressive variety, modern theory of urban planning identifies two prevailing types, as has already been emphasized in the introducing paragraphs of Section 2. We adhere to this typology as we term “type 1” the form of suburbanization typical in highly developed capitalist countries –so called "Western" suburbanization, characterized by neighborhoods that accommodate middle and upper class residents (Fielding 1989; Fishman 1987), which offer a high standard of living and ample, lush landscaping. The second is termed “type 2” suburbanization, generated by "rural-to-urban" migration. These migrants are, above all, comprised of poor rural strata, who are seeking improved chances of livelihood in big cities (Korcelli, 1990). Such a pattern is typical of the developing world today, but could also be observed in western countries during the post-war period.

Despite that the two outlined forms of suburbanization are mostly typical of market societies; similar processes were observable in Eastern Europe during the socialist period, but with very different causes and driving forces. First of all, the drivers of "Western" type 1 suburbanization did not exist in socialist countries because of a lack of wealthy strata to express motivations and preferences for this type of housing. However, trends of "rural-to-urban" migration were similar to those in the western countries in the post-war period. However, in Eastern and Southeastern Europe they were even more intense. With this in mind, several significant conclusions about the drivers behind suburbanization can be made.

- First, in a market society, residents' preferences and motivations are one of the primary factors for the patterns and trends of urban development.
- Second, historical experiences and traditions developed over the course of generations and different stages of development compose residential preferences and motivations and thereby, the patterns of urban sprawl.
- Third, the question of whether suburban development is of type 1 (as in developed capitalist countries) or type 2 (induced by "rural-to-urban" migration) should be answered by studying the preferences and motivations of residents, who settle in suburban areas.

The goal of the research in this part of the study is to identify the connection between the nature of the analized processes, the motives of those who settle on the urban fringe, to investigate in more details the reasons for their preferences and, thus, to understand the market trends of demand and supply and the resulting market play, which serves as the engine of the realization of the processes of suburbanization and sprawl.

Although the forms of urban expansion, growth or sprawl demonstrate impressive variety, according to the prevailing urban theory there are of two main types - first, typical of highly developed capitalist countries, and the second - a typical especially for the developing world. Typical of the first (so called "Western") kind of urban form are neighborhoods that offer a high level of urban environment, high standard of living and urbanization. There settled mainly representatives of the middle class, but also are available ones for people of the richer and richest strata (Fielding 1989; Fishman 1987). In contrast to this pattern in developing countries are mainly observed forms of urbanization due to migration of the population "from the village to the city". These are, above all, poor rural strata seeking better livelihoods (Korcelli, 1990).

Despite that the forms of urban sprawl listed here are mostly typical of market societies in times of socialism similar processes were also observed, but their underlying causes working in a very different way First, the suburbanisation of the "Western" type (as described above) is generally not observed in socialist countries. Meanwhile, migrations "from the village to the city" were similar to Western countries, but they were even more intense. As a result several significant conclusions can be made, which are crucial for the analysis of preferences and motives of people in various forms of urbanization in the suburban areas.

First, in a market society, residents' preferences and motivations are a major factor for the patterns and trends of urban development.

Second, historical experience and the traditions developed in different stages of development of any society are crucial to the formation of its residents' preferences and motivations and hence, to the patterns of urban sprawl.

Third, study of preferences and motivations of people have to answer whether the suburbanisation of suburban areas is of type 1 (that of the developed capitalist countries) or type 2 (induced migration "from the village to the city").

Generally: Type 1 new settelers in suburban areas are people with higher social status, with higher income and probably with higher education. Their main motive is to obtain a higher standard of living in an environment closer to nature at a lower density and a higher level of greening and landscaping. In type 2 settlers in suburban areas are people from other, mainly rural areas or smaller cities and towns of the country. The main reason for settlement in this case is usually seeking better jobs and better pay. In a wider context this second type of development of suburbs is generated by any immigration of larger numbers of people, who look for jobs in the big cities.

These are immigration processes not only form the villages surrounding the city or from the province, but also international immigration or immigration of people in result of major calamities or wars, etc. What is common between all such cases is that the immigrants are people in poor situation or with lower social status, in need of job. The urban forms usually produced by this type are relatively compact high-density suburbs, close to the urban core (because the new settlers rely mainly on mass transport services).

Historical formation of residential preferences in Sofia

The residential preferences and motives that drive suburban development in Sofia can be best understood when viewed in context of the city's historical development. The particular residential preferences which have been influential in the processes of growth of large Bulgarian cities and particularly Sofia, became especially evident during the preparation of the first general comprehensive plan – the Muesmann plan – mentioned in section 2.1. In this process, two divergent planning approaches emerged. One was held by the German architects led by Adolf Muesmann and the other by Bulgarian representatives involved in the planning process (the management of Sofia Municipality, the Chief Architect and other municipal officials, the architectural profession, the city's intellectual community). The approaches clashed especially when it came to the issue of suburban development. The position of Bulgarian professionals and public was shaped by the experience of urban development in the capital. From 1880 (the year after Sofia became the capital) to 1934 (the beginning of the development "Muesmann" plan), Sofia had grown from 20,856 to 287,095 inhabitants (NSI, 2009) and the urban area expanded from 3 square kilometers to 60 square kilometers. The population mushroomed almost 20 times over the course of 50 years (Lampe, 1984 pointed at Sofia as the fastest growing Balkan capital). The cost of infrastructure to support such rapid urban expansion was a worry for the young municipality.

Given that in this period the capital had become the industrial center of the country in which 50% of the industrial (manufacturing) workforce was concentrated, population growth of that time was fuelled not by type 1, intra-urban migration, but type 2, rural to urban migration. Meanwhile a large number of refugees from the Balkan wars settled in Sofia. Like the immigrants from rural areas, war refugees settled in the capital city mainly in pursuit of livelihood, again reinforcing the typical "rural-to-urban" migration form. Thus the new suburbs were shabby and unattractive to the middle and upper classes of society and Sofia's wealthy residents preferred to avoid living in the periphery. This explains why setting a limit to city

expansion was an important objective of the plan at the start of the drafting of the General Plan Sofia Metropolitan Municipality. The reasoning behind this was that urban boundaries were already too spread out and inability of the Municipality to pay for and provide infrastructure in newly urbanized areas.

However, Adolf Musman had a very different view of growth in suburban areas. He Adolf Muesmann had a very different concept for growth in suburban areas. He was fully committed to the ideal of a family house with a garden, an idea established in Germany that reflected traditional national values of that time. Accordingly, Muesmann planned for the development of single family housing in large undeveloped territories in the city periphery. Such a view was not popular with the public and city officials. Due to pressure from the Sofia Municipality, Muesmann had to revise his views on a number of occasions (Hirt 2007b), but still the projected territorial expansion remained so large that it could not be realized.

A second period of urban development in Sofia which considerably shaped residential attitudes towards suburban development is the era of socialism. During this period, socialist industrialization garnered some of the highest rates of population growth and urbanization in peripheral areas. As we described in section 2.1., the Sofia General Urban Development Plan (GUDP) is associated with a paradox: the compact version of Neikov which was passed and the expansionary concept of Siromahov – which was actually implemented in the decades that followed. One major reason behind the switch from compact development to urban expansion is the immense growth experienced over four decades (from 1946 to 1985), when the city's population grew 2.3 times (by 670,000 inhabitants) and reached 1.2 million. Accommodation of this growth would have been difficult to achieve within the boundaries of the city of 1961 and the main resources to accommodate the expansion were the lands on the urban periphery. The urbanization of that period was based on a system of prefab panel construction. Sofia's "socialist suburbs" – several gigantic, peripherally located residential complexes which, of course, were radically different from the suburbs, provisionally identified above as "type 1" or "type 2". In capitalist countries similar housing types can be found looking at the French and Italian peripheral housing estates, although there are differences in the quality of housing, landscaping and maintenance of open spaces in the Bulgarian case. The point here however, is how these peripheral developments affected residential preferences and motivations. The end result of these developments has been a discouragement of residents to live here – despite the desire to settle near the capital city, because these prefab socialist housing complexes are associated with low quality construction and lifestyle. In a socialist society there is no upper-middle class or large enough wealthy strata to implement the model of luxury suburbs ("type 1" of developed Western countries). Thus, new residents had no other choice but to settle in the socialist suburbs. This aspect has had a strong impact on Bulgarian urban populations, in effect reinforcing the appeal of the city center and residents preference to live in central areas.

Historical formation of residential preferences in Belgrade

In the first phase of urbanisation, the concentration of population in Belgrade was the result of the concentration of socio-geographic and economic functions in the city.In consequent phases of urbanisation, the decentralisation of work places introduced development of new centres which became work-residency suburban areas and secondary poles of daily commuting.

The socialist regime of the former Yugoslavia (centralized power at the state level) had to find creative ways to cope with large number of new urban dwellers, while having limited resources to accommodate residents' housing needs in the capital city Belgrade. The population influx created intense pressures on Belgrade's housing stock, which was partly developed by means of state companies or state organs that were entitled to develop flats for their employees. While this effort resulted in the creation of model settlements on vast vacant sites, e.g. Novi Beograd (New Belgrade), it did not fully meet the overall high demand for housing. The rest of the incoming population to the city, such as commuting industrial labour force, had to seek accommodation in the former agricultural communities around Belgrade which often turned into "dormitories". This created urban disproportions wherein different groups of immigrants ended up on different ends of the spectrum of inequality. While certain categories of immigrants, namely those who were accommodated in the state-owned flats, had been effectively integrated into city life, other categories were forced to build (often illegally) homes on their own, in remote parts of the city periphery. State policy thus resulted in the development of the two peripheries – a relatively well-serviced, organised periphery, and an autonomous, "wild" periphery with suburban composition of privately built, privately owned houses, but largely devoid of infrastructure.

In the more recent past, i.e. during the 1990s, a considerable wave of more than 200,000 immigrating refugees from the Yugoslav wars looked for permanent residency in Belgrade (Živanović, 2008). Most refugees settled in the urban fringe, i.e. in suburban municipalities because of the lower price of land. Typically, the immigration of refugees is very similar to the rural-to-urban migration because the new suburban settlers are looking for livelihood and for inexpensive land and affordable housing. In both casesthe price, not the housing quality,is the primary consideration.When observing the share of immigrants/refugees in the total population of central and peripheral parts of the City of Belgrade, there are noticeable differences. For example, older communes of the city centre (Stari grad, Vračar) have proportionally much less immigrant/refugee population in comparison to some other urban communes (e.g. Novi Beograd, Zemun). Similarly, certain suburban communes (e.g. Barajevo, Grocka) have an even larger proportion of immigrants (especially refugees).This can be partly ascribed to the property prices which are considerably lower in the periphery than in central parts of Belgrade. The housing deficit in Belgrade, which is compounded bythe need to accommodate a growing population, has caused significant residential pressure on suburbs and greenfields of the City of Belgrade (e.g. Zemun corridor, belt of motorways to Surčin, Batajnica and Novi Sad; Ibar direction; Avala direction; Zrenjanin direction, etc.).

To summarize, the growth of the population in Belgrade during the socialist period was extraordinary. The city grew by more than a million. On one hand, this was a result of a process typical of all countries of the Eastern block – the policy of socialist industrialization attracted massive flows from rural areas constituting type 2, or "rural-to-urban" migration. This fueled the socialist type of urbanization in large housing estates with, mainly, prefab apartment blocks. On the other hand, however, those housing estates were dissimilar to the prefab housing estates in most socialist countries, mainly because of the different nature of Yugoslavian socialism. These estates were well-serviced, with better housing and more amenities. Along with these typical "socialist" suburbs, "wild" suburbs in the urban fringe emerged, comprising mainly self-help private housing that, in fact, was of an even worse quality. During the last couple of decades these type of suburbs grew further due to continuing flows of refugees and internally displaced people. This had its influence on the residential preferences of the local inhabitants. Very much like in Sofia, the preference for single-family housing was diminished, as the better housing in Belgrade was in multi-family apartment blocks.

Historical formation of residential preferences in Rome

Rome, like many big Italian cities, was recipient of large masses of rural migrants in the first half of the XX century. The exodus to the city from the countryside was a result of the processes of industrialization and associated economic development.

In the period between the two World Wars, Fascist authorities devised a series of measures to contain the exodus from the countryside. *Legge Urbanistica Nazionale* of 1942 introduced a new type of plan - *Piano Regolatore Generale.* This was the basis for the founding of new towns, along with measures rehabilitating large rural regions in order to promote agricultural activities.

The reconstruction following World War II had a major impact on the suburban development of the large cities. In the decade 1945-1955, Italy took action in the old and established city centers, in accordance with the Marshall Plan (1947), using the new planning regulation *Piano di Ricostruzione* (Legislative Decree 154/45 and National Legislation 1402/51) in the place of *Piano Regolatore Generale*. New immigrant flows came from villages and small towns of central and southern Italy, where the war had largely destroyed the remaining rural economies. Thus more and more new suburbs emerged on the urban fringe of Rome, like many other big cities.

Therefore, until the 1960s, all historical circumstances in Italy provided for conditions favoring suburban development, with the exception of urban policy during the fascist period. This is typical for a society in a period of economic development – referred throughout this paper as type 2, or "rural-to-urban" development. In Italy, the characteristic features for this type to emerge were in place: the "village-to-town" migration, the residents of lower social layers, coming to the big city in search of employment, etc.

During this period,new suburbs often developed before municipal approval or the drafting of urban plans. These suburbs, the only accessible form of housing for many of the urban immigrants, were "spontaneous" settlements, resembling barracks

or slums on the urban fringe. Subdividing and construction in these suburbs was usually done without following any planning regulations. Self-help housing was built by the owners of small plots often working only during the week ends. Planning was often completely ignored and the lack of planning or regulation by Municipalities demonstrated their weakness. These informal settlements were legalized only after many years. In the Lazio Region, for example, the first was done in 1980.

The process of suburbanization continued to increase because as urban development continued outwards, the metropolitan area boundary became hard to define. Gradually, however, the nature of the processes changed. Whereas the first generation of suburbanization was expressed as geometric growth of the urban core, eventually the whole territory of the metropolitan region was considered for potential development. To meet the ever greater needs of a growing urban population, lands once far removed from the metropolitan centre were urbanized. At the core of this transformation, one may find substantial changes in lifestyles and technological processes that are traditionally associated with dispersed settlements. And while with the rise of the automobile ownership the problem of greater distances, associated with suburbanization, became insignificant, other problems such as traffic and air pollution would arise.

In summary, there is clear evidence that the processes of suburbanization in Italy had been strong form the first decades of the XX century. Over the course of decades, these processes have changed radically. Up until the 1960s, type 2 suburbanization caused by “village-to-town” migration was strong. From the 1970’s and onward, migration increasingly resembles type 1 “from centre to the fringe,” ostensibly this reflects the diminishing capacity of residents to come to terms with the high costs of living in the city center.

1.3.2. Analysis of current residential preferences and motives of in Sofia, Belgrade and Rome

Research questions: - What are the motives and preferences driving settlers into suburban territories? Are new residents looking for improved means of living or more attractive living conditions? Are new residents relocating from the central areas of the city or are they immigrants from other settlements?

What are the specific motives driving companies to choose peri-urban areas?

Analysis of current residential preferences in Sofia

The goal of this section will be to examine the contemporary preferences and motivations of the residents of the capital, which are the driving force behind Sofia’s suburban development trends in recent decades. Now that more than a quarter of a century has passed since the political changes of the late 1980s and the early 1990s, which marked the start of the transition from socialism, Bulgarian society can be defined as a democratic, market-led one. In a market society, type 1 (Western-style) andtype 2 ("rural-to-urban") forms of subrbanization prevail.Thus, our main goal at this point is to determine whether Sofia’s suburban trends should be defined more as

type 1, type 2 or third individual type. According to Hirt, 2007, for this purpose it is necessary to examine three main characteristics of suburbanization (Hirt 2007a, p 757): "(1) demographic (i.e., who settled in the urban periphery), (2) functional (i.e., what are the economic links between the center and periphery – which parts of the city do the residents of peripheral areas live and/or work in) and (3) motivational (i.e., where do the residents of peripheral areas come from and why they settled in peri-urban locations).

In studies of cities with similar socio-economic conditions – i.e., places which have undergone the transition from socialism to a market economy, researchers most frequently observed features of suburbanisation type 1 (Sýkora, 1994, Kok and Kovács 1999, Brade et al. 2001). In post-socialist countries, there are a number of characteristics which are contingent on specific geographical historical factors as well as the distinctive legacy of socialism: the existing housing stock, rapid economic processes, specific demographic trends and migration between urban, rural and mountain regions (Nuissl and Rink, 2005; Blinnikov et al., 2006). In accordance with the objectives and scope of this analysis for suburbanization in Sofia, special attention should be given to the work by Dr. Sonia Hirt (Hirt 2006, 2007a and 2007b). As the result of her analysis of Sofia's southern suburbs, Hirt reached the following conclusions:

First, (1) demographic characteristics confirm the assumption that suburbanisation is predominantly of a "western" type (type 1). The average income of new settlers in the suburbs was significantly higher than the average in the city or those suburban areas. In the survey, 40 percent of participating new settlers had a monthly income above 2000 lev, which is about four times the national average (in 2006). Moreover, new settlers were generally highly educated with 56 percent being university graduates versus 36 percent for longtime residents.

Second, (2) in terms of functional characteristics (economic relationship between peripheral regions and the city center – i.e. in what parts of the city do suburban residents work), the survey found that less than one-tenth of the new suburban settlers worked in the same or adjacent peripheral region, and nearly nine-tenths commuted to other parts of Sofia – mostly in well-paid and prestigious positions which are concentrated in central areas.

Third, (3) regarding reasons for relocation to particular suburban areas – Hirt found that 68 percent of new settlers came from inner-city areas rather than rural areas thus their motivations conform to suburbanization of a "western" type – whereby the suburbs are an escape from the city center for residents who are in search of better housing and landscaping.

Based on these observations, the study (Hirt 2007a, p. 775) concludes that the dominant process of suburbanisation in the picturesque southern outskirts is of a Western type (type 1), based on the demographic profiles, preferences and motives of new settlers in the southern periphery. These are primarily high-income, well-educated residents who are leaving Sofia with the aim of escaping the disadvantages of dense urban environments. The study found no evidence of "type 2" suburbanization, as only a very small percentage of new suburban residents settled in the southern periphery for access to employment, livelihood, etc.

The research made for the present study – including an analysis of the latest information and data from the National Statistical Institute (NSI) surveys, interviews conducted with ten leading real estate agencies, a survey of suburbanites' attitudes, as well as data obtained from the Agriculture Department and Agency confirm the conclusions reached by Hirt. However, some of the conclusions are being re-defined and characteristics are developing in their own right. In other words, characteristics of Bulgarian sprawl are unique and can be seen as a deviation of the traditional "Western model" (type 1) in a number of ways.

First, (1) demographic characteristics of new settlers gathered from poll data by real estate agents suggest significantly higher levels of social mix and a lower level of social segregation than the "Western" model. This can be attributed to several factors. For example, real estate brokers attribute less importance to high social status. Only just under half (45.5%) of new settlers are classified as high-income. About one third (36.4%) of respondents believe that the typical buyers in suburban areas are intellectuals, and slightly more than one-sixth (18.2%), place local residents in the buyer's group. It is significant to note that nearly four-fifths of the brokers placed low income people on second and third place amongst buyers (similar to the study, described later in this section, about preferences and motives for suburbanization processes around Riga). A likely cause for this result is the inclusion of the northern suburbs into the area of study. Property prices in the northern regions are typically half of what they are in the southern suburbs, where Hirt's research was focused.

Second, (2) the functional characteristics: Again, the data provided by the Metropolitan Municipality shows trends which differ from the traditional Western model. Namely, there is an unusually high level of integration between residential, service and industrial functions when compared to traditional forms of sprawl, albeit on a limited scale. According to the data, 13.7% of new building permits in suburban areas are for public-service buildings and 4.4% for industrial. According to the Agriculture Department, however, in the southern suburban areas, 19.5% of the land use changes are for production and storage purposes. Another 21.9% is earmarked for business purposes - administration, commerce and services, and housing occupies only 58.6 percent of the land. In the northern suburban areas, 51.2% of land use changes are earmarked for production and storage needs, 36.1% - for administrative, sales and service outlets and only 12.7 percent - for residential buildings.

Third, (3) the reasons for settling: all brokers (just like all studies referred to in this section) agree on the advantages of suburban areas - better environmental conditions, cleanliness and proximity to nature as opposed to the high pollution and noise in urban areas of the compact city. The "No Neighbors" factor is an advantage of suburban living that is also often quoted, but is ranked second, third or fourth in importance. The drawbacks of living in suburban areas can too be seen as a consensus. The most significant disadvantages are "the underdeveloped road

network, transport and infrastructure." A second drawback that has been identified by brokers is "the low level of overall security and anti- burglar measures."

A fourth distinguishing characteristic of the Bulgarian model is the preference for denser housing typologies. Data from Sofia municipality shows that new multi-family buildings comprise 28.5% of the total number of new residential buildings in the Vitosha district. According to data from NSI, the average number of units in multi-family building in suburban areas built in the period 2001-2011 is 13.3. Therefore, apartment units in multi-housing buildings comprise 83.8 percent of the total number of new homes. Furthermore, the study for the new General Urban Development Plan (GUDP) has found that about 76 percent of new housing apartment units are built within the compact city and most of the buyers are people with higher living standard – i.e., with incomes 25 to 50 percent higher than the average. These facts support the conclusion that Sofia's affluent buyers seek housing not only in the suburban but also in central and semi-central areas of the city (often called "wide center"). We observe that whereas the living standard of most new residents in suburban areas is higher than the average, there is no indication that all or most of the better off home buyers prefer peri-urban locations.

Finally, we observe that processes of suburbanization in Sofia are much slower than similar trends in Prague or Riga, for example. The rates of new construction in the central and intermediate regions over the last decade have been 2 times higher than those in suburban (Table 1.3). Therefore, based on all outlined findings, we conclude that the preferences of both regular (mass) customers and affluent buyers in Sofia are consistently focused on central areas or, at least, demand for suburban properties does not surpass central areas.

To summarize, the answer to the above research question is that suburban land in Sofia is sought primarily for housing. According to the statistical analysis of the Metropolitan Municipality, residential buildings in suburban areas account for 82% of all new buildings (as per issued building permits). In Vitosha district, this share is 84%, Pancharevo - 86.5% and Bankia district - 92.2%. The lowest proportion of housing as a share of newly developed lands (66.20%) is in Kremikovtsi. Furthermore, our analysis of the protocols of the Regional Directorate of Agriculture shows that one-fifth of land-use status changed in attractive suburban areas (the southern suburban zone) was designated for commercial retail and service functions. Another fifth was designated for production, storage and infrastructure needs. Hence, three fifths of the newly urbanized land remained for housing.

The above facts confirm that the drivers behind suburban development in southern areas are akin to type 1 suburbanisation (the Western model). However, this is not necessarily relevant to the resulting urban form. Rather, the resulting form of suburbanization exhibits significant local and regional peculiarities (south-east Europen features) – that are characterized by substantially higher levels of integration of non-residential functions, significantly lower levels of social segregation and development that is typically a mix of single family and multi-family buildings, where the latter type prevails.

Homes in these areas are bought not only by the affluent but also by a wide range of middle class buyers. We further observe that some more affluent buyers prefer the Vitosha "collar" because, though prices in the southern suburbs are high, prices in the city center (downtown) are even higher. Inevitably, some affluent suburban enclaves are established in the process as well. Conversely – areas to the north of the city are characterized by much lower prices and should therefore be attractive to "rural-to-urban" immigrants. The current statistics do not however explicitly confirm such a trend. In turn, these areas have been more and more attractive for non-residential purposes. The growth of services (commercial and public), however, is directly correlated to the level of residential development. In other words, the more new homes constructed, the higher the percentage of various public service facilities. This relationship has been confirmed by data from the National Statistical Institute (NSI) as well as the Metropolitan Municipality. The primary buyer of land and buildings for commercial use is the business sector and, respectively, the greater the available clientele the greater are the business interests. Another reason is related to convenient transport access, especially for large stores and centers that rely on customers from many parts of the city and not only on local people for business. There are large numbers of industrial developments in the northern territories, where more than half of the lands with changed land-use status are earmarked for production, storage and infrastructure purposes. This is most likely due to a) the established functional structure of the city from the "Neykov" plan, b) the lowest price of land near the capital, and c) issues related to the transport access - roads of lower, high and the highest class, railway lines and international airport. Naturally, industrial lands to the north of Sofia are purchased and developed by a whole range of actors and businesses - from small time investors to large national and multinational companies.

Analysis of current residential preferences in Belgrade

The Belgrade City region belongs to a very small group of Serbian regions which are experiencing a steady increase in housing construction (*Municipalities and Regions of Serbia - 2011*, SORS), as a result of population dynamics in the country. Current urban development in Belgrade is fuelled by a process of strong population growth in the peripheral urban territories. According to the data about Belgrade from the *2002 Census of Population, Households and Dwellings in the Republic of Serbia* (Statistical Office of the Republic of Serbia-SORS) the total population of the communes of Zvezdara and Rakovica and the urban parts of Zemun, Surčin, Čukarica, Voždovac, Grocka and Palilula has grown by more than 80,000 people. Simultaneously the population of central districts Stari Grad, Savski Venac and Vračar has dropped by approximately 13,000 residents. Nevertheless, these three communes hold a larger share of single households - over 30 percent, respectively, and those households are comprised largely of senior citizens. The City of Belgrade on average had the largest share of 2 people households. In this line, there is a correlation here between household size and distance from the city center – households with 5 and more people are particularly common in suburban communes, where households of 5 or more make up 15 percent or more of total households.

Table 1.8: Average real estates prices in EUR/m^2 in the City of Belgrade communes in the period 2008-2012

Year	2008	2009	2010	2011	2012
Barajevo	351.96	481.94	422.46	484.85	497.99
Voždovac	1,421.24	1,471.50	1,498.47	1,309.37	1,287.25
Vračar	1,938.08	2,026.38	1,922.19	1,814.25	1,687.50
Grocka	530.98	625.67	785.61	839.55	858.08
Zvezdara	1,387.55	1,472.69	1,485.44	1,412.43	1,349.48
Zemun	1,289.54	1,305.05	1,308.29	1,251.22	1,193.69
Lazarevac	590.68	635.35	643.81	698.13	650.71
Mladenovac	586.12	562.04	614.72	626.66	647.00
Novi Beograd	1,712.28	1,707.55	1,586.57	1,449.42	1,443.49
Obrenovac	579.96	622.90	706.78	670.92	687.62
Palilula	1,199.03	1,236.23	1,220.80	1,158.10	1,126.34
Rakovica	1,198.09	1,273.63	1,200.36	1,131.61	1,059.19
Savski Venac	1,859.35	1,963.99	1,737.72	1,746.49	1,712.47
Sopot	391.72	424.69	493.04	359.49	533.72
Stari grad	2,062.69	2,140.36	2,004.23	1,834.70	1,801.97
Surčin	505.65	654.91	839.36	758.67	624.52
Čukarica	1,264.47	1,340.01	1,280.65	1,.286.38	1,164.62
City of Belgrade	1,387.17	1,399.23	1,364.66	1,287.12	1,267.21

Source: Nacionalna korporacija za osiguranje stambenih kredita: http://www.mkosk.rs/srlat/content/indeks-cena-nepokretnosti-nacionalne-korporacije-za-osiguranje-stambenih-kredita [7.11.2012]

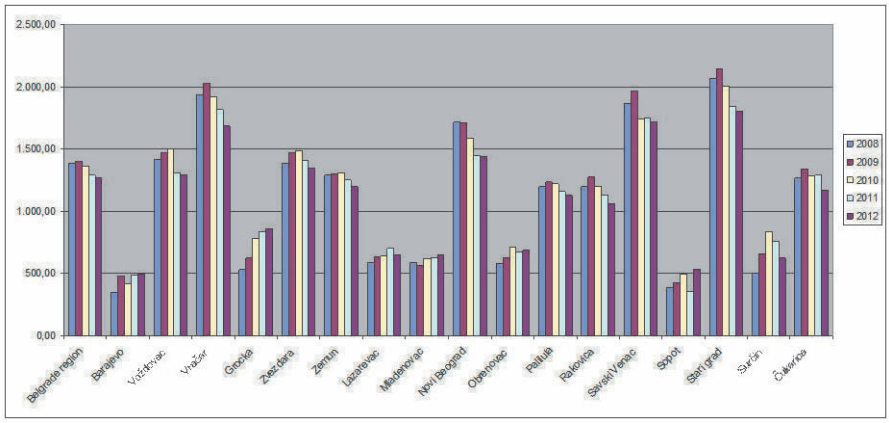


Figure 1.12: Average real estates prices in EUR/m^2 in the City of Belgrade communes in the period 2008-2012

Residential densities

Density of population in the City of Belgrade varies from around 75 people/km^2 (in Sopot) to more than 19,000 people/km^2 (in Vračar) (2011 Census). These rates and their changes through time are consistent with the observations made about the traditions of typical European densities, historically established preferences for compact urban forms and recent the trends of population growth in peripheral urban locations at the expense of population in central territories.

Table 1.9: Density of population in the City of Belgrade communes in the period 2002-2011

City of Belgrade	2002	2011	Change
Total-City of Belgrade	489.07	514.93	+
Stari Grad	7,957.45	6,941.26	– – –
Savski Venac	3,036.07	2,794.43	– –
Vračar	19,995.21	19,292.12	–
Novi Beograd	5,345.43	5,265.24	–
Zvezdara	4,190.24	4,796.46	+ +
Rakovica	3,260.87	3,578.43	+
Zemun	1,280.02	1,123.23	–
Čukarica	1,076.73	1,158.03	+
Voždovac	1,021.04	1,064.40	+
Grocka	260.92	290.10	+
Palilula	349.08	388.53	+
Barajevo	115.62	127.21	+
Lazarevac	152.57	152.86	+/–
Mladenovac	154.84	156.63	+/–
Obrenovac	173.13	176.91	+/–
Sopot	75.31	75.22	+/–
Surčin	N/A	151.62	N/A

Suburbanization of industries and jobs

According to the Regional Spatial Plan of the Administrative Area of Belgrade-Changes and Amendments (2011), industrial activity in City of Belgrade has been primarily located in a number of production zones, among

which the distinctive ones are: Gornji Zemun, belt of motorways and Pančevački rit, mining-energy sub-sector in Lazarevac, electric energy complex in Obrenovac, and several industry zones in Mladenovac.

A demand for commercial spaces is still concentrated in the central urban municipalities. For example, urban communes of the city core, i.e. Stari Grad, Savski Venac, Vračar, and Palilula comprise around 32% of total commercial space in the city, which represents a relative decline in their primacy as traditional centers of commerce. Of all communes, Novi Beograd has the largest share (27%, or 650,000 m^2) of commercial spaces. On the other hand, the 7 suburban communes only have a share of 9% (or 240,000 m^2) of total commercial spaces of the City of Belgrade.

A general observation of the City of Belgrade is that it is still a relatively closed system whose spatial organisation and expansion are rather influenced by residential movements than by daily commuting. Places of work are still concentrated primarily in the central parts of the City (10 urban communes/municipalities).

Analysis of current residential preferences in Rome

As explained in section 3.2.1, the processes of suburbanization in Italy and in Rome, in particular, were of the type identified in this study as type 2 (rural-to-urban) in the first half of the XX century and until the 1960s. However, although these processes persisted and even accelerated after the 1970s, the nature of migration has changed. Namely, two of the primary forces driving the contemporary processes of suburbanization in Rome resemble those of type 1 suburbanization:

1) Only a part of the new suburban settlers are "rural-to-urban" immigrants. While many new suburban settlers still come from villages and small towns in the province, today international migration is a much stronger trend. This trend is still comprised of immigrants looking for better job opportunities, albeit they are coming from more far away. The key factor in this respect is that most of the new suburban settlers have moved from the central areas of Rome.

2) The new suburbs are not compact urban settlements like some type 1 suburbs. The new suburbs are mainly low density discontinuous sleave-like developments along highways and roads of the transportation network around Rome.

The above conclusions are supported by the following observations:

First of all, intra-city migration is currently the leading trend of suburbanization. This is obvious when rates of population growth in central districts are compared to those of the territories outside the GRA (Grande Raccordo Anulare). The ISTAT data (processed by CRESME) in Table 1.10 displayed this trend clearly. Table 6 presents an extraction of Table 1.10 with sums added for the types of districts. The central area has lost about 183 thousand residents in the period 1991-2010, while the population of the metropolitan districts (the peripheral districts of Comune di Roma) has increased by 557.4 thousand residents.

Another conclusion that can be made from the data analysis is that in addition to "centre-to-periphery" migration, suburbanization in Rome is also fueled by large-scale international immigration to the capital city. International immigration to the Italian capital is extremely high – in the period 2001 to 2010 some 311,000 immigrants settled in Rome. This should be regarded as "international" scale "village-to-town" migration, since new residents are similarly motivated by improved job opportunities near the capital city. Accordingly, this international flow of immigration fuels suburbanization, because immigrants typically look for housing accommodation in the lowest range of market cost and, therefore, increase housing demand in the peripheral zone and surrounding Comuni. This type of suburbanization (type 2) is too changing, as the suburbs where the immigrants settle are no longer the "traditional" "type 2" suburbs – characterized by high-density, low-quality housing for poor people. Rather, these are areas of family houses grouped along a road network, since their residents rely on automobiles to go the city to work.

Table 1.10: Change in the number of the population in the districts of Rome 1991 - 2010

Districts	1991 -2000	2001 - 2010	1991 - 2010
URBAN COMMUNES			-182 843
Central	-54,444	22,721	-31,723
Semi-central	-49,543	-32,386	-81,929
Peripheral	-21,716	-47,475	-69,191
SUBURBAN/METROPOLITAN			557,418
Outer periphery	98,270	73,790	172,060
Metropolitan area	100,302	244,274	344,576
Outer metropolitan area	10,102	30,680	40,782
METROPOLITAN PERIPHERY			22
Metropolitan periphery	-173	605	432
Border Communes	-244	-166	-410

Source: CRESME's processing on data provided by ISTAT, Anagrafe Comune di Roma and DEMO/SI

The associated suburbanisation of jobs and services is also a factor that can potentially have an effect on the current processes of growth in Rome's periphery. Studies in this area indicate that some industries and services are unlikely to move to the urban fringe. According to research carried out by SCENARI IMMOBILIARI and SORGENTE GROUP, the market for non-residential real estate in Rome is 10.5 million square meters of private tertiary and offices, in addition to approximately 2.8 million square meters of public offices (Scenari Immobiliari, 2012). Often, the demand for non-residential real estate is concentrated in the area towards the inner

city or to areas easily accessible with public transportation. According to a study of the Camera di Commercio Roma (2012), offices for national and local public authorities are predominantly located in Rome's inner city. As these serve to represent authorities, they are typically found in prestigious locations and would hardly move towards the suburban areas (although some such changes are planned in the new Piano Regolatore di Roma, 2008). Conversely, small private enterprises, whose numbers have increased in the last period, have a tendency to move to peripheral areas, in part perhaps because they often are family-run. However, suitable locations are lacking. Public and private enterprises, also international ones, are mainly in the inner city and in the EUR neighborhood in the suburban area of the road Via Tiburtina.

A third study which is relevant, undertaken by the Province of Rome in 2010, concerns public and commercial infrastructure, services and utilities. The study highlighted how an increasing demographic polycentricity contrasts the increasing level of dependency of smaller municipalities on a predominantly centralized system of services. Presently, the growing demand for services in smaller municipalities is not satisfied by the supply, and certainly is not proportional to registered urban development. Rather, urban development of these areas has a residential character (defined *dormitory areas*) due to continued centralization of business activities. This illustrates a functional, economic and occupational dependency (i.e. employment opportunities) of the Comuni comprising the Province of Rome on the Comune of Rome. The situation is further exacerbated by the central location of other vital services, such as universities, trade fairs and congress sites. Ninety percent of public universities are found on the soil of the Comune of Rome and private ones are located exclusively in the Comune of Rome, as with trade fairs and congresses sites.

Every day from 15% to 30% of the population of the Province of Rome commutes towards the Comune of Rome for reasons of work or study (in many cases this percentage exceeds 30%). At present, the road network and transportation infrastructure is too weak to satisfy these demands.

Eventually, one more factor should be considered with respect to the conditions for the specific form of suburbanisation observed in Rome. This factor is the increasing number of dwellings available in the peripheral districts of the Comune of Rome. Since the 1971 census, the housing stock in Rome has continually increased, although the growth rate has slowed over time. According to the final figures of the 2001 census, houses in the City of Rome numbered 1,717,662, equal to 6.3% of the entire national housing stock. In this same year (2001), total housing floor area was found to be 34 square meters of housing surface per resident. In 2007, 17,165 new dwellings were constructed in Rome and listed in the Real Estate Register, some 9% less than the previous year.

With respect to territory, new housing units in Rome are built mainly inside the city borders, but the greatest part of new dwellings is outside the urban belt highway (G.R.A.) accounting for about 70% of new houses in 2007. This construction definitely exploits the vast expanse of city territories in Rome, but also the preferences of the residents for suburban living.

Finally, with respect to the issue of urban sprawl in Rome, the subject of this research, and with regard to all factors outlined up to this point, two macro-phenomena are observed in the settlement system in the Province of Rome:

- the City of Rome is characterized by loss of population, and by economic growth that attracts families;
- Municipalities on the periphery of Comune di Roma have positive and increasing residential rates, but weaker economic growth.

The main reasons for the observed "centre-to-periphery" migration are considered to be:

- the increasing price of housing in major centers, and cheaper options in the smaller, nearby municipalities;
- the increased availability of new buildings in the municipalities near Rome;
- the availability of diverse settlements (near the sea, on the hills, in small centers, 'the outskirts of Rome', etc.) and preferred types of housing (detached houses, terraced houses, or intensive developments, etc.) in the municipalities near Rome. Therefore the flows from the central districts to the suburbs are fueled also by the demand for lifestyle concepts such as 'green', seaside, country side, etc.

A final consideration for understanding the type and the nature of suburbanization in Rome is the study of the motives and residential preferences held by new settlers, for it is actually these preferences which generate and foster the processes fueling suburbanization and sprawl.

Contemporary suburbanization in Rome is a result of both 1) intra-city migration to the suburbs and 2) immigration from provincial areas as well as from other countries (i.e. very strong international immigration) comprised of people in search of work. Though the second type of migration is motivated by employment opportunities, the decision to settle in the suburbs is always at least partly motivated by the pursuit of better living conditions and higher standard of living. The price of housing per unit in suburban locations may be lower than in the inner city, but a small house in the suburbs can be more expensive to buy or to rent than a small apartment closer to the city centre.

People immigrate to or reside nearer to the city in order to have a wider choice and better access to jobs. However, there is also a widespread preference to live away from the city centre, away from industries, noise and stress and even from many social services and activities deemed too intense. This preference (not just urban planning and zoning) is, no doubt, one of the main reasons for the mono-functional "spontaneous" development of the suburbs. Respectively, it is also the reason why many suburban settlements have poor access to industries and services and limited social infrastructure.

Technical infrastructure and road networks are indeed insufficient in the urban fringe. New settlers are typically well aware that by choosing to live in the suburbs, they will have to rely only on automobiles for transportation (and they, apparently, already have the respective minimum living standard). What is more, due to the popular perception that infrastructure is an obligation of the local authorities, the

municipality is now considered responsible for the development of necessary road and utility networks.

The main conclusion is that suburban development in the periphery of the city of Rome is comprised of a mixture of suburbanization caused by migration of type 1 and type 2. Suburbanization is obviously generated both by immigration of people looking for jobs to make a living and by intra-city, or "centre-to-periphery," migration. However, because of historically shaped traditions and residential preferences and associated current market trends, this mixture of type 1 and type 2 has resulted in urban forms that are typical of urban sprawl – scattered, leap-frog, low density mono-functional housing areas (dormitory zones), which are resource intensive and impose car-dependant life-styles.

1.4. Availability of lands for urbanization in suburban areas of Sofia, Belgrade and Rome

1.4.1. Geographical, historical and other local factors for availability of land for urban expansion

Factors for availability of suburban land in Sofia

Sofia occupies a significant part of the Sofia valley at the northern foot of the Vitosha mountain. These geographical features demarcate the limits for expansion of the city. The mountain foothills mark the south and west of the capital (Vitosha, Lyulin, Lozen Mountain). These areas are considered particularly attractive by most people and, mainly, by those who aspire to move to suburban areas. These territories, however, are also inherently limited by the mountains, especially, the Vitosha Nature Park. The north of the city which is in the Sofia valley attracts much less interest in housing development. Furthermore, the valley is an important area of agricultural production, which sustains city residents. Despite the not so favorable soil and climatic conditions (which define the lower yields per hectare), agriculture is an important sector of the regional economy mainly because of its proximity to such a major consumer center as the capital city (as emphasized by the Development Strategy of Sofia District). Although average crop yields per hectare are only 55% - 65% of the national average, this region has one of the highest shares of utilized agricultural lands in Bulgaria (Development Strategy of Sofia Distric - p.31).

Historically, there have been numerous anthropogenic factors that have stymied opportunities for utilization of the northern territories for residential purposes. The development of large scale industrial zones, namely Kremikovtzi and Elin Pelin, in the northern territory have had adverse effects on the environment (Development Strategy of Sofia District - State of the Environment) and on living conditions in nearby areas. This remains the case even after significant environmental improvements following the closure of the steel plants in Kremikovtzi – the largest metallurgical complex in the Balkans. On the other hand, areas in northwest, northeast and southeast are very well-connected as a result of the development of transport links along the European Transport Corridors (ETC) 4 ETC 8 and 10. Meanwhile, poor railway infrastructure currently impedes access to and from the northern areas of the municipality.

Factors for availability of suburban land in Belgrade

Belgrade's historical urban core lies at the confluence of the rivers Sava and Danube. Due to its position, Belgrade was called "the gate" of the Balkans. Belgrade lies in the Danube valley, which connects the Western and Central European countries with the countries of South-Eastern and Eastern Europe. Because of its position on the Danube river, Belgrade became a very important river port connecting the Black Sea with the Rhine-Main-Danube canal (the North Sea -

Atlantic - Black Sea). Since the 19th century, the city has been expanding to the south and east. After World War II, New Belgrade was built on the left bank of the Sava river. Today, the city lies at the crossroads of Eastern and Western Europe (the European Transport Corridor X and the European Transport Corridor VII - Danube) which leads through the Morava-Vardar valley and Nišava-Marica valley to the Aegean Sea, Asia Minor and to the Middle East.

In the following section we will provide an overview of the historical context of construction land development as it relates to urban development in Serbia. The historical development of legal construction in Serbia spans from the ancient and medieval times, the 19th and early 20th century capitalism to the socialist and post-socialist periods. The essence of European *acquis communautaire* is the implementation of the principle of legality *(principe de legalite*), concept of legal state (*rechtsstaat)* and *rule of law* within two legal systems - European continental law and the Anglo-Saxon common law. Both systems have adopted numerous institutes of Roman private law, with amendments and addendums, particularly regarding real property law. Post-socialist countries, including Serbia, have created a new framework for regulating a myriad of different interests in construction land development. There is a discrepancy between legal and real property elements in urban development, especially in the less well defined post-socialist system. In the process of regulating construction land, one notices a constant conflict between regulations and the situation on the ground, between private and public property and divergent interests, between economic interests and social requirements, characterized by strong battles (with shares, finance and capital, especially in the real estate market), followed by conflicts in the political/government arena.

The development of construction land in Serbia is determined by the framework and influence of three different historical contexts, in which different political and socio-economic systems dominated (Zeković et al., 2016). Contemplatively, **the first context** was formed in the mid-19th century until World War II. This context incorporated an economic order based on *capitalism* and the *development of civil society*, in an undeveloped agricultural country. The **second context** begins in the aftermath of World War II and lasts until the year 2000. This period is characterized by an *authenthic development of a socialist system*, in three phases: **a)** ***Phase of administrative-centralist system and post-war restoration*** (1946-1950), b) ***Phase of the authentic socialist system of self-management*** *(1950-1990),* with a stage of associated labor and consensus economics **(**1974 -1990), c) ***Phase of the breakup of Yugoslavia and the collapse of the socialist system*** *(1990-2000).* The **third context** (after the democratic changes in 2000) includes ***the post-socialist transition*** *of society and economy within the neoliberal capitalist system of neoliberal discourse.*

The first context - Development of construction land from mid-19th century to WW II

On the territory of Serbia, there were three parallel, reciprocally different systems of legal real estate categorization: 1) *system of land registry books, 2) system of title deeds,* and 3) *cadastre of property* - cadastre of land. The land registry books were introduced in 1844, with the registration of property in books of legatees,

i.e. land books. Land registry books were established in 1855 on the territory of Serbia, which was under Austro-Hungarian rule. The *title deed system* functioned in the part of Serbia under Turkish governance until 1912, where land registry books were not introduced. *The cadastre of land ownership* was introduced in 1929 in Yugoslavia. Before that point, it existed on the territory of Austro-Hungarian governance. The construction law in the Kingdom of Yugoslavia was passed in 1931 and it included the regulation of cities, regulatory rules, technical regulations, construction development, land subdivision, land management, etc.

The second context - an authentic development of a socialist system

In the phase of administrative-socialist system and post-war restoration (1946-1950)

In 1947, an ordinance was passed regarding the registration of state-owned real estate property rights, in accordance with the communist paradigm. The Federal People's Reupblic of Yugslavia (FRPY) socialist system was based on state ownership. The government passed laws by which the transfer of private and other forms of property to state ownership was carried out (on agricultural reform, confiscation, nationalization, expropriation, etc.). Domination of state ownership implied insufficient care for cadastre and land registry books. Instead, courts were responsible for the keep of land registry books, which represented a legal record of real estate based on the land cadastre as a factual record.

The phase of authentic socialist system of self-management was constituted between the years 1950-1990 and its pillar was the 'exotic' social ownership, a unique form of ownership in the world. The 1963 Constitution of FPRY introduced socialist self-management in all 'socio-political communities' as a unique model of decision-making in society, in economy, and in the political system, until its collapse in 1990. Reforms from the period 1964-1967 introduced measures to reduce the role of the state in economy; foreign investments were facilitated, and conditions for developing *market socialism* were created. In 1958, FPRY adopted the Law on nationalization of rentals and construction land, nationalizing built and non-built construction land in urban areas and urban settlements. Construction land was passed into state property, and later this land became social collective property. The owners of construction land became its users. This stopped legal transfers and the real estate market. Socially directed housing construction was intensified. Le Corbusier's concept of urban development according to the Athens Charter (1933) was applied in that period in Yugoslavia, as it was compatible with the socialist system and urban planning. This initiated the construction of New Belgrade, i.e. a large settlement of prefab multi-family housing blocks, well-serviced and with many amenities (Zeković et al., 2016). In 1965 the Law of Transfer Land and Buildings was adopted, which forbid the disposal of socially-owned construction land.

Phase of associated labour and consensus economics *(1974-1990*)

During the period of self-management socialism and workers' self-managed socialist economy, a special concept of associated labor, consensus economics, self-management arrangements and social agreements dominated, as they were introduced in the 1974 Socialist Federal Republic of Yugoslavia's (SFRY) Constitution. The Constitution introduced social planning of socio-political

communities that were obligated to determine the policy, guidelines and measures for realizing these plans. By the end of 1980s social planning disappeared, spatial development was directed to municipalities, while urban and spatial planning lost their significance. This marked the beginning of Yugoslavia's disintegration and the constitution of future independent states. In accordance with the Law, construction land was given by public competition to state and social enterprises for use. Fees for using and developing construction land were introduced. The cadastre of real estate was introduced in 1983, as a unique, factual and legal record of real estate according to a cadastral parcel.

The break-up of the Yugoslav federation (SFRY) and the collapse of the socialist system (1990-2000) was a consequence of the complex circumstances that culminated in political and armed conflict in 1990s (with the NATO bombing of Serbia in 1999). The break-up of the country was brought about by the absence of economic and social reforms, coupled by the incompetence of political elites to transform the robust and inadequate system. The collapse of the SFRY led to the formation of new states, among which was FRY, i.e. the Federal Republic of Serbia and Montenegro. Serbia was faced with economic destruction, inner rifts, international isolation and war devastation while lacking a clear strategic policy. In 1995 and 1996, Serbia passed a 'set of building laws'. Construction land could be public, private or state-owned, with the right of use or long-term lease. These laws were made as precondition for attracting foreign investors, i.e. neo-liberal capitalism.

The third context: Post-socialist transitional context (from 2000 until today)

Following the democratic changes in 2000, a new institutional framework was created based on a capitalist system (of the neoliberal discourse) in the post-socialist transitional development environment. Since 2003, legislation regarding construction land has merged with spatial-urban planning legislation and developed within a post-socialist context. Under the motto of codification, a mechanical unification of legal matters of urban and spatial planning, construction land and building structures merged into one law (with 25 by-laws). This was carried out with the Law of Planning and Construction in 2003. A radical alteration of the system of land disposal by municipalities and towns was implemented - private property of other lands for construction was allowed, by-passing the then valid Constitution of 1990. The Constitution of 2006 prescribed that construction land could be in private hands, and facilitated this transfer. The law allowed the sale and transfer of rights of access of unbuilt land. The right to long-term lease of state-owned land for 99 years was introduced instead of the permanent right to land access.

The new Law of Planning and Construction was passed in 2009, with amendments and addendums (2010-2014). According to the Law, all forms of property are allowed on construction land, which is on the market (construction land in public property as well). The government plays an important role in adopting frequent amendments and addendums to laws, with aspirations to create urban planning and other legislation that will allocate subsidies to investors in the field of construction land, assure a fast and efficient approach to development of cheap and attractive locations, as well as expeditious issuance of building permits. The regulation of construction land has undergone the biggest change, and practice has

shown that the greatest challenges are indeed in this area. The Law, for the privatization of construction land, which is not *sui generis,* regulates the conversion of access rights to nationalized built land into property rights, without or with a fee. For the first time after 1958, the law allowed urban construction land to come under private ownership. Natural and legal persons founded by the state, region or municipality are allowed to convert access rights to urban construction land into public property rights, without a fee. It is possible to convert access rights into the right of private property for the category of previous proprietors, their legal heirs and persons having gained rights from them under prescribed conditions. Persons who have the right of lease on other state-owned construction land are allowed to remain leasees. It is also established that companies on state-owned construction land that hold access rights, and which hold this status due to privatization of enterprises or bankruptcy, can convert their access right into right of property by paying the market value of the land minus the costs of acquisition, where the Serbian government prescribes the fee based on the conversion. Problems in the implementation of these laws indicate that the right conditions for the codification of these three legal matters have yet to be met. . The laws pertaining to the taxed conversion of construction land have been contested by a decision of the Constitutional Court and repealed (2013). The right of property on publicly-owned construction land belongs to Serbia, the province or local unit of self-government. With the introduction of the real estate cadastre (in 1992 and 2009), land registry books and other systems of recording property have become invalid. By adopting the amendments and addendums of the Law of Planning and Construction (2014), the controversial provisions regarding the conversion of access rights to construction land into the right of property were excluded, with a fee, and for this, the adoption of a special law is predicted. The Law of converting land-use rights into rights of property of construction land with a fee was established in 2015.

Factors for availability of suburban land in Rome

Over the years, urban expansion in Rome has been driven not only by population trends, on the basis of population growth and migration, but also by the housing policies (at the central and local level) implemented since the World War period to date.

Indeed, though the first Piano Regolatore di Roma of 1873 included the realization of new neighborhoods within the Aurelian Walls, a set of rules of public and / or popular housing occurred in Italy in the fascism era. This was done with the intention at first to isolate symbolically the Capitoline monuments, realizing neighborhoods in areas adjacent to the historic center and other peripheral geographies, all the while fairly connected to the city center. This was done then to encourage house acquisition by a wider range of the population. “Overall, from 1964 to today, thanks to the house laws and the urban standards Decree, the City of Rome has built on public initiative about 7,000 ha of surface with less than 700,000 rooms and areas for public facilities amounting to a little less than 2,900 ha.” (Caudo, 2005).

This led to a constant urban expansion from the core to the periphery, spilling outside of the compact city by incorporating agricultural and swamp lands, with

residential and commercial structures increasing on the whole. The urban pattern in Rome, however, is quite fragmented, especially in suburban areas: artificial surfaces coexist with areas covered by vegetation and bare soil, which occupy considerable areas discontinuously.

Di Somma (2011) estimates that continuous residential areas cover about 20.78% of the municipal territory, both within the historic center as well as some areas outside the Aurelian Walls. Discontinuous residential areas cover about 54.60% of the municipality of Rome and include the residential areas of the suburbs developed over the last sixty years. The latter category includes some historical neighborhoods outside of the Aurelian Walls, realized both spontaneously and through public initiatives and also including the so-called "new suburban neighborhoods." These new neighborhoods are characterized as neighborhoods that are like a small city within the city itself. “Arising in disused areas or in agricultural lands that have recently become building areas, they are identifiable by some consistent morphological features: residential areas of a medium or high level, independent from the center of Rome, built according to modern and innovative criteria and accommodating between 30,000 and 70,000 units. The core of these small towns is always a big shopping center with supermarket and shops (between 80 and 200), which meet any and every type of need and service. A significant space is devoted to urban green areas and recreation centers for children. Parking lots are another relevant characteristic, located both close to the shopping center and in special facilities, mostly underground.” (Di Somma, 2011).

1.4.2. Legislation and national / regional systems of planning and regulation of land supply and access to land resources

Research questions: - How does the national system of planning and management of urban development (legislation, regulations, national and regional strategies) treat the issue of urban expansion? What are the procedures for the conversion of rural into urban land?

Legislation and planning regulations in Sofia

The first step in the process of urbanization is the conversion of unurbanized land (mostly agricultural and only in some cases – forest land) into urbanized land. One indicator of this is soil sealing. In Bulgaria, the national average of land affected by soil sealing represents about 5% of the total area (over 560,000 ha) and 1.8% of that land is agricultural, forest and protected areas. This trend is comparable to the EU average, with the Bulgarian rate being a little slower. Simultaneously however, the Bulgarian population is decreasing (Figure 1.13). In the Sofia region however, the percentage is well above the average. (National Report on the state of the environment in Bulgaria in 2009).

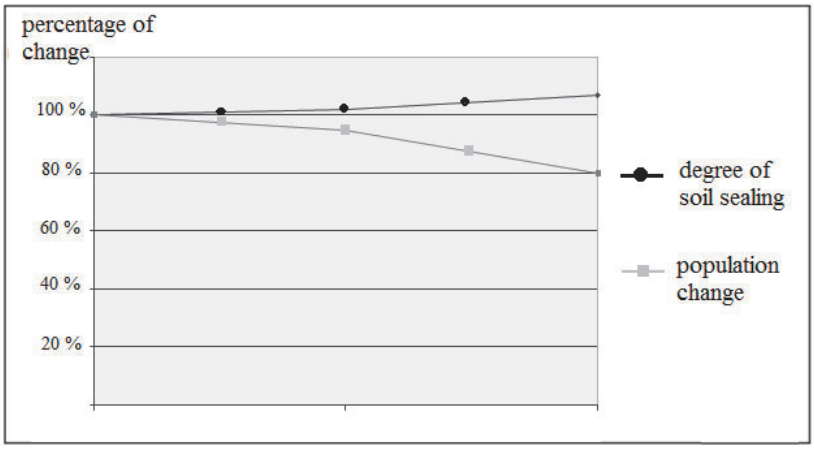


Figure 1.13: Deegree of soil sealing compared to the change of population in Bulgaria

Source: Soil analyses from National Environmental Strategy Project 2009-2011

There is a downward trend in the total area of agricultural lands in Bulgaria, whereas other land-use types are increasing, particularly urban and forest. During the period 2000-2009, agricultural areas decreased by 6.5% (*http://eea.government.bg/cms/bg/soer-bg-2009/2economy/4agriculture*). According to national survey BANSIC 2011 (Bulgarian poll monitoring agricultural and economic situation) conducted by the Ministry of Agriculture and Food, agricultural areas in 2011 were 49.4%, which compared to the previous year, is a decrease of 0.1% equal to 5,319 ha.

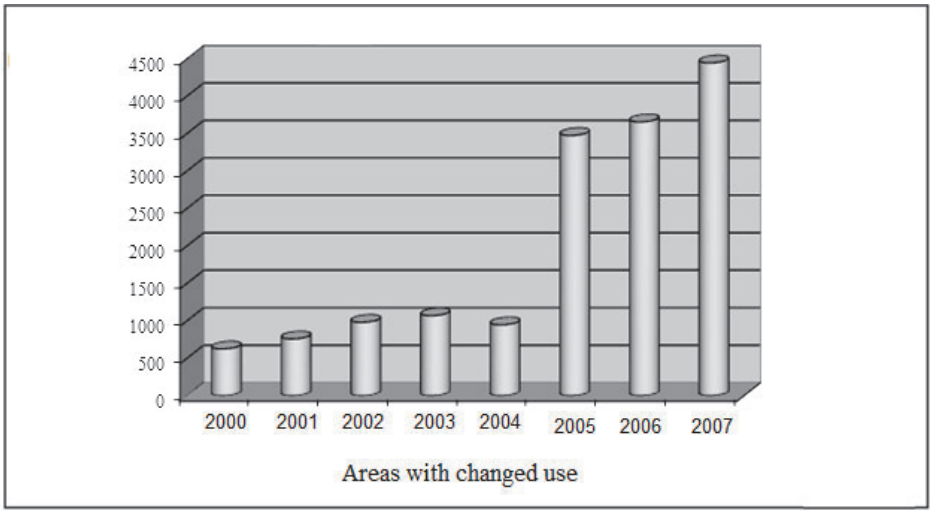


Figure 1.14: Lands with changed use in the period 2001- 2007

Urbanized lands (with changed status) (ha). Source: Ministry of Agriculture and Food, 2011

The procedures for converting agricultural into urban land are guided by a number of national and local regulations in Bulgaria - laws, ordinances, standards, etc., which over the years have been updated and changed to varying degrees. Our preliminary review found that due to the continuous harmonization of legislation in the country, the list of documents required for these procedures is lengthy, but the influence of some is nominal and can be ignored.

The documents that have a key role defining the processes of urban growth are as follows:

- Spatial Planning Act (SPA) – March 2001, last amended October 2012;
- Ordinance № 7 - Rules and regulations for the development of the different types of areas and development zones - December 2003., last amended in 2008.;
- Rules for Implementation of the Protection of Agricultural Land Act - September 1996., Last amended in May 2012.;
- Tariff of Taxes Due for Conversion of Agricultural Lands – May 2002, last amended 2008;
- Spatial Planning and Development of Sofia Municipality Act (SPDASM) - January 2007, last amended October 2012;

Spatial Planning Act (SPA) is the single most important legal document governing the planning processes in Bulgaria. It stipulates the hierarchical relationships between the concepts of spatial development and development plans. Each urban plan must comply with the provisions of the concepts of spatial development and spatial plans of superior hierarchy, if any, and present a particular development plan.

The purpose (the function, land use, destination) of lands (territories, as termed in SPA) is determined by the concepts of spatial development, regional development schemes and general urban development plans. The types of lands, as distinguished by their predominant function (or destination) are: urban areas, agricultural areas, forest areas, protected areas and damaged areas for recovery. According to paragraph 1 in Article 106 of SPA, the specific boundaries of these areas are determined by the General Urban Development Plan (GUDP) of respective municipality. Accordingly, under Article 59 of SPA, buildings outside of urbanized areas are permitted only in accordance with the GUDP and local zoning regulations. However in settlements and territories for which GUDP is not yet developed and approved, SPA allows building outside of the urban area boundary under a plan that covers only part of a neighborhood (Art. 59 and Art. 106).

The main sub-law ordinance linked to the Spatial Development Act (SPA) is Ordinance № 7 - Rules and regulations for the development of the different types of areas and development zones.

The ordinance elaborates on the framework for spatial planning, which corresponds to SPA and mostly refers to it. As in the Spatial PlanningAct, Ordinance № 7 states that all rules and regulations shall be governed by principals of the effective use of territories and maintaining the natural balance.

Under Ordinance 7, the change of use of agricultural land for non-agricultural purposes shall be established by order of the Act for Protection of Agricultural Lands and under provisions included in the development plan. Without such change, the only projects that can be developed are the ones allowed under the provisions for agricultural land use.

Since, as mentioned before, there are no Master Urban Plans in existence for most of the country, the conversion is based on fragmented Detailed Urban Plans (DUP), with no reference to a general planning vision like the one presented by a Master Plan. The absence of Master Urban Plans, particularly covering all suburban territories, is seen as a major factor contributing towards urban expansion and sprawl in Bulgaria.

The law with the greatest impact on the process of change of use of agricultural land and regulation of urban growth and sprawl is the Protection of Agricultural Land Act (PALA). This law defines agricultural lands as a major national asset and changes to their use (agricultural land-use) "is allowed only in exceptional circumstances, proven needs and under the terms and conditions set by this law." Contrary to the intentions of the Act, practice indicates that such “exceptional circumstances” seem to be quite regular and frequently, changes are applied to lands for which the procedure should not be permitted at all. Under the existing legislative provisions for agricultural lands, developments whose functions are not permitted are permitted only after a change of land use is stipulated by law, followed accordingly by a mandatory amendment of the Detailed Urban Plans. In other words, development that does not comply with the adopted plan is not possible. If a new development does not fit the plan that is in force, then the plan should be changed, under the condition that the change is permitted by the Spatial Planning Act.

PALA provides for annulment and modification of decisions on approval of a site and change of use, also in the case of delayed action beyond the statutory deadlines by stakeholders. Any person or organization can move to motion for revocation or to amend a decision pertaining to land use. Penalties for both physical and legal entities are stipulated in the administrative and penal provisions of the Law on protection of agricultural land. However, fines imposed vary widely and this creates problems since both PALA and its implementation rules do not tie the size of penalties with the degree of illegality of actions. These conditions permit fraudulent actions by owners/investors or officials.

Paragraph (§) 2 of the Supplementary Provisions of PALA allows the “legalization” of construction on agricultural land without its change of land-use status, albeit in violation of Art. 53a of the Spatial Development Act. Details of the terms, conditions, responsibilities, rights and obligations of participants in the procedures governing the conversion of agricultural land are described in the Rules for Implementation of the Protection of Agricultural Land Act (RIPALA). The Rules for implementation, like other regulations, state that "the conversion of agricultural land be allowed in exceptional circumstances, proven need and the terms and conditions set out in these Rules. Explicitly, “construction of facilities un-related to the agricultural use of land is not permitted, without changing the destination of land

(the allowed land-use)". These rules do not conflict with PALA, but they also do not resolve the controversy of certain legal provisions associated with the conversion of agricultural lands and their development.

The determination of fees to be paid for change of use of agricultural land for non-agricultural purposes and the criteria for their formation is governed by the Tariff of Fees Payable upon Change of Use of Agricultural Land. The Tariff was adopted at the end of May 2002, with the last amendment added in November 2008. The Tariff is under further development to be in compliance with the major changes made to the Spatial Development Act in October 2012.

The fee for the change of use of agricultural land is determined by a formula whose coefficients depend on:

- Category of agricultural land, as stated in the Act of Categorization.
- Size of the land;
- Land location – settlements in Bulgaria are categorized according to the Law of Administrative and Territorial Division of the Republic of Bulgaria. There are eight categories from I-st to VIII-th
- Type of project being built;
- Level of irrigation.

There are certain conflicting elements in the Tariff that can be pointed out:

One area with significant impact and a particular cause of conflict in the Tariff is the coefficients for golf fields. Following the changes made in 2008, golf fields were removed from the general group of tourism and sport facilities and allocated into the group of activities with reduced charges (almost 11 times). This group is comprised of lands under state and municipal public property, which are designated for health-care, science, education and culture, energy and transport, projects for the preservation and restoration of the environment, facilities of defense and national security and other strategic for developments. The incongruous move of golf courses into this category occurred under very strong investor pressure and creates conditions for the destruction of large agricultural areas as a result of substandard fees applied for conversion of the agricultural land.

Legislation and planning regulations in Belgrade

Substantive and procedural aspects of utilization of agricultural and forest lands, respective conversion into urban (construction) land and zoning have been defined by a number of national and local legal acts (laws, legal decisions, ordnances, regulations, etc.), which have been passed and subsequently modified in recent periods, viz.:

- *The Planning and Construction Act* (2003; 2009; 2010; 2011-2015; in the sequel: PCA);
- *The Act on Agricultural Land* (2006; 2009 and 2015; in the sequel: AAL);
- *The Forestry Act* (2010; 2012 and 2015, in the sequel: FA);

- *The Act on National Land Cadastre* (2009; and 2010; in the sequel: ANLC);
- *General Regulation on the Parceling-out and Construction of Land Lots* (2011);
- *Ordnance on the Conversion of Land-lease to Land-property* (2010 and 2011);
- *Legal Decision on the Land Zoning in the Belgrade City Area* (2009; 2010; 2011; and 2015);
- *The Law on converting the land-use right into the right on property of construction land* (2015).

Legal regulatory framework defining the conversion of agricultural and forestry lands into urban and construction land: general aspects

The status and planned use of urban and construction land (UCL) has been set forth by the *Planning and Construction Act* (PCA, 2009, amended in 2009, 2010, and 2011-2015). The general intention is to use UCL for construction and other related purposes in a legal, regular and rational way, in accordance with the "planning destinations" defined by respective urban planning documents. The PCA stipulates that proper compensation ought to be paid for this conversion by the owner of the property lot, and should be fulfilled prior to the issue of the planning use permit (with respective exceptions). Recent legal changes (in 2011) introduced a new instrument, i.e., redistribution of urban land (*urbana komasacija*), which applies to the conversion of construction land into public property and/or for public purposes, with a view to define a more rational utilization of small and fragmented urban plots. It should be mentioned that the penalty provisions (fines) of the PCA for the breach of more or less all cases, e.g., illegal construction, improper issuing of construction permit, etc. have been set at a relatively low level.

National and local regulations on zoning and land use densities

The PCA stipulates for a number of development planning instruments that apply to zoning, viz.: parceling out of land, the so-called "compact land tracts" (*posebne prostorne celine*) and zones; predominant use of land within the zoning schemes and compact land tracts; obligatory detailed zoning regulation. Detailed regulation plans are stipulated for all settlements, or their respective parts, depicting in detail: type of predominant "objects"; categories not allowed; rules for parceling out; allowed maximum construction/occupancy index; major/predominant use of urban land, applying to single land plots or to compact planned areas; etc.

For example, for respective types of zones the maximum construction index and rate of occupancy are: for central urban and business zones – 4.0 and 80%, for general and housing uses in high-density areas – 2.5 and 60%, for mixed uses in medium density settlements – 1.7 and 60%, for family-house zones and areas in low density settlements – 1.0 and 40%, etc.

The current system and practice of managing urban land in Serbia have not been harmonized with the main avenues of transitional reform and change. The urban land market is undeveloped, and therefore the basic regulatory mechanisms

and institutions, as well as more up-to-date ways of financing urban land development are not established yet. In the conditions of an undeveloped market, the mechanism of urban land rent is incomplete and distorted, and it does not contribute to a rational use of urban land. In essence, the basic approach is still predominantly administrative. The above has a number of negative consequences, also applying to zoning regulations and land use.

The utilization of agricultural land and its conversion

The basic legal act in the sphere of agriculture (in the sequel: AAL, 2006; 2009 and 2015) stipulates the rigorous protection of arable land for agricultural and related purposes only. Its conversion to other purposes is allowed only conditionally, upon the fulfillment of a number of preconditions, also formulated and defined in law. This applies to the most productive class categories of agricultural land, i.e., I to IV. Non-agricultural utilization is allowed for land of inferior quality only, for some specific purposes, viz.: artificial (cultivated) meadows and pastures; new and/ameliorated forests; exploitation of mineral resources and related solid waste landfills; and in other cases of general public interest. For all listed cases, special permits are necessitated, issued by the responsible sector ministry. In all cases of conversion of agricultural land to other permitted purposes apart from these, the appropriate compensation is levied, following pertinent procedure, at the level of 50% of the market value of arable land in question, or, in the case of artificial (cultivated) meadows and pastures, and forests, at the level of 20% of market value of urban construction land. In sum, there has been intention to follow appropriate EU legislation in this sphere (e.g., 2004/35/EC Soil Framework Directive, COM 179/2002, etc.). Since more than 50.9% of urban land in the City of Belgrade is under public ownership (state and municipal), the issues of privatisation and restitution are of critical importance for all urban processes. The restitution of formerly nationalized agricultural land, launched at the end of 1980s, has now been almost completed. According to more recent sources (*Serbian investment climate*, WB, 2004), approximately 85-90% of total agricultural land in Serbia is now privately owned, the rest being owned either by the state sector or agricultural cooperatives.

During the period of transition there was a problem stemming from the legal opportunity to convert publicly-owned agricultural land to other property statuses and regimes. This was applied particularly to the most attractive sites in peri-urban areas of the broader Belgrade area. Although the law stipulated for a conversion at market prices, in practice it facilitated the very cheap sale of former agricultural land under public (state) property to private actors, and, secondly, to its subsequent and almost immediate conversion to non-agricultural purposes, mostly to expensive housing and business zones/complexes, etc. Only in 2009 (and 2015) AAL introduced some provisions to prevent the selling of publicly-owned agricultural land. In the meantime, some 27 sites of former agricultural lands (out of a total of some 50 peri-urban areas) deteriorated, often paralleled by illegal construction on the newly converted sites. The scope of this negative trend is tremendous, indicated by the fact that some 20,000 hectares of former agricultural land have been

converted to non-agricultural purposes. This has been a consequence of the interplay between an ill-equipped urban planning system and the impact of market forces in the Belgrade area. This was compounded by the shockwave of war refugees from the former Yugoslav republics and internally displaced people from Kosovo and Metohija that came to Belgrade in the 1990s. Most of them settled in suburban areas where land was available.

Clauses related to privatization of urban land were incorporated in the 2009 Planning and Construction Act. That is to say, a legal act, which is not *sui generis* for regulating property matters, defines the legal basis for ownership transformation. A key problem is that the PCA did not define regulatory rules, market mechanisms, institutions and instruments for conducting land policies (particularly for land valuation), and administering land transactions. In Serbia there is still no systematic data on the estimated value of state-owned land assets, which raises the related question of ascribing the market value of public land. In view of the fact that the value of construction land considerably exceeds the value of privatized enterprises in Serbia, it is clear that PCA of 2009 established the legal basis for a "back door", i.e., non-formalized privatization of construction land. The land is subjected to blatant "profiteering", which brings the greatest benefits to the most privileged "users" of plots who acquired the right of use either by buying them at bargain prices from the former owners or in the process of privatization of state-owned enterprises. Forest land in Serbia, like in most countries, is safeguarded and much more rarely converted into urban. The *Forestry Act* of 2010, 2012 and 2015 allows conversion in the cases of: general public interest; natural disasters; redistribution of land (*komasacija* and *arondacija*); renewable energy; etc. The financial compensation for the conversion of forest land may in some cases reaches a value 10 times larger than its current market value.

National, regional and local planning and land use policy

The *Spatial Development Strategy of the Republic of Serbia 2009-2013-2020* (2009) found that in the period 1993-2010, some 53,700 ha of agricultural land was converted to other uses and mostly to urban/construction land. Contrary to the planned increase of forest land to almost 30% of total surface area, its share in 2010 was almost the same as in 1993, i.e., 25.5%.

In 2005, the total area of urban/construction land reached 695,415 ha, i.e., ca. 9% of the total surface area. Its biggest share has been recorded in the broader Belgrade area (NUTS 2), i.e., 38.4%. The total surface area of urban construction land in Serbia is 194,441 ha, inhabited by 4.22 million people, with average density of 21.7 inhabitants/ha. Out of total of 1994,441 ha of public (state) land in Serbia, the City of Belgrade occupies 63,005 ha. The surface of total land in private ownership in City of Belgrade is 1,972.95 km^2 or 61.2% (RGZ, 2013).

The *Plan* of 2010 predicts a further decrease of agricultural land in this period, for another 1,179,300 ha, i.e., for 23.3%, as compared to 2010. In the same period, the surface area of forest lands would increase for 928,500 ha (41.2%). The biggest increase in percentage goes to urban/construction land, i.e., 250,800 ha, which is 56.7% as compared to 2010 (Table 1.12).

Table 1.11: Planned land use in the Spatial Plan of Serbia (1996) and its realization

Total surface area 77,474 km^2	Year	Agricultural land		Forest lands		Other uses	
		(km^2)	%	(km^2)	%	(km^2)	%
Planned	1993	51,452	66.4	19,838	25.6	6,184	8,0
	2010	48,350	62.4	23,094	29.8	6,030	7.8
Realized	2010	50,915	65.7	19,781	25.5	6,778	8.8
Planned balance sheet	1993/ 2010	- 3,102	- 4.0	3,256	4.2	- 154	-0.2
Realized balance sheet	1993/ 2010	- 537	- 0.7	-57	-0.1	594	0.8

Source: The Spatial Plan of Republic Serbia (1996), The Spatial plan of the Republic Serbia (2010), and data of Statistical Bureau of the Republic of Serbia, Municipalities and Regions in Serbia 2010 (2011).

Table 1.12: Planned land uses in the MUP of 2010.

Total surface area 77,474 km^2	Year	Agricultural land		Forest lands		Other uses	
		(km^2)	%	(km^2)	%	(km^2)	%
Planed uses	2010	50,530	62.4	22.524	29.1	4,420	5.7
	2020	38,737	50.0	31,809	41.0	6,928	9.0
Planned change	2010/ 2020	-11,793	-23.3	9,285	41,2	2,508	-56.7

The *National Strategy of Sustainable Development of the Republic of Serbia* (2008), too, observed that the share of agricultural land has been continually decreasing for a long period.In the period 1990-2006, the share of agricultural land decreased by 10.6%, along-side a continuous decrease of the share of arable land in total agricultural land (for 10% in the same period)

Data on urban land in the City of Belgrade (Table 1.13 by the Republic Statistical Bureau) are different from those provided by the Republic Land Cadastre. According to the Republic Land Cadastre (2013), the total surface area of urban/construction land in the City of Belgrade is 111,260.72 ha (1,112.6 km^2), out of which 46,919.9 ha is in the area of 10 urban municipalities, and 64,340.84 is in the seven suburban municipalities (Table 1.13, and Figure 1.15).

Table 1.13: Total costruction land in the City of Belgrade, 2012.

Urban Municipalities	ha	**Suburban** Municipalities	ha
Voždovac	8,359.01	Barajevo	6,933.53
Vračar	748.64	Grocka	9,078.88
Zvezdara	3,107.18	Lazarevac	5,513.69
Zemun	7,259.16	Mladenovac	10,260.92
Novi Bgd.	3,198.85	Obrenovac	15,932.94
Palilula	9,191.49	Sopot	11,555.26
Rakovica	1,963.37	Surčin	5,065.62
Savski venac	1,408.91		
Stari grad	537.98		
Čukarica	11,145.23		
total	**46,919.9**	**total**	**64,340.84**
Total urban and suburban			**111,260.7**

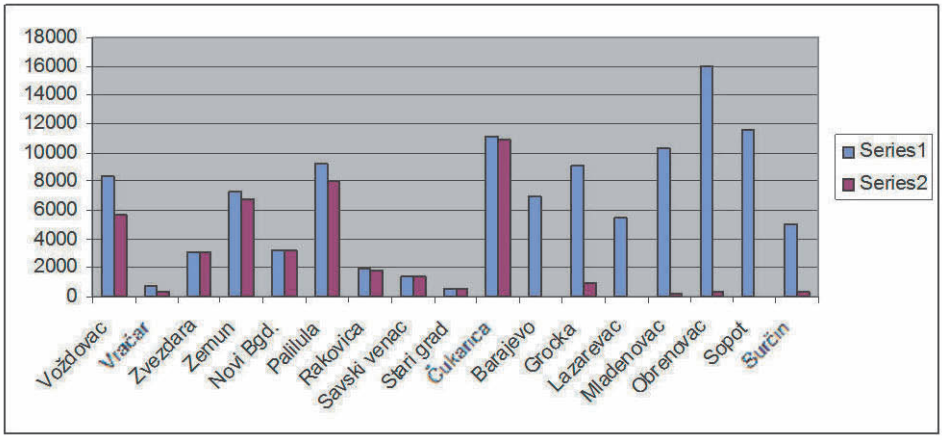


Figure 1.15: Total construction land and urban construction land in the City of Belgrade (in ha), 2012.

Series 1: Total construction land (total, all uses)
Series 2: Urban construction land (urban construction land)

The above findings contradict supplemented data. For example, in the Table 1.4, it has been indicated that the size of construction land for the City of Belgrade was 360 km^2 in 2001, and less than that in 2011, that is, 359,95 km^2. This process is paralleled by an increase of Belgrade population in the same period (Table 1.5).

According to the data provided by the Republic Statistical Bureau, the size of construction land in Belgrade was some three times less than that indicated by the Republic Bureau of Geodesy/Republic Land Cadastre (2013).

Legislation and planning regulations in Rome

Italy / Lazio region/ Rome

As pointed out in section 2, the share of land with artificial covering in Italy is estimated at 7.3% of the total, compared with 4.3% EU average. The soil consumption in the regions of the largest cities had reached levels ranging from 9% to 14 % share of the total area. According to the survey of FAI (Fondo Ambiente Italiano) and WWF, soil consumption has reached a speed of 9 hectares per day. What role has urban planning played in this process? In practice, the urban master and detailed plans accompanied this approach: the soil market value increases only if estate planning regulations provide the building destination. This relationship has been in place since the 1980s and early 1990s.

The first thing that a planning system will have to do is to identify ways to detect the problem and to measure it. For this purpose the National Observatory on Soil Consumption (Centro di Ricerca sui Consumi di Suolo – CRCS, http://www.consumosuolo.org) was enabled in 2008 by INU (Istituto Nazionale di Urbanistica), Legambiente and the Department of Architecture and Planning at the Politecnico of Milan, with the main objective to collect and elaborate data on the urbanization process and soil consumption in Italy, according to reliable and shared methods of analysis and evaluation. CRCS identified a methodology for the quantitative definition of soil consumption at the local level (Provincia). The annual research results of the activities of the National Observatory are presented in an Annual Report.

The First Report of 2009 highlights the lack of a national program for monitoring land consumption and the need for a shared method with which to carry it forward. The Italian Regions which, to date, have maps of land use at similar times and have been realized with the same comparable methodology are very few, such as: Lombardy, Emilia Romagna, Friuli Venezia Giulia and Sardinia.

The first CRCS results have shown that the Molise, Puglia and Basilicata Regions, though maintaining a strong rural character, are nonetheless experiencing accelerated growth of urbanized area. Most changes take place on agricultural soils and, to a lesser extent, at the expense of uncultivated land or forestry (similar to the observations in the rest of Europe).

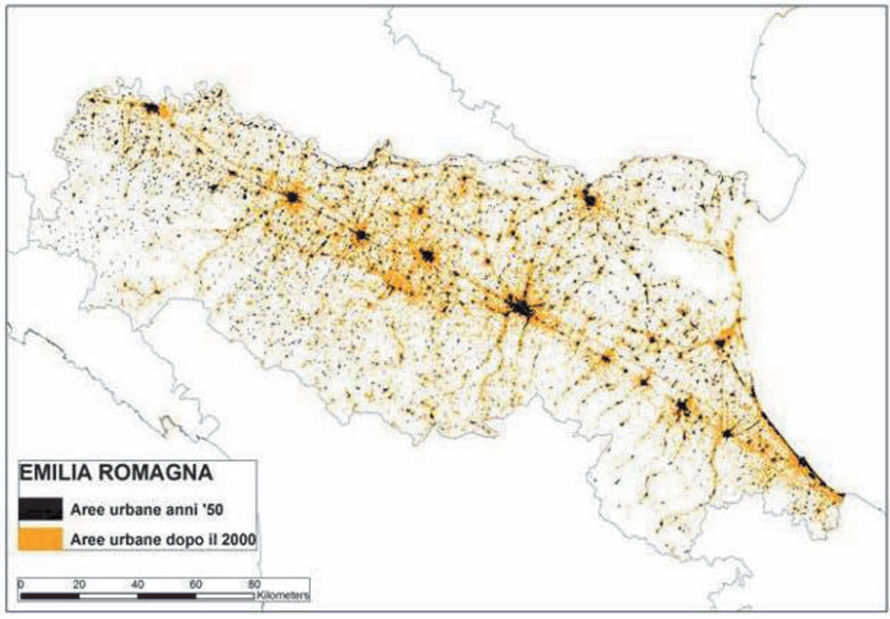


Figure 1.16: Emilia Romagna Region: the soil consumption from 1949 and 2008.

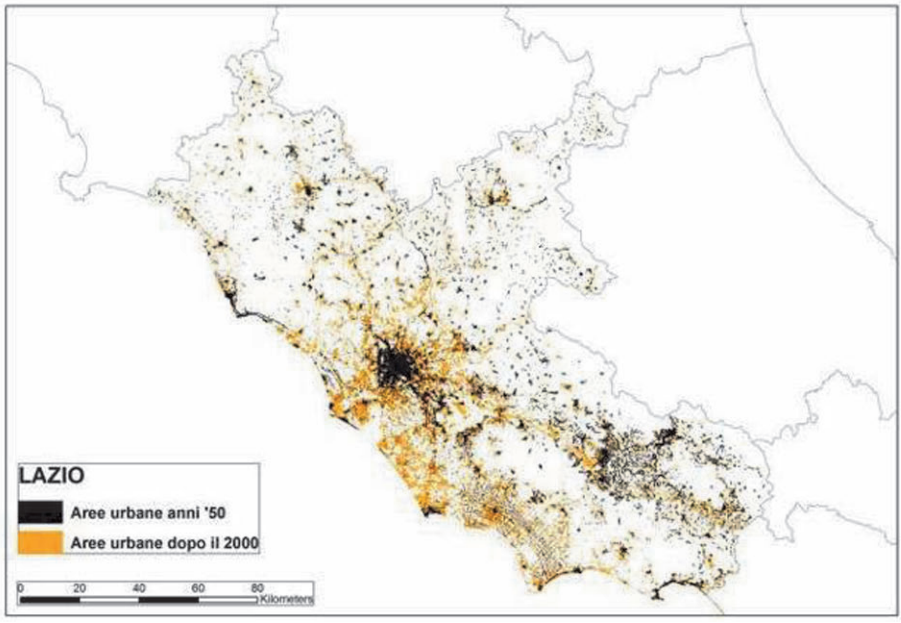


Figure 1:17: Lazio Region: the soil consumption from 1949 and 2008

Image produced by Bernardino Romano - FAI album

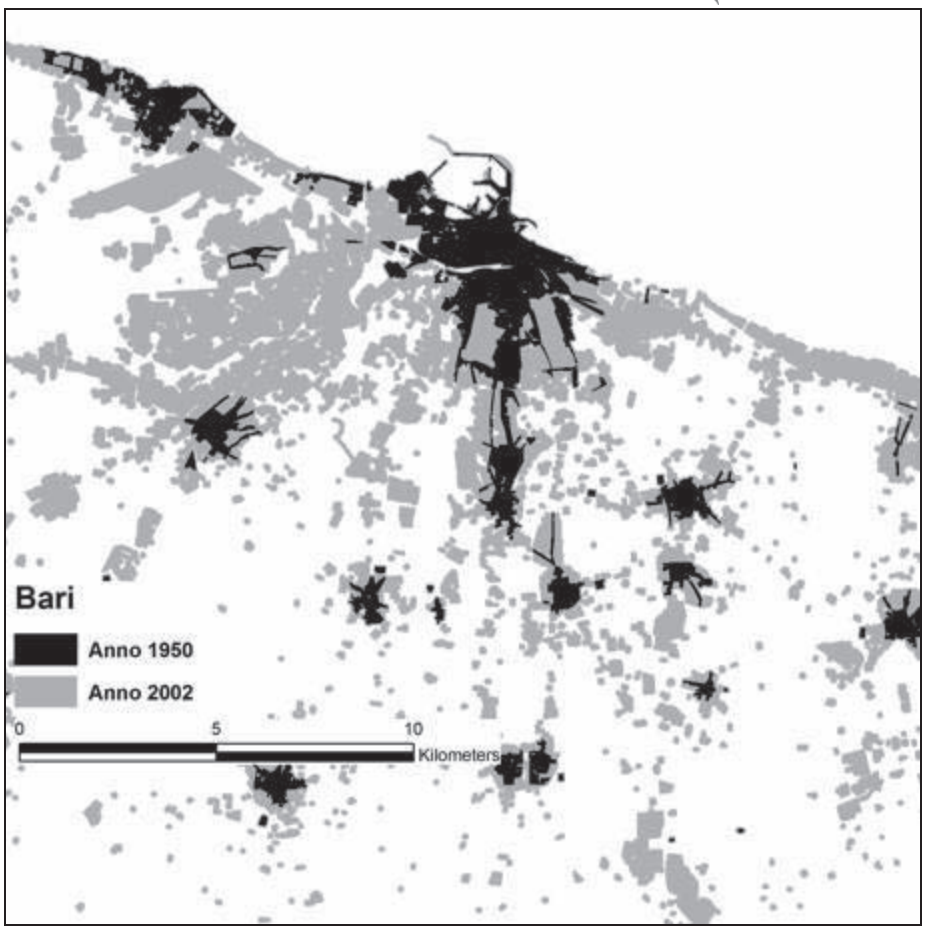


Figure 1.18: The city of Bari - soil consumption in 1949 and 2008.

Image produced by Bernardino Romano - FAI album

The Italian political and administrative government is organised on four levels: national, regional, provincial and municipal.

Italian Urban Planning legislation is relatively old, with its beginnings in 1942. Initially, coordination planning was a state practice, but state competences on coordination planning were transferred to Regions in the 1980s. Environmental protection and landscape planning (to be exercised by Regions under National supervision) remained under the authority of the State. In the last 15 years several Regions began to transfer coordination planning to Provinces.

Regional level - Each Region has its own regional laws that define the institutional and legal urban framework: it means that for each Region there exists a planning system consisting of a corpus of laws not only focused on landscape and cities management but for specific development and/or protection purposes. Regional plans are approved by the Regions themselves: the regional assembly, the

regional President and the regional government, with administrative competencies. The first urban planning for the Region of Lazio was done in 1980, followed by a series of revisions / amendments with specific objectives.

Provincial level - The General Territorial Provincial Plan (PTPG - Piano Territoriale Provinciale Generale) is a supra-municipal plan (piano sovracomunale) that defines the guidelines and the requirements that are applied to work and production areas, urban and rural settlements, landscapes and equipment for recreation, services and social facilities and the network of communications and transport. The General Provincial Territorial Plans are adopted by the Provincial Council and approved by the Region.

Municipal level – The General Municipal Plan (PRG) governs land-use at the general level and defines land-use for the municipal area as a whole. Municipal plans are adopted by the Municipal Council and approved by the respective Region. It is useful to specify that in accordance with regional laws on spatial planning, different institutional and technical bodies that are relevant to the Municipal General Plan are involved in the planning processes. In addition to this, many regional laws foresee an institutional and participative process of planning among citizens that can make formal observations on plan decisions and propose limitations and changes after the plans have been adopted by public administrations. The implementation of the PRG takes place through a series of Detailed Plans (Piani Particolareggiati) defined for single areas (zones) of the municipality.

The Italian planning system is structured in five tiers (levels):

- National level: Strategic National Framework, Regional Operative Programme, General Transportation Plan, Hydraulic Basin Plan –National Rivers, System
- Regional level: Regional Territorial Plan, Regional Natural Park Plan, Regional Landscape Plan, Regional Transport Plan, Hydraulic Basin Plan
- Provincial level: Provincial Territorial Plan
- Municipal level: General Municipal Plan (PRG)
- Municipal level- detailed plans: Detailed Executive Plan, Low Cost Public Housing Plan, Industrial Areas Executive Plan, Urban Transportation Plan, Detailed Site Plan, Urban Rehabilitation Plan, Complex Programmes – Integrated Programmes of Intervention

Some authors are critical (may be too critical) of the Italian planning system. Gastone Ave (1996) claims that the system is not efficient mainly because it is too complex and the rights of the land-owners are too well protected, to the point that they foil plans. The poor efficiency is also the result of too many laws in force in the area of urban development. Some of these laws are very old and were adopted in social situations quite different from todays. The Legge Urbanistica Nazionale, which was adopted in the fascist period (1942), is one example. Another is the Law of Compulsory Purchases that dates from 1865. With the many advancements in civil rights since then, this law results in too much power for landowners, who frequently block the implementation plans when they perceive a disadvantage for their properties. The complexity of the legal system results in complexity in

planning, i.e. too many types of plans developed in the second half of the XX century in the area of urban development. The great many laws and plans also result in gaps in the planning system.

Soil protection is an integral part of spatial policy and planning. Although this issue has been recognized as an urgent priority at the international level, there are still no dedicated regulations, such as physical local strategic planning tools, governing this area in Italy. Generally speaking, urban master plans require a general description of geological and environmental conditions of a territory but do not limit building regulations along hydro-geological lines. It ought to be noted that this varies from region to region, as regions are entitled by the national constitution to rule territory according to specific regional acts.

Under the "Sixth Environmental Action Programme", the European Commission adopted a "Soil Thematic Strategy" in 2006, which aims to establish a framework of rules to prevent soil deterioration and to preserve the ecological, economic, social and cultural value of soils. The key element of the strategy is the proposal of a “Soil Framework Directive", under examination, which will allow Member States to adopt appropriate measures to individual local conditions.

As mentioned before, despite the amendment of Title V of the Constitution (2001), which stipulates that the territorial government is regulated in concurrence between State and Regions, the Italian legislative framework does not provide for specific measures on the soil consumption issue. In the Italian rules, soils are not considered a limited natural resource and therefore subject to a specific regulation that provides for their conservation and protection. There are regulations for protections to meet specific needs, such as those related to the hydro-geological preservation or safeguarding protected areas, but there is no a discipline that seeks to enhance the soils altogether.

The few examples of Italian laws enacted in the last years that take into account regulation of soil sealing in the context of urban growth and transformation come from the following Regions, although the actual effects seem limited (Di Fabbio et al, 2007):

- Emilia-Romagna: Regional Law 20/2000,
- Umbria: Regional Law 1/2004,
- Tuscany: Regional Law 1/2005.

Last but not least, the building process in Italy is radically disengaged from the urban planning regulations because of, in large part, an exception allowed by Local Authority to PRG (Piano Regolatore Generale) in force which takes as reference landscape planning currently being rewritten, not yet adapted to the requirements and objectives established by the Code of Cultural Heritage and Landscape (Legislative Decree no. n. 42/2004). Needless to say, soil consumption is one of the components of urban planning management that continues to have as reference the National Planning Law of 1942, now largely outdated and unworkable both from the point of view of time and from that of the legal framework of reference (Fondo Ambiente Italiano, 2012).

The current Government (2012) is moving in the *defense of the landscape* direction. On September 14,2012, the Italian Government adopted the draft law

aimed at "developing the rural areas and the containment of soil consumption". It mainly involved (specific details are missing because this is currently in discussion in the Italian Government):

- establishing at the national level, the maximum extension of rural land for conversion in building land (those soils whose land-use can be adapted by planning regulations). The aim is to ensure balanced development of spatial planning and balanced distribution between the area subject to rural use and building areas. The Regions, in turn, establish it at a regional level and distribute it among Municipalities;
- establishing a National Committee for monitoring the rural land consumption in Italy and the use transformation of rural land;
- introducing the prohibition of changing land-use of rural land that used National or European funding for at least five years;
- promoting the rural housing recovery to facilitate preservation, renovation and restoration of existing buildings, rather than the building and construction activity of new urban areas;
- introducing a Registry in the Ministry of Agriculture in which concerned Municipalities, where the planning regulations do not include the increase in building area or an increase below the threshold, can be listed;
- abrogating the rule allowing building contributions to be partially removed from their ordinary purpose - which is to contribute to the costs of the primary and secondary urbanization works - and are addressed to running costs by the local authority.

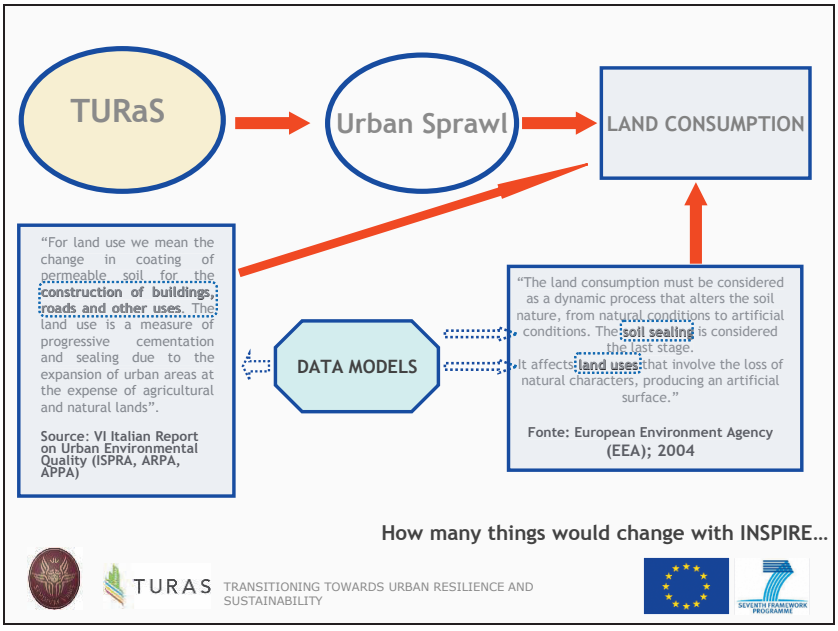


Figure 1.19

Some final considerations have been presented for further discussion and research. They may be summarised in the above slide which has been presented and discussed in Rome on the 14th of March 2012, "INSPIRE: prepararsi all'atterraggio," a National Workshop where the Ministry of Environment was actively present (SEE: http://www.isprambiente.it/it/archivio/eventi/anno-2012/5759-inspire). The programme details and presentations are available at (http://www.amfm.it/eventi/2012/INSPIRE/WS_2012-03-14.php).

The slide demonstrates that there are two different visions according to the two definitions of Soil Consumption. The one from EEA outlines that soil sealing is the final phase of a process which has to be monitored carefully from its inception and throughout execution. On the other hand, the Italian definition, which is held by the legal entities managing the environment, defines soil consumption as the result of a process which entails the building of man-crafted objects on a soil previously considered permeable. The difference is substantial considering the speed of the building process, the inertia of public administration, the tendencies toward illegal building and the aggression on protected areas. The two (EEA and Italian) definitions also deeply influence the data models, required by INSPIRE Directive, to be used in SDIs for monitoring and comparing data. This issue should enter the TURAS project and following works.

1.4.3. Provisions made in the master plans and access to land resources

Research questions: - How do the general/ master urban plans of the cities of Sofia, Rome and Belgrade treat the issue of urban growth? Do they plan for expansion? Are there efficient measures to protect rural and green land on the urban fringe and in the suburbs? What interests are being encouraged in local market players (residents, owners, developers) with regard to urban expansion?

Provisions made in the master plan of Sofia

Urban development and planning of Sofia and the problems of urban expansion

Urban development and growth of the urban area in Sofia is directly dependent on population dynamics in the city. The city has existed for about twenty three centuries, but it experienced the most rapid population growth after it was declared the capital of Bulgaria in 1879. In the period between 1879 and 1985, the number of inhabitants grew from 20,000 to 1,202,000. By 2001, when the new General Urban Development Plan was being prepared, the capital's population decreased to 1,172,000 and then again started to rise. According to the National Statistics Institute (NSI - http://censusresults.nsi.bg/Census /) since the last census in February 2011 there are in total 1,291,591 residents of the municipality. Of these, 1,204,685 live in Sofia.

The province of Sofia covers an area of 1,348.9 km2 in western Bulgaria, relatively close to the border with Serbia. It falls within the South-West Planning

Region under the common classification of territorial units for statistical purposes. It is the smallest in territory but the most populated in the country. The region of Sofia city has only one municipality - Sofia, which is subdivided into 24 districts. The municipality includes the city of Sofia and three other towns - Bankia, Buhovo, Novi Iskar and 34 villages.

Objectives of the General Urban Development Plan (GUDP) of Sofia in terms the peripheral and suburban areas

The preparation of the General Urban Development Plan (GUDP) of Sofia started in 1998 and was completed in 2003. The plan was only adopted in 2007.

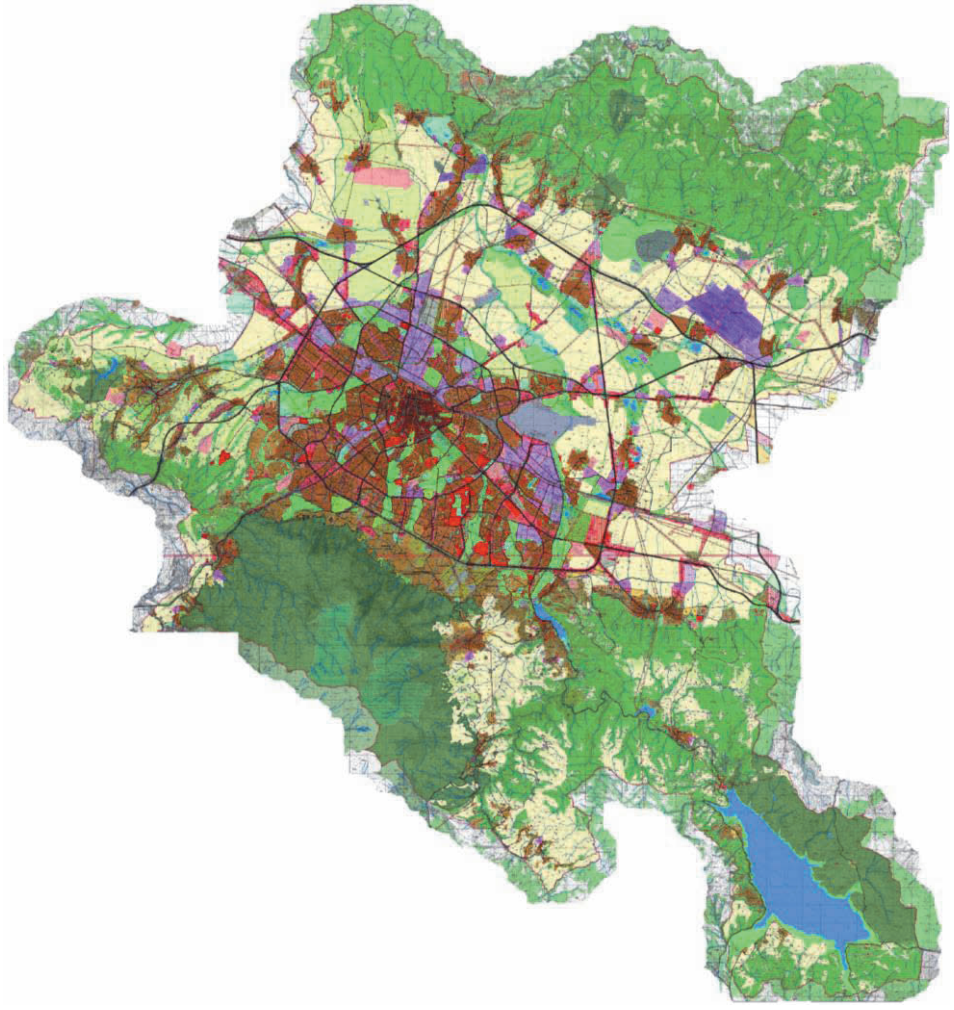


Figure 1.20: GUDP of Sofia and Sofia Municipality 2007
Source : http://www.sofproect.com/Default.aspx

Literally in just months after being passed, an amendment of the plan was undertaken and adopted in 2009. The specific objectives of the plan for these areas are defined as:

- Achieving competitiveness, adaptability and integration of peripheral residential areas;
- Decentralization of inhabitation to achieve a balance in the urbanization and utilization of reserves in the territories outside the compact city and the nearby suburban areas;
- Absorption of attractive habitation areas currently lacking infrastructure and removed far from modern city activities;

For GUDP the development of suburban areas is a priority, "expressed in a public initiative to organize the owners, generate Detailed Urban Plans for development zones on the whole and build basic infrastructure. The plan states that "the use of new land for housing is made with the leading motive of "activating the metropolitan area and opening new prestige markets" and to "unburden the compact city". However GUDP-2009 concludes that "the city needs new residential areas outside the compact city in order to relieve pressure from excessive investment driven development and provide new markets for single family habitation". Also in an update of GUDP in 2009 report states that "there is a growing trend towards concentration in the compact city (the highest in the last 86 years!), contrary to the predictions in the GUDP -2003". This observation is contrary to research detecting population growth in some of the suburbs at the expense of the central core. Both initial and updated plans are aimed at accelerating the development of suburban areas whereby existing conditions in southern territories be used more effectively and special measures are directed at the northern areas, to overcome their existing environmental problems as well as problems with transport accessibility. The northern suburban areas are seen as a major resource for future development of long-term inhabitation.

Specific guidelines from GUDP regarding the peripheral and suburban areas

According to the GUDP, agricultural areas in peripheral and suburban areas will be utilized for the needs of habitation as well as for service and manufacturing activities. Since habitation is a major aspect of the plan, respectively, its development in the peripheral and suburban areas is in direct proportion to its overall levels of development in the city and municipality. GUDP reported that "despite apparent market expansion, new construction reached an average of 1,700 residential units per year, more than twice less than the estimate of 3,700 residential units per year. However, the population underwent unexpectedly high growth. Although this is a subject of socio-economic forecast, we will highlight one of the main reasons for this unwanted process - the absence of a competitive environment in small and medium-sized cities and rural areas (labor market, prices of labor services)."

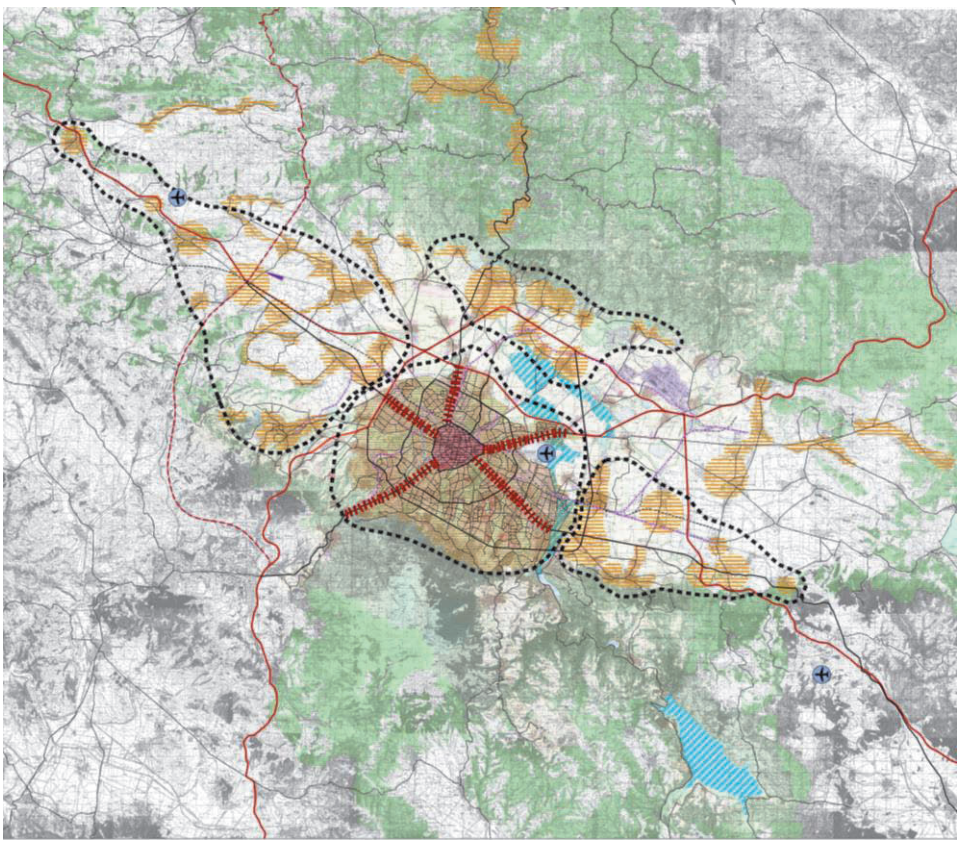


Figure 1.21: Scheme of the long-tern development of Sofia Municipality (after 2020)

Source : GUDP of Sofia and Sofia Municipality,
http://www.sofproect.com/Default.aspx

Based on more realistic estimates, the amended plan provides a more moderate pace of residential construction despite the very high rates of migration to the capital. Given the obvious attraction of the central city the estimates of GUDP for peripheral areas are:

- Southwest macrostructure - about 30,000 units and Southeast - about 26,000 units,
- Northwest - 11500 units for timely implementation of prescribed measures (preparation of detailed urban plans and development of infrastructure)
- Northern and Northeastern macrostructures - a total of 11,000 new homes.

GUDP-2009 envisages around 80,000 homes to be built for the planning period in total. Such estimates, in fact, can be considered a maximum, and even over optimistic, when data from National Statistics Institute is taken into account (NSI 2010, NSI 2012- Census 2011). However, if we assume that this forecast is realistic,

and we also assume that by 2030 the average rate of new construction will be 50% higher than the average for the period 2000-2011 and that the proportion of dwellings built in suburban areas will grow even further by 50%, we may calculate that the rates of construction in suburban areas will increase between 2 and 2.5 times. Under the current density of suburban development for the projected number of households by the end of 2030 (from 78 to 80,000), the land required will be from 1,100 to 1,400 ha.

GUDP-2009 projects reduction of the agricultural lands from current 52,898 ha down to 36,000, or almost 17 thousand hectares, which equals one third (more precisely 31.94%). This decrease in agricultural land is offset by an increase of forest and green areas (+8,170 ha) and urban areas (+8,580 ha). Along with the increase in urbanized areas (and within them) there is a reduction of manufacturing and public service sites. Sites for housing are increased (+1,900 ha) and those of mixed use (+4,920 ha), as well. Within the mixed use sites, sites for residential and service uses will develop predominantly. So, ultimately, habitation is the urban function with the biggest increase in the GUDP, including zones for mixed-use (residential and service) developments.

The territorial aspect of increase in residential areas was mainly in the southern suburban areas and, above all, in the Vitosha Collar and surrounding areas. We have to note that in 2001, under the previous master plan, vast agricultural territories fell within the construction limits of Sofia, but they belonged to local residents and in practice their actual land-use was not changed – they were still used for agriculture. Large areas within these territories were assigned for green lands. Under the new conditions, however, private lands could not be used for green areas, unless the private owners were properly compensated. Thus virtually all agricultural territories south of the Southern Arc of the Ring road had to be re-assigned for housing, including the lands that were formerly designated as green space. In effect, GUDP-2009 has allocated 3-4 times more new residential lots in suburban areas than the 1,100 to 1,400 hectares actually needed. This finding is supported by data on changes of land-use, i.e., agricultural land converted to urban use. Data show that in the period from 2004 to 2012, less than 500 hectares were changed from agricultural to residential, industrial or utilities. We reckon, however, that the excessive territories allocated for urbanization could be used rationally and in accordance with the principles of urban sustainability and resilience, ***if*** a system of structural and administrative rules and positive and negative economic levers and incentives is in place.

Measures and mechanisms for implementation / realization of the provisions in the GUDP-2009 of Sofia regarding peripheral and suburban areas

It can be said that the GUDP of Sofia is a precedent - it creates important preconditions that determine a different way of functioning of the urban system as compared to the majority of territories and cities of Bulgaria. The different functioning of the system is particularly important in peripheral and suburban areas. The new feature refers to the restriction of development rights for large agricultural lands mainly in Sofa valley – the territories to the north of the city. Zoning

regulations imposed by the GUDP restrict the owners' rights to develop their land, as well as the rights to change the land-use status from agricultural to residential, industrial and service functions. These lands constitute 35,624.60 ha out of a total of 36,000.20 ha agricultural lands. This means that 99%, practically all terrains in the GUDP -2007 (2003) and GUDP -2009, with preserved agricultural designation are protected against change of use. However, as noted above, the GUDP total area of agricultural lands is drastically reduced.

Another measure of Sofia's GUDP to regulate the process of conversion of agricultural lands is the definition of the so called "long term perspective" areas. These are territories forecasted for urbanization after the current planning horizon of 20-25 years. These sites have a special status because their agricultural use from 2020 to 2025 cannot be changed, but the plan envisages that a substantial part of them will be urbanized afterwards. Novelty is the mechanism of Article 15 of the Spatial Planning and Building Act for Sofia Municipality, which establishes a framework for public-private partnerships. Through Article 15, the GUDP establishes a minimum scope of territory for privately initiated Detailed Urban Plans (DUP)

The analysis of the implementation and realization of the GUDP is necessary to examine how these mechanisms work in accord with other regulations, rules, financial, tax and market leverages and fees. Market processes play a major role in the implementation of urban plans and therefore it is important to explore the planning and market mechanisms, which determine the behavior of market participants. A key consideration defining interests of market participants is the relationship between the cost of agricultural land and urban land. In Bulgaria, the price of agricultural land varies within the range of €1,500-2,000 per hectare, respectively: € 0.15-0.20 / square meter. In the rural areas of Sofia Municipality market value of the agricultural land range from € 0.05-1.00 / sq.m depending on its proximity to the city, credit rating, irrigation. Urban land prices are from € 30-40 / sq.m, to € 250 / sq.m, that is, the value of urban land is 50-60 to 400-500 times higher than the value of agricultural land. The difference between the lowest and the highest price is mainly due to the quality of the property for the realization of residential, industrial or services and is associated with its location, and the cost of changing its land-use status. The first factor - the quality of the property for residential purposes is determined by 1) the access to the city (proximity and existing road infrastructure) and 2) the quality of the immediate surrounding - exposure, view, landscaping, technical infrastructure. This factor is generally included in the price of land even if the property still has agricultural status. The second factor - the cost of conversion of the property are: 1) financial (state and municipal taxes, preparation of DUP), 2) time and effort lost to procedural issues and coordination and 3) cost of the risk of investing money, time and effort.

In this way the main cash outlay to acquire agricultural land and converting it into urban property are as follows - cost of agricultural land, the cost of preparing of DUP, all state and municipal fees for land-use change. In general, the role of state and local taxes in these procedures is to ensure not only its fiscal purpose, but also to

affect the behaviour of the market players; therefore fees and taxes are tools for market regulation.

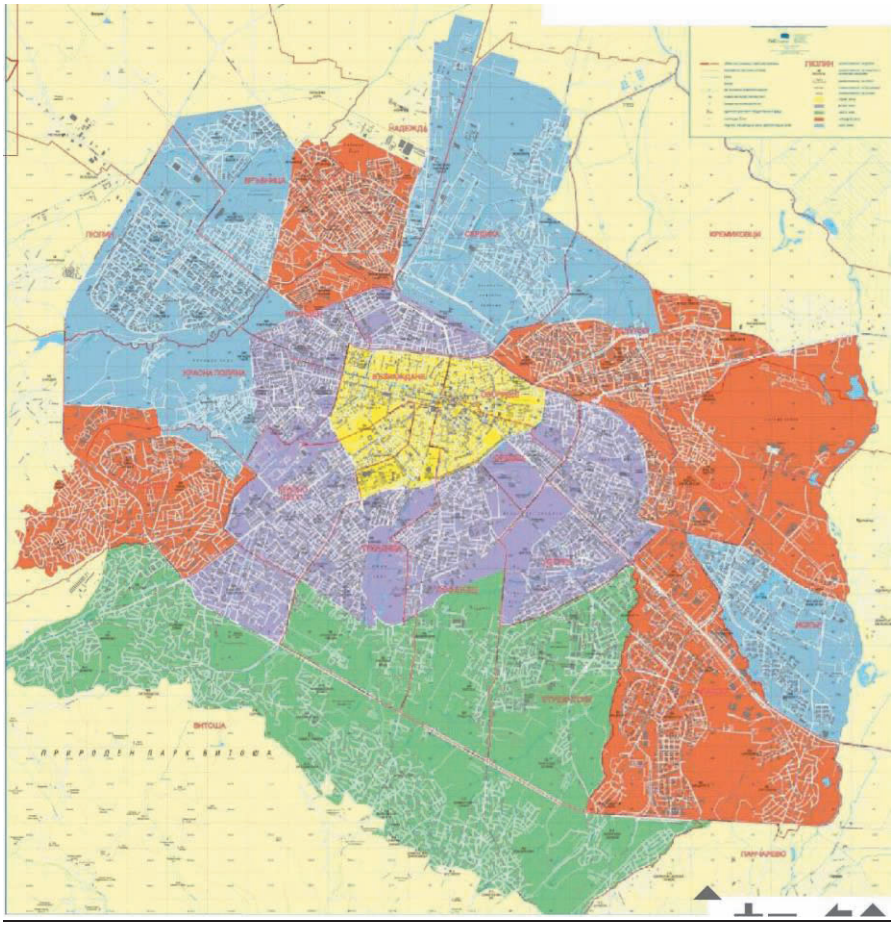


Figure 1.22: Map of tarrif zones of the Municipaity of Sofia

Source – map provided by the Municipality of Sofia

The fee with the greatest weight in the procedure of conversion of agricultural land is the one defined in the Tariff of the fees payable upon change of use of agricultural land, Decree № 112 of 31.05.2002, SG. No 56/ 7.07 2002. (Amended 2004, 2006, 2007, 2008). Under this tariff fee, change of use of land from agricultural to residential, industrial or utilities ranges from € 0.2 to € 2.5 per square metre depending on the quality/fertility rating of the earth. As emphasized in section 4.2, "legislation and national/regional system planning and regulation of land supply/access to land resources", if the new type of use is meant for socially significant goals (health, education, science, culture, environment protection, transport, infrastructure, etc.), the fee is 11 times lower. This of course also includes golf courses.

Obviously, the primary purpose of tariffs is to determine the value of land according to its "lost" agricultural properties - this is why the quality/fertility rating is a key factor determining the fee (although a factor related to the public interest and social policy is also included). Even more compelling evidence is the fact that fees are paid to the Ministry of Agriculture and Food. The comparison between market price of land and fee amount shows that agricultural resources are fully compensated. However, for the full value of an intended development project to be achieved, it is necessary to invest in other costly resources - mainly providing access, electricity, water, sewage, etc.. i.e., the provision of road and technical infrastructure is the investment with highest value. Infrastructure is, in principle, provided by the municipality and in many countries, various fees are paid (e.g., "impact fees") and / or taxes ("improvement" due to the increase in market value) and the like. In Sofia, the fee payable for the issuance of a building permit plays similar role. This fee is 3 to 14 lev per sq.m. (€ 1.5 to € 7) and is separate from the fee for project approval, which is only 0.10 lev for residential buildings and 0.20 lev per square meter for production and service (resp. = € 0.05 and € 0.1 per square metre).[1] The exact amount is determined by the area in which the property is located. For central parts of the city, building permits are 14 lev (€ 7), for the southern suburban areas, the fee is 10 lev (€ 5) and for the northern territories – 6 lv. (€ 3). Clearly, the charges are based on the expected market value of housing and not on the cost to build necessary infrastructure. As a result of this discrepancy, road and technical infrastructure that inevitably have to be built to serve suburban areas sooner or later, will be financed by all residents - taxpayers of the Municipality, instead of at the expense of the new settlers. This creates an incentive for developers to build in the southern suburban areas where selling prices are almost the same as the prices in the intermediate ("semi-central") regions, but the fees are lower. As a result, the municipality inevitably takes on the commitment to build the expensive infrastructure that will eventually service these newly urbanized areas.

Provisions made in the master plan of Belgrade

Master Urban Plan of Belgrade 2003, amended 2005, 2007, 2009 and 2014

The size of Belgrade's administrative territory in 2016 was 3,224 km^2, with 1,572,000 inhabitants, 567,826 employees (2015) in 73,940 SMEs (out of totally 201,000 SMEs in Serbia). The number of illegal buildings was 400,000 in the same year. The territory covered by the Master Urban Plan of Belgrade (in the sequel: MUP) of 2003 with a few changes (the last one in 2014) amounts to 77,600 ha, where 84% is urban construction land (state owned) and only 1% construction land is under social ownership.

[1] For easier comparison in this paragraph, values are calculated per square metre of land, not per square metre of built area

The main aim of MUP was transformation of the urban planning system in accord with socio-economic, political, institutional and organizational changes, which were market-led by the neo-liberal discourse. The strategic aim in the sphere of urban land management is establishment of a new governance model, based on market principles and on correcting their imperfections, by means of embedded general public interests. Some goals of MUP related to urban expansion and urban renewal have contradicted each other. For example, urban renewal was strongly stipulated, in parallel to ca. 50% increase of built urban land which was predicted at same time. MUP aimed to promote the existing advantages and competitiveness of the city to attract foreign investments. MUP foresees large structural transformation of river waterfronts, with an important market dimension. The application of conventional instruments in land-use policy (development fees, taxes) illustrates a weak connection with market. Direct impact of market and investor interests is, for example, the urban rezoning of the Port Belgrade proposed by MUP Amendment (2006), and "Belgrade Waterfront" project (2014). In the competition for European cities and regions of the future, organised by the Financial Times in 2006, Belgrade was announced as the "City of future of the South Europe".

Specific strategic aims referring to the development of suburban areas were defined as: 1) denationalization of both the ownership and management of urban (construction) land, correction of marketization, mainly in social respects and 2) de-metropolization – putting into effect more dynamic development of other parts of Serbia other than the Belgrade metropolitan area, and thereby lessening its population and economic burden. The importance of the following aims should be emphasized: 1) urban reconstruction, 2) registration of illegal construction, 3) completion of built residential areas in terms of their function, 4) provision of new areas for housing, 5) enabling distribution of the planned activities and jobs in suburbs, etc.

The MUP of Belgrade planned substantial changes in the structuring and zoning of the territory of the city. Basic data and indicators are presented in Table 1.14. In the time period 2001-2021 the biggest decrease is in agricultural land, from a share of 51.1% to 27.8%, mostly for industrial parks along key transport routes, followed by the increase of green surfaces of various kinds. Consequently, a sharp increase of total green surfaces is predicted. In absolute terms, the largest changes occur in economic zones (3,155 ha), transport zones (2,269 ha), housing zones (1,888 ha) and commercial zones and centres (1,336 ha). In terms of spatial distribution and organization, four broad areas were defined by the MUP, out of total of 77,602 ha, viz.: 1) Central zone (3,706 ha); 2) Intermediate zone (8,532 ha); 3) Outer zone (21,962 ha); and 4) Fringe zone (43,902 ha).

MUP prescribes the main development directions until 2021 for suburban areas along "Ibarska magistrala", highways to Niš and Zagreb, in direction to: Zemun, Batajnica, Avala, Pančevo, Smederevo, and Zrenjanin.

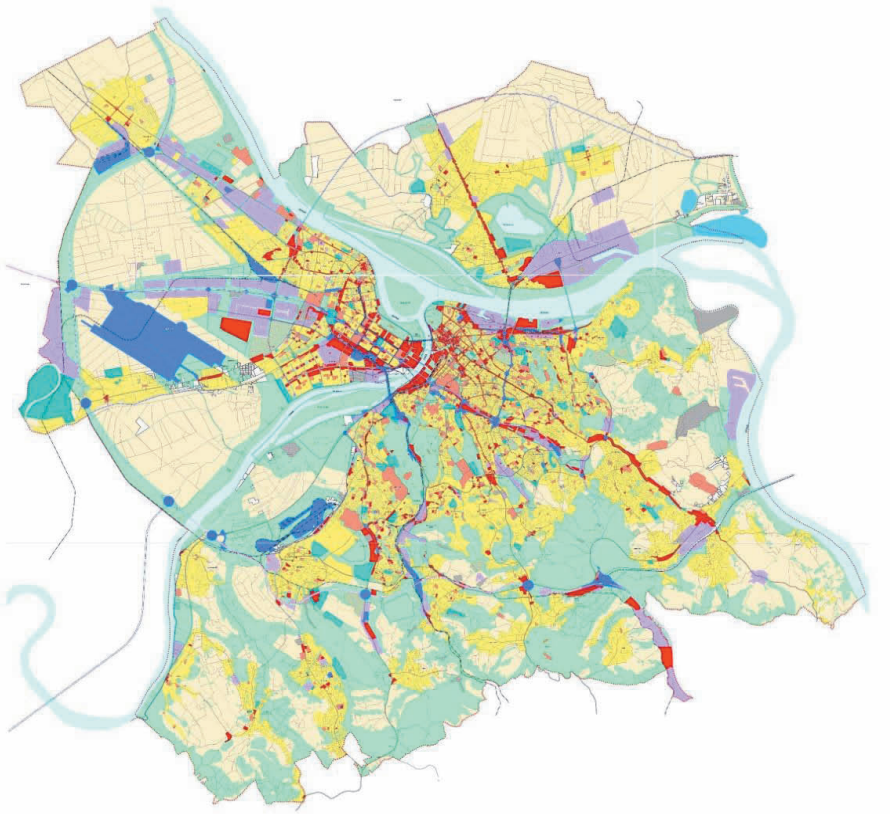


Figure 1.23: Master Urban Plan of Belgrade 2003, amendments 2005, 2007, 2009 and 2014

Source: *http://www.urbel.com/default.aspx?ID=uzb_GeneralniPlanovi&LN*

Regarding the large-scale illegal housing construction, Belgrade MUP has identified the spontaneously developed settlements and areas in the category "housing and housing tissue", as well as "economic activity and economic zones". MUP envisages further sprawl and enlargement of existing as well as the creation of new economic zones: along highways (between airport and Bežanija, Upper Zemun and Batajnica, highway to Niš, bypass highway), along Pančevo road, Ibar road and Smederevo road. Among the priority suburban areas for rehabilitation of spontaneously formed tissues, MUP designated settlements Altina, Padina, Mirijevo, Jajinci, and others. In suburban areas, MUP envisages an increase of surfaces occupied by transportation infrastructure by 39% (from the existing 2,319.7ha to 3,216.65ha). MUP has not proposed substantial improvement of access to suburbs by public transportation. Due to the global economic and financial crisis, the implementation rate of strategic directions and projects defined by MUP has been slowed down.

Table 1.14: Existing and planned urban land uses according to the MUP (in ha)

	Current land-use (2001)	Planned increase (UMP 2003) 2001-2021	Total (UMP 2003)	Planned increase (AUMP, 2006/2) 2001-2021	Total (AUMP 2006/2)
Housing	12,571.65	1,570.25	14,141.90	318.10	14,460
Economic zones	1,595.22	1,929.35	3,524.57	1,226.43	4,751
Commercial zones and centres	667.98	1,147.60	1,815.58	188.42	2,004
Public services and centres	1,123.10	275.04	1,398	47.86	1,446
Sports and leisure zones	685.87	502.01	1,187.88	-90.88	1,097
Green areas	11,365.27	9,044.64	20,409.91	-357.91	20,052
Agricultural zones	39,657.32	-15,904.12	23,753	-2,173.20	21,580
Water surfaces	4,071.05	101.16	4,172.21		4,172
Cemeteries	344.69	144.51	489.20		489
Transport zones	4,424.15	1503.56	5,927.71	765.29	6,693
Public amenities and utilities	345.30	436.40	781.70	76.30	858
Undeveloped land	750.39	-750.39	0.0	0.0	0.0
Total	77,602.00		77,602.00		77,602.00

The provisions of the MUP (2003) were precisely formulated in Amendments (2006, 2009, 2014), especially on strategic urban development and planned land use. MUP foresees measures for halting semi-legal and illegal upgrade and construction of illegal buildings. The implementation of MUP is based on its more detailed elaboration via detailed regulation plans. This process is initiated by the responsible organization (*Belgrade land development public agency)*, covering 80% of total construction plans. Only one detailed plan has been adopted for remediation of illegal construction (for the settlement of Jajinci), and another one is under deliberation (for the Smederevski road), otherwise designated as priority areas for

remediation of suburban areas. The process of further sprawl has been directed more by "spontaneous market mechanisms" – than by planning measures.

The policy of urban/construction land is laid out specifically in the regulations set forth in the City's *Decision on Construction/Urban Land (2015)*, *Decision on Criteria and Standards for Determining the Fees for Land Development* (2015) and *City's Decision on Determination of Zones in the Territory of Belgrade City* (2015), with 9 zones. In 2015, the development fees for construction land for commercial buildings (236.6 €/ m^2) is up to 37.5 times higher per m^2 in zone I (CBD) in relation to the price per m^2 for housing in the peripheral zone of Belgrade (6.3 € in zone VIII). From that year, there was no land development fees charged for the development of economic/industrial zones. Initial value of land development fees is determined by the purpose of the object (public services, housing, commercial-manufacturing, business-service and business-commercial) and the zone (the above-mentioned central, intermediate, outer and fringe zones - ca. eight zones and zone of specific purpose) – see Figures 1.24, 1.25 and 1.26. New land development fees range from 1:25 for commercial structures to 1:30 for housing and public services (in 2015).

Built/developed state-owned construction land is subject to lease for a period up to 5 years. The period is estimated based on the purpose, area and market value of land. The leasing procedure is conducted at a public auction for facilities up to 10,000m^2 of gross construction area, where the minimum amount of lease and the lessee's obligations are determined in the announcement for an open tender. The lease agreement for construction land in public ownership can be concluded for up to 99 years. The law provides the conversion of leased land into property right. The mechanisms for the determination of market values of sites through existing administrative methods derived from regulations are insufficient. For example, there is not a single square meter of land open for construction along Belgrade's highways and other development corridors currently. Construction land is being sold at prices ranging from 50-1500 EUR/m^2. This situation could have a discouraging effect on potential investors.

Another strategic document dealt with the issue of diminishing agricultural land in the broader Belgrade area. It has been found that out of 223,128 ha of total agricultural land, 43,354 ha (19.43%) were still publicly owned (in year 2006). The ownership status of only about 1000 ha of arable land is being disputed still. The data from the two sources on the agricultural land in the area of the City of Belgrade differs. According to the data provided by official statistical service of Serbia (RZS, 2012), the size of agricultural land in the City of Belgrade in 2011 was 212,000 ha (or 215,414 ha, according to the *Opštine i regioni u Republici Srbiji*, 2012), and 130,000 ha, according to the Agricultural Census (2012). According to the Republic Bureau of Geodesy (2013), the size of total agricultural land in the area of the City of Belgrade was 136,214.07 ha, that is 79,200 ha less than the figure from the former source. This indicates a dramatic decrease in the size of agricultural land, as well as intensive urban sprawl.

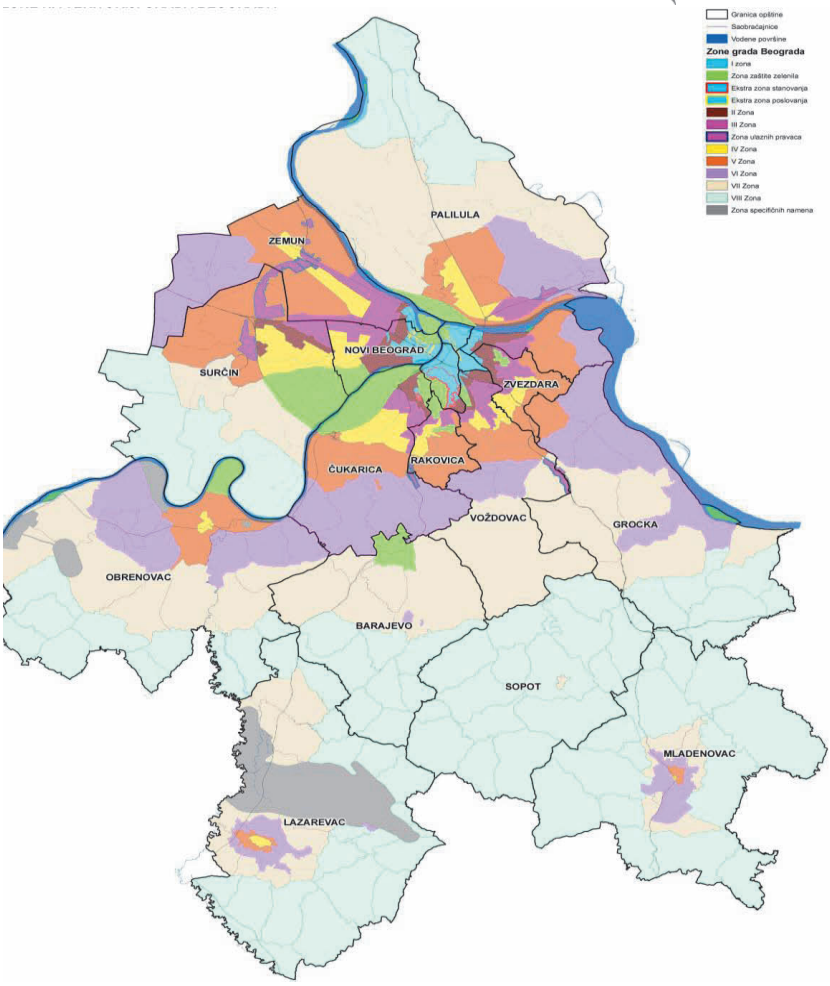


Figure 1.24: Zones in City of Belgrade – (I-VIII and zone of the specific purpose)

http://www.beoland.com/images/zemljiste/propisi/Odluka_o_odredjivanju_zona_dec_2015.pdf

The Strategy developed two alternative scenarios, the former focusing on the expected further decrease of total agricultural land, to the interval from ca 215,742 ha to 220,000 ha in 2015. The second alternative was elaborated based on the assumption that the size of agricultural land until 2015 will match the so-called "technological potential", market at ca 222,308 ha. This would however imply the implementation of a number of policy measures, with a view to prevent the further decrease of agricultural lands, covering all relevant aspects, viz.: concept of privatization of large agricultural estates; rational utilization of publicly owned land; improving market mechanism and instruments for agricultural land; etc.

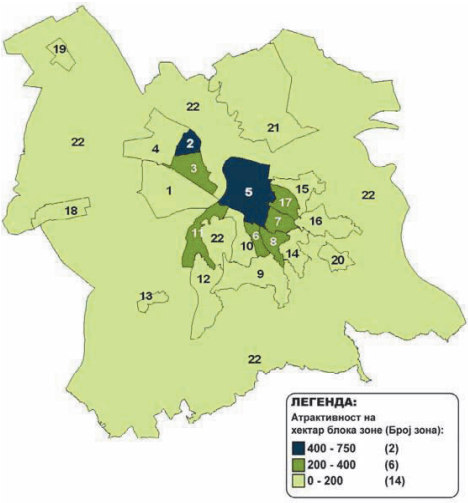


Figure 1.25: Belgrade's zones ranked by the degree of attractiveness – current status

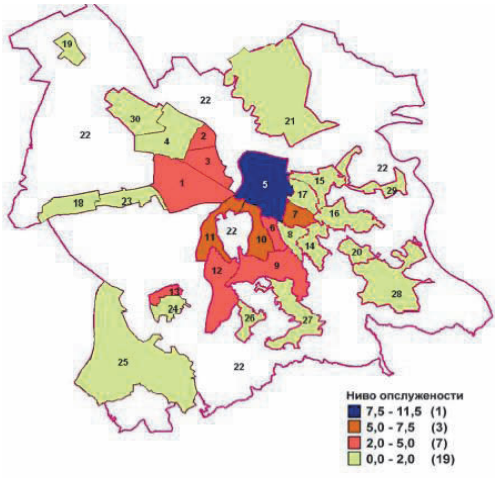


Figure 1.26: Area of Belgrade ranked by accessibility to public transport

Source: Strategija razvoja trgovine u Beogradu do 2015, Ekonomski fakultet, 2008

Provisions made in the master plan of Rome

Most of the 121 Municipalities (Comuni) in the metropolitan area of Rome (which is mainly overlapping the area of the Province of Rome) have a PRG. Only 5 of them have the so-called Piano di Fabbricazione (determined by national law of 1942 for smaller municipalities) and 1 small municipality, located in the East, still has no urban plan.

Many of the aforementioned Planning Regulations are quite old and have adopted 1st and/or 2nd revisions/amendments ("variante"). Figures 1.27 and 1.28 respectively represent the Urban Planning Regulations actually in force and the ages of those plans on the metropolitan area of Rome. Around 70 percent of the 121 municipalities included in the metropolitan area of Rome have an approved PRG. Another 24 percent have an old planning instrument in force but have an adopted new PRG or general revision / amendment ("variante") which are necessary for approval. The remaining 6 percent have either no instrument or another type of instrument. Around 20 percent of urban planning instruments date back to the 70's, 29 percent to the 80's, 34 percent to the 90's and 17percent originated after 2000. All this is mainly due to the processes of adoption and approval of plans that are rather long in Italy. Just consider the City of Rome, where a PRG is in force, whose development began in 1999, was adopted in 2003 and only definitively approved in 2008 (after more than 40 years of the previous PRG of 1962).

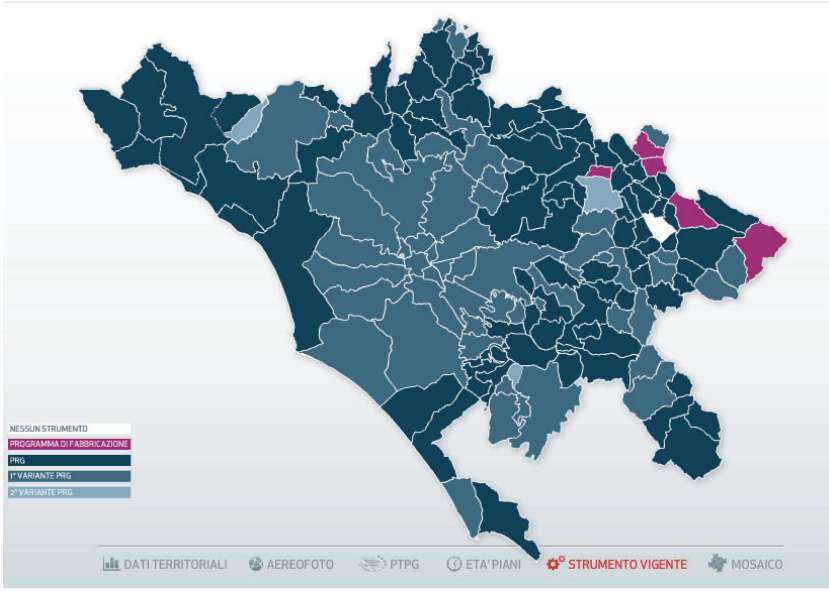


Figure 1.27: Municipaities in the Province of Rome with PRG, 1st Amendment, 2nd Amendment, Piano di Fabbricazione and no adopted plan

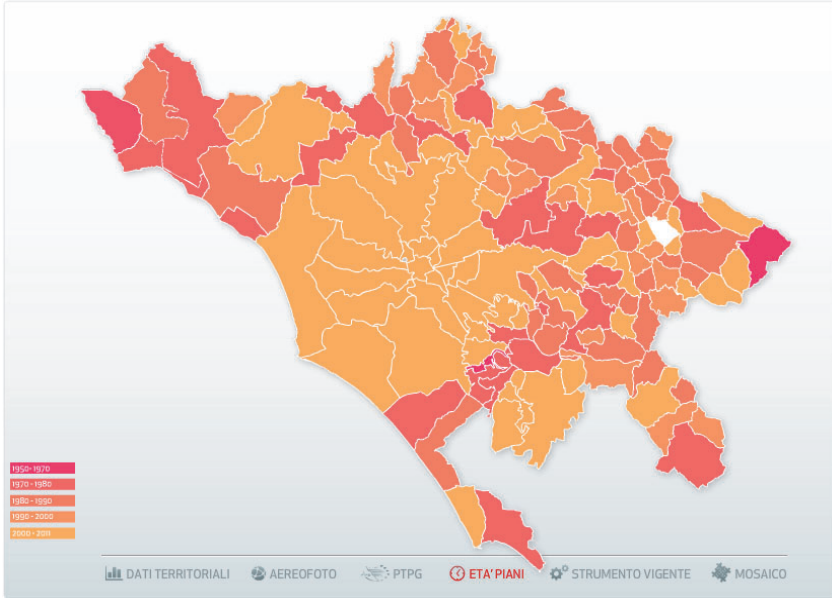


Figure 1.28: Municipalities in the Province of Rome by the ages of their Urban Planning Regulations

(http://capitalemetropolitana.provincia.roma.it) – section "territorial data"

The consequence of Urban Plans from previous generations has been the occurance of "spontaneous" residential expansions that emerged around existing built areas and along the main roads. In reaction to this, new Urban Plans tend to begin with harmonizing and regulating these different urban settlements, which have often encroached into the agricultural zone.

In Rome, unlike other European cities, a clear boundary between the urban and the rural areas, what is often referred to as a greenbelt, is missing. These areas which demarcate city limits are defined in the Municipal Urban Plan (Piano Regolatore Generale) at the expense of other various types of green areas. Another document named the "Piano certezze," which was approved in 1984, definitively establishes areas allocated for urban development and areas to be preserved for rural and green uses. However, the aforesaid Plan has actually failed to keep these zones pristine for rural use.

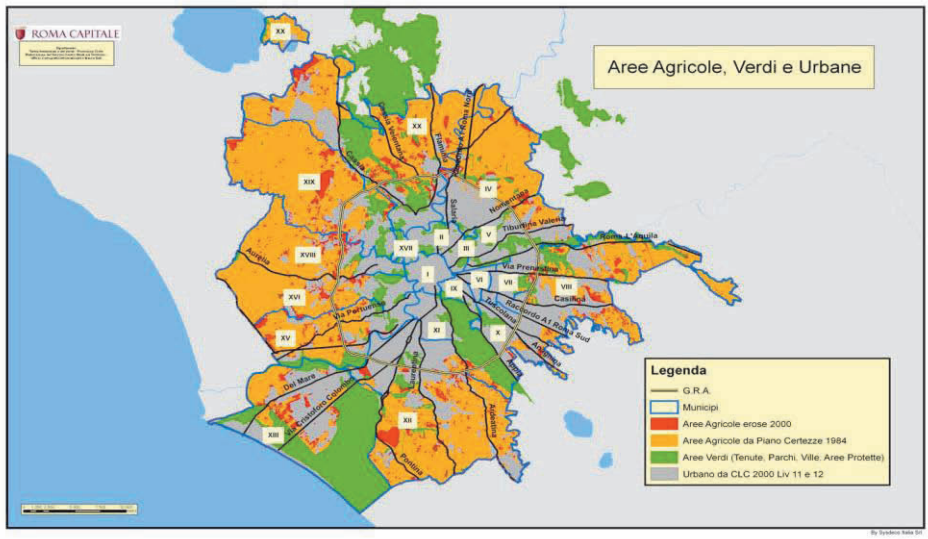


Figure 1.29: Consumed (converted) areas in the period 1984-2000

Map provided by the City of Rome

The problem of increasing urbanization of rural land and soil consumption was not prevalent in the plans of the 70s - 80s. Indeed, newer plans pay greater attention to environmental and natural threats and thus identify the special "value" of rural areas and highlight the need to contain urban settlements and restore existing built areas.

According to a study carried out by Province of Rome Authority ("Provincia di Roma PTPG - Rapporto Territorio: Capitolo 10", 2010), an analysis of different PRG, or similar documents, showed a predominance of residential areas, amounting to an average of 70 sqm/inhabitant. Much smaller areas are allocated for productive activities (about 27 sqm/inhabitant), for general services (2 sqm/inhabitant) and for public and strategic facilities (less than 9 sqm/inhabitant) – Table 1.15.

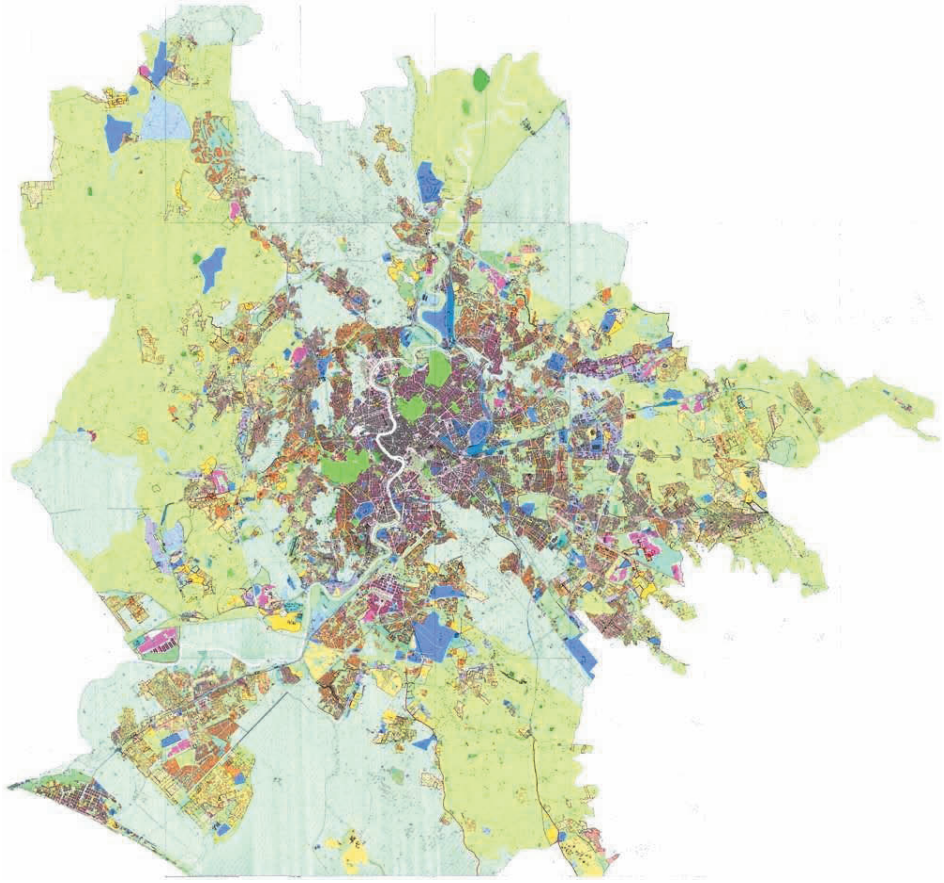


Figure 1.30: Piano Regolatore Generale di Roma

Source - http://www.urbanistica.comune.roma.it

Table 1.15: Balance (in percentage) of the differen types of territories (land-uses) in PRG - the City of Rome and the metropolitan area of Rome

	Residen-tial areas (%)	Areas for productive activities (%)	Areas for tertiary activities (%)	Areas for community services (%)	Areas for cultural activities, lei-sure, tourism, sports (%)	Rural areas (%)
City of Rome	27.69	3.20	4.24	11.41	0.81	52.65
Metropolitan area of Rome	37.91	7.46	2.44	11.52	0.81	39.86

However, it can be said that these data do not correspond to the actual situation. It is useful to mention that in Italy:

- When newer amendments ("variante") are adopted to supplement older urban planning instruments, they are often only partial and have the effect of distorting the nature of the original planning approach.
- There is a lack of continuous monitoring of the application and status of planning, action programs and their implementation, particularly with regard to soil consumption.

In this context, it is clear that the Municipal Plans (most of the Master Plans of the Province of Rome are older than 20 years) failed to give sufficient functional responses to the process of redistribution of building land and consequent demand thereof. In particular, the Piano Regolatore Generale (PRG) of Rome has not yet succeeded in achieving its objectives in relation to the New Centralities and the protection of rural land (Agro Romano), shown by the existence of a not very sustainable city from the point of view of mobility and soil consumption. The problem is now clear and the expansion of the infrastructure network as well as the consumption of new land is being addressed, with a view towards restoration projects.

1.4.4. Results of the interaction between market and urban planning and current suburban trends and market processes in Sofia, Rome and Belgrade

Research questions: - What is the response of the markets to the planning system and the master plan? What are the market trends in the peripheral and suburban territories and how do they relate to the plans, the planning policy, legislation and regulations?

Charles Schultze in The Public Use of the Private Interest (1977) says that "there exists no such animal as a 'natural' laissez-faire system sprung solely from private arrangements" with the result that "the free enterprise system, therefore, carries the label 'made by government.'" In this line, the main question in this section is: how do markets respond to urban planning policy, as it is implemented in the three capital cities with regard to urban expansion? That is – does city planning affect the market system in a way that in practice stimulates compact or sprawled development?

Current suburban trends in Sofia

Sofia's current development - compact development or sprawl

A popular fact is that the 1990s' were a "dark age" for planning in Eastern and Southeastern Europe. At this time, planning was perceived as a form of communist control and was dismissed in urban development –relegated only to piecemeal changes in obsolete plans still in force. It can be said, however, that since the beginning of the first decade of the 21st century, regional and urban planning in Eastern and South-Eastern Europe, including Bulgaria, experienced a revival. Along with this, the development of Bulgarian cities went through a period of "explosion-like," market-led boom. This boom, brought about by the opening of the property

market in Bulgaria, had two main focal points. The first was areas for recreation and tourism and the second was Sofia. Like the capitals of other post-socialist countries, the metropolitan area attracted significant interest from a number of local and international investors, companies and thousands of individual buyers. The pace of investment activity in the areas for recreation and tourism (in particular, areas along the Black Sea), Sofia-city and the rest of the rest of the country are shown in Table 1.16 and Figure 1.31.

Table 1.16: Newly built units per 1000 people, per region, per year

Year Inhabited areas	2001	2002	2003	2004	2005	2006	2007	2008
Average for Black Sea region	1.97	1.25	2.07	3.52	6.72	7.03	8.46	9.19
Region Sofia-capital	0.53	1.05	1.35	1.46	1.64	1.29	2.77	3.01
Average for rest of the country	0.59	0.60	0.60	0.49	0.52	0.76	1.17	1.36

Data from NSI - 2009, (http://www.nsi.bg/Population/Population.htm)

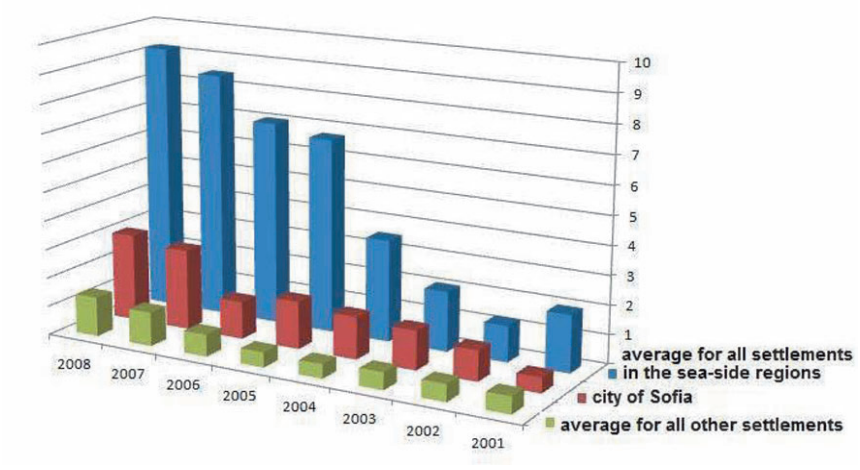


Figure 1.31: Newly built units per 1000 residents, per type of region, per year

During the first decade of the transition, rates of new construction in Sofia dropped 11 times. Then between the years 2003-2009, construction rates boomed, increasing from 5 to 12 times. In particular, between 2005 and 2008, the rates of construction in Sofia were between 2 and 3 times that of other regions. Along the Black Sea coast, this figure was between 6.7 and 13 times higher the national

averages. The construction boom in Sofia inevitably changed the structure of the urban structure. This is illustrated in Table 1.17 and Figure 1.32, which show the dynamics of the housing stock in the city. It is the result of the relationship between three factors – 1) preferences of residents (determining demand) and 2) capacity of the territory and 3) planning (defining supply in urban development).

Table 1.17: Number of housing units per type of districts in respective periods

Types of districts	before 1950	1950-1959	1960-1969	1970-1979	1990-1999
Central districts	17774	9127	5898	3828	2370
Inermadiate districts	14685	15549	45791	43972	24323
Peripheral districts	1694	2486	17441	62423	12107
Southern suburban	2891	3832	9518	10989	13111
Northern suburban	2507	4271	6030	7399	6005

Calcilations by the authors based on NSI 2012 - Cencus 2011- Population and housing stock, Volume 3, Book 23

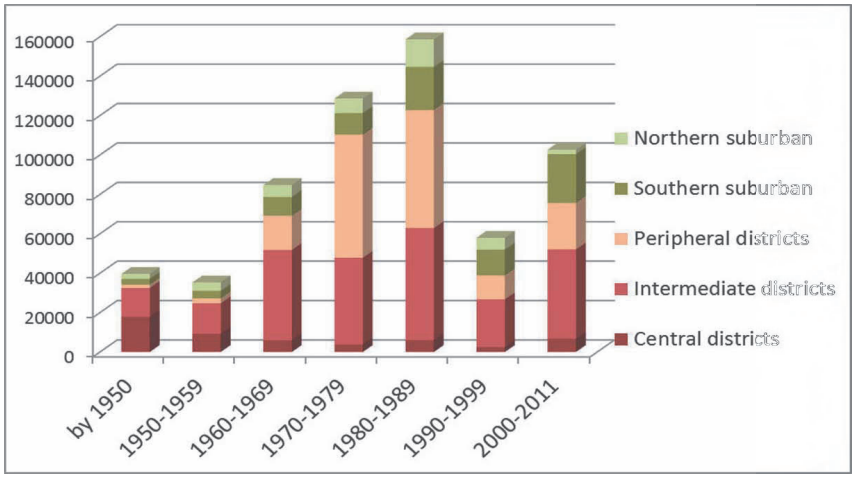


Figure 1.32: Number of housing units by periods of construction

Observations concerning the market trends of urban development:

1. The preferences of residents for central and intermediate (semi-central) areas are dominant. Although the capacity of the central regions was exhausted by 1960, interest in this area fuels continued development, which increased during the period of transition to market-led development beginning in 2000. Demand for housing in the intermediate (semi-central) areas has been a major motivating factor behind the

increasing share of urban housing in this region, from 35.8% in the 1980s to 44.1% over the last decade of market operation.

2. Peripheral regions have a significantly reduced share of housing in the urban structure – from 37.8% to 23.0%. This is mainly due to the ability of central planning during the socialist period to generate high rates of development in the periphery despite lower demand (compared to demand in other urban areas).

3. During the period of free market development, development rates in suburban areas changed substantially. The rates of development in the southern suburban areas show the greatest increase i.e. - in the districts Vitosha, Ovcha kupel and Bankya. Starting from 9.9%, their share increased by 11% and reached 21% of the total urban development. This confirms the conclusions reached in Section 3 regarding growing preferences of Sofia's residents towards the Vitosha collar, as well as the findings in section 4.3. on the guidelines set out in the GUDP of Sofia Municipality. In contrast to the increasing rates in the southern region, the territories north of Sofia attract fewer housing developments and their share decreased from 12.7% in the 1980s to 5.3% after 2000. This appears to be due to lack of market demand, but also because the measures proposed in GUDP are insufficient and, above all, lagging implementation of these measures.

Market indicators - prices and sales volumes

Price of land

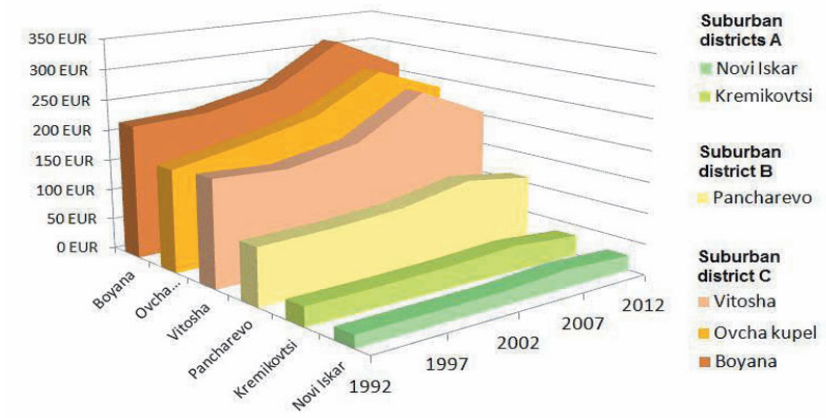
Primarily, land in the periphery and in near-urban areas is sold in Sofia. Average market prices for sales demonstrate very clearly the established preferences. As shown in Table 1.18, the average land prices in the southern areas are between 6 and 13 times higher than those in the north.

Table 1.18: Mean market prices of land in suburban areas by year

Districts	1992	1997	2002	2007	2012
Novi Iskar	20 EUR	21 EUR	22 EUR	29 EUR	24 EUR
Kremikovtsi	31 EUR	32 EUR	35 EUR	41 EUR	32 EUR
Pancherevo	93 EUR	96 EUR	104 EUR	126 EUR	110 EUR
Vitosha	174 EUR	168 EUR	189 EUR	256 EUR	205 EUR
Ovcha Kupel	167 EUR	189 EUR	215 EUR	276 EUR	233 EUR
Boyana	218 EUR	223 EUR	247 EUR	314 EUR	261 EUR

Source: Address Real Estate Agency

Figure 1.33 illustrates the dynamics of land prices by region between 1992 and 2012. Figure 1.34 shows the territorial distribution of prices and once again demonstrates a high demand for land in the southern areas, mainly in Vitosha collar.



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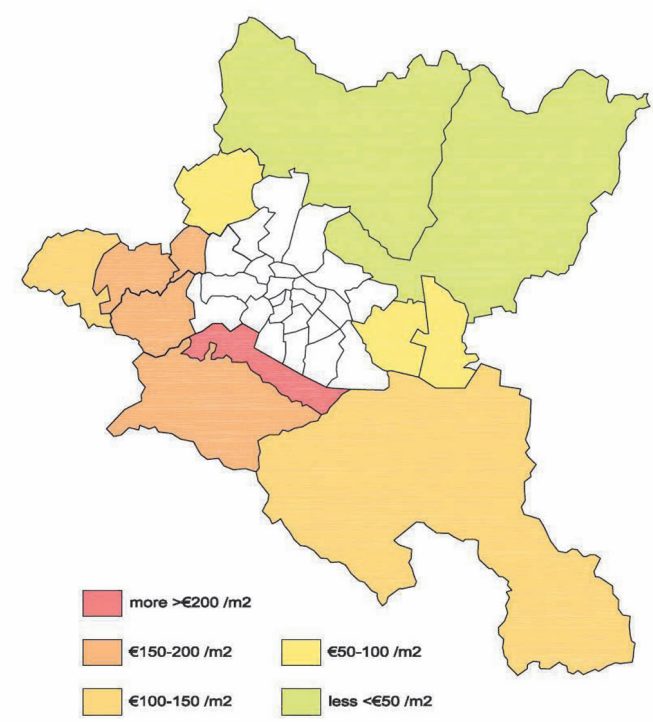

Figure 1.34: Land price levels in the suburban districts of Sofia

Source: Address Real Estate Agengy

The planning system can influence the price of land directly and indirectly. Indirect influence is generated through creating better conditions for realizing the assigned land use. Direct influence is exercised by regulating the

productivity of land as a resource to ensure the final product - in this case, residential property (but also other functions - manufacturing or service facilities). A major factor in this respect is the index of intensity (floor-space index, FSI). If there is demand for single housing on land in a certain area, the higher FSI would have a neutral or possibly negative impact on demand and, consequently, the price of land. However, if a particular area is in demand for multi-family buildings or mixed use, the higher density allowed will increase the price of land, because it would increase its productivity.

Another way in which the planning system can affect the supply of land (on the land market) is by facilitating or hindering the conversion of the land. Difficult procedures impose higher cost of invested time and increase the value of the risk of changing the status of land, which can significantly increase the cost of urban land. But if the procedures actually lead to better management of land resources, higher land prices may translate into higher quality of the resource and facilitate effective long-term development. When compared with the procedures in countries like Britain and Germany, Bulgarian procedures are relatively liberal and short.

Housing prices

While the demand for urban land is a derivative of the demand for the final product (residential, industrial, service facilities) and therefore land prices correspond to the final demand indirectly (an important factor in this respect is land's productivity), the prices reflect market demand directly.

As shown in Table 1.19 and in Figure 1.35, the highest prices mark the most attractive areas of the city - the inner parts of Lozenets, Triaditsa and semi-central - Izgrev. In peripheral and suburban areas, only in Vitosha Collar prices are catching up with those in semi-central areas. This is yet another testament to the changing preferences of citizens and the developing trend of increased demand for property in the southern suburban areas.

In regard to the role of planning in the development of the market, it should be noted that housing prices (and land prices) show that in the first half of the 1990s demand for properties in the south and, mainly, within the Vitosha collar was relatively high. Apparently such a demand already existed in the 1980s, but the planning system at that time did not allow higher rates of construction. In a free market, the direct impact of planning on housing prices is again connected to the ratio of density/intensity (coefficient of intensity of construction). It is a well-known fact that a liberal system of planning allowing high coefficients of intensity of construction raises the cost of land, while simultaneously lowering the price of the final product – housing.

Table 1.19: Mean market prices of dwellings in suburban areas by year

Districts	June 1995	June 2000	June 2005	June 2010
Central territories				
Central districts	507	291	712	951
Lozenets -inner	541	363	784	1054
Triaditsa -inner	471	333	782	1129
Intermediate districts				
Izgrev	481	303	749	1039
Krasna polyana	312	207	525	726
Krasno selo	433	274	598	841
Serdika -inner	395	192	514	714
Poduyane	267	168	453	656
Ilinden	315	196	521	745
Slatina	395	244	592	855
Lozenets -outer	521	308	655	786
Triaditsa -outer	418	289	618	871
Peripheral districts				
Mladost	336	213	556	757
Nadezhda	322	172	464	619
Lyulin	298	164	466	630
Iskar	264	172	463	621
Studentski	346	239	519	731
Serdika -outer	194	148	386	574
Southern sub-urban districts				
Vitosha	398	271	681	803
Ovcha kupel	283	183	467	675
Northern sub-urban districts				
Kremikovtsi	331	169	194	372
Vrabnitsa	206	138	427	554

Source: www.imot.bg (accessed 09/2012)

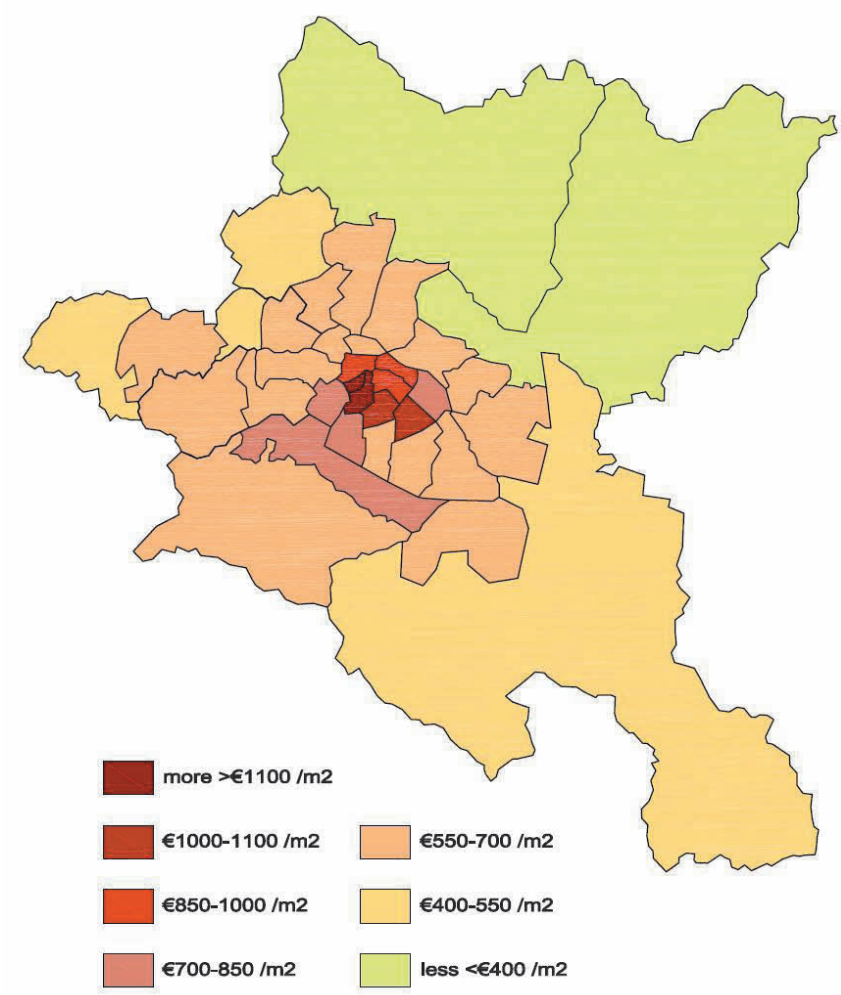

Figure 1.35: Mean market prices of housing by regions 2010.

Source: www.imot.bg (accessed 09/2012)

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Sales volume

Analysis of the data on real estate purchases and sales in Sofia demonstrates the intensity of real estate market dynamics during the transitional period. Due to its characteristics, this market was severely restricted during socialism, and the market processes were powerful soon after the start of the transition. In only two decades, the property market in Sofia has experienced two periods of construction boom (1992-1995 and 2003-2006) and two periods of stagnation (1996-2001) and since 2008.

Our study shows that prices alone are not a sufficient indicator of market processes. The number of sales, too, is an important indicator of market trends. The comparison between the fluctuation of prices and sales gives a much more complete picture. It is evident from the comparison between Figure 1.36 and data in Table 1.20 that, while in 2002-2006 the positive market trends are reflected in the upward curves of prices and sales, prices continued to rise between the years 2007-2008, although the number of sales decreased. In the period 2008-2011 – just the opposite - prices fell sharply by 40%, while the total number of transactions (sales) in the 14 surveyed areas decreased by only 2%.

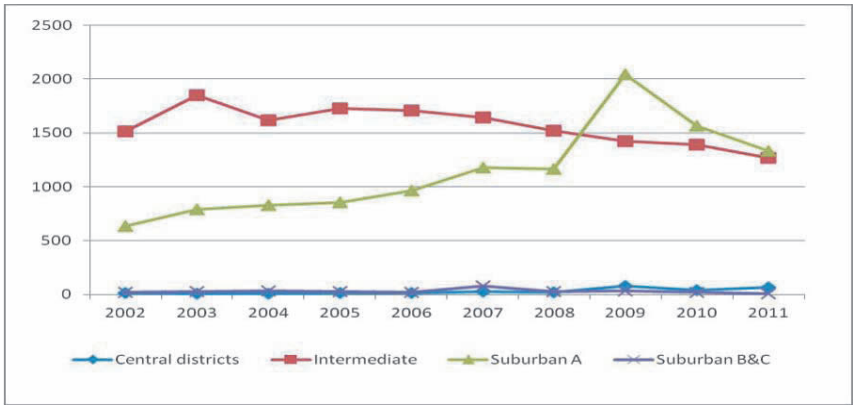
The final analysis of volume of property transactions in the period 2002-2011 leads to significant conclusions. The dynamics confirm the positive development of the property market over the period, as well as the activation of processes in semi-central areas (in central ones also, but to a lesser degree, due to their limited capacity).

Trends in suburban areas are of particular importance in this study. The dynamics of volume of transactions illustrates the differences between the northern and southern suburban regions more strongly than any other indicator. In 2002, the number of transactions in the southern territories was 2 percent. This should be compared to the total number of transactions in the 14 study areas, especially in view that only nine years later, the share of the number of transactions in the southern territories is almost 50 percent. Although the number of transactions in south suburban areas was reduced in 2009, 2010 and 2011, the number in 2011 still remains higher than the period before 2008. Contrary to these developments, trends in the northern regions are quite negative - with the sole exception of 2007, the number of sales there is below or around 1%.

Table 1.20: Number of sales and purchases in some districts of Sofia 2002-2011

Year / Districts	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Central districts										
Sredets	12	5	5	12	15	19	8	65	34	63
Oborishte	0	0	0	0	0	0	0	8	3	3
Vazrazhdane	0	6	1	0	1	6	15	7	4	0
Intermediate										
Lozenetz	778	990	798	893	838	784	661	594	599	576
Krasno selo	526	556	595	572	591	617	602	556	598	514
Slatina	82	113	78	92	107	122	98	179	79	78
Ilinden	81	116	101	112	94	62	99	58	73	62
Serdika	48	73	47	62	77	57	61	35	41	34
Triaditsa	0	1	0	0	0	0	1	2	3	4
Southern suburban										
Bankya	351	434	506	473	371	488	447	277	235	218
Ovcha kupel	266	340	318	363	571	675	689	1093	634	489
Vitosha	19	15	8	16	23	16	32	673	698	628
Northern suburban										
Pancharevo	6	4	3	4	3	7	4	5	6	2
Kremikovtsi	12	25	29	25	17	74	21	27	18	6

Calculated based on data provided by the Registry Agency



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Current suburban trends in Belgrade

Former socialist countries had a very specific experience in the area of planning and market interactions, especially in the process of suburbanisation. The Yugoslavian political system was proclaimed "market socialism" and thus, the market has been present in a more or less significant form in the urban development of Belgrade. This is true even in the period of the so-called "societal agreements", although in the form of "black"-illegal or "gray" market.

Despite that the communist/socialist regime of the former Yugoslavia was more open and flexible than some others; central planning in Belgrade exercised considerable powers. However, it still failed to regulate urban growth efficiently. The accelerated population influx created intense pressures on Belgrade's housing stock, which was partly developed by means of state companies or state organs that were entitled to develop flats for their employees (average 10,000 flats/per year). While this effort resulted in the creation of model settlements on vast vacant peri-urban sites, e.g. Novi Beograd, it solved the housing problem only partially. The rest of the incoming population to the city, such as members of the commuting industrial labour force, had to seek accommodation in the rural communities in the lands surrounding Belgrade. Therefore, planning policy resulted in the development of two separate peripheries and two types of suburbs – a relatively well-serviced one, characterized by organised housing estates and associated services, and an autonomous, often illegally developed, "wild" periphery, comprised of self-built private houses, largely devoid of infrastructure.

Typical of the Serbian and South-east European urban tradition, Belgrade is a rather compact city. However, contemporary processes of accelerated conversion of rural into urban land are being observed - mainly on the urban fringe. According to the sources of *Corine Land Cover*, agricultural land comprises 58.18% of total surface area in Serbia. Forest lands occupy 11.82%, the so-called "artificial area" (including also urban areas) comprises 3.4% of the total. In the time period 1990-2006, urban/construction land increased by 11,502 ha (at annual average of 719 ha). This increase was a result of the conversion of predominantly agricultural land (89.3% in the period 1990-2000 and 74.4% in 2000-2006), forest land (9.2% in the first period and 24.7% in the second), and to a lesser extent - wetland and natural grasslands. The average annual reclaiming over the whole period (1990-2006) was 351 ha, out of which 127 ha was for industrial and commercial uses, 2 ha for

transport infrastructure, and 239 ha for construction sites and waste deposit sites (Source: CORINE LAND COVER, EEA, Luxembourg, Evrogeomatika, 2007).

Among all relevant legislative acts, regulations and planning documents, probably those dealing with the issues of privatization had greatest impact on urban development and, especially, the development of peri-urban territories around Serbian towns and cities - Belgrade, in particular. Unfortunately, this impact can be assessed as negative in many aspects. The Planning and Construction Act of 2009 might have made things even worse, with stipulations providing for conversion of lease hold on urban (construction) land into property right – without applying a proper apparatus of market prices and other market instruments.

Except for national legislation and regulations, the Belgrade Master Urban Plan is, in fact, accelerating the trends of suburban development. Locations planned for new housing are in the compact urban tissue and peri-urban areas. According to MUP, the urban changes should be directed to "reduction in residential and commercial suburbanization".

The plan seeks to "unburden" the city by providing land for housing in peripheral locations. For this reason, MUP envisages a reduction of existing agricultural land by 18,007 ha (from 51.1% of its current share to 27.8% of its future share). Generally, half of this area goes for greened open space and the rest should be converted into industrial, housing and transport zones and areas. Concerning the supply of land for housing in the period 2001-2021, an increase of 1,888 ha has been planned, i.e., from 12,571.6 ha to 14,460 ha, which is an increase of some 15%, thereby increasing its share of the total urban land area in the Belgrade metropolitan area from 16.2% to 18.64% (see Table 1.13). Depending on the value of floor space index (FSI) to be applied, the MUP would allow for some 200,000 to 400,000 new housing units. In the period 2011-2021, according to the MUP, total population is expected to increase from 1,350,000 to 1,397,000.

Analysis and assessment of the current housing market trends in Belgrade

It is expected that in a market system, supply should match demand both in quantitative and in qualitative terms. In the former socialist system, the so-called "societal (social) directed housing construction" was made possible upon, first, almost non-exhaustible quantities of disposable lands in the urban outskirts, mostly of agricultural use, second, relatively low costs of their conversion to various urban uses, and third, dominant social (collective) ownership of urban land. Under such circumstances, in the area of the City of Belgrade on average 10,000 housing units were built annually until towards the end of 1980s (for example, 9,879 housing units were built in 1989). During the period of transition, average annual construction drastically fell to 2,500 to 3,000 (in the time period 2000-2005) and 4,000-6,000 (in the time period 2005-2011) housing units. However, average number of constructed dwellings should have been significantly larger, i.e. 16,690 units per year, if data from two consecutive population censuses (2002 and 2011) is applied. This discrepancy may well be ascribed to large-scale illegal construction of residential buildings (ca. 400,000

units in the City of Belgrade Area). The trends of housing prices in the municipalities of Belgrade in the period 2008-2012 (Table 1.21 and Figure 1.37) are indicative with regard to the current process of suburbanization. It was observed in section 2.2 that the central territories of the city are losing population, while the number of residents in the peripheral communes is increasing.

Table 1.21: Mean housing prices in the communes of Belgrade by years in EUR/ m^2

Year	2008	2009	2010	2011	2012
City of Belgrade	1387.17	1399.23	1364.66	1287.12	1267.21
Central urban communes					
Stari grad	2062.69	2140.36	2004.23	1834.70	1801.97
Savski Venac	1859.35	1963.99	1737.72	1746.49	1712.47
Vračar	1938.08	2026.38	1922.19	1814.25	1687.50
Novi Beograd	1712.28	1707.55	1586.57	1449.42	1443.49
Peripheral urban communes					
Voždovac	1421.24	1471.50	1498.47	1309.37	1287.25
Zvezdara	1387.55	1472.69	1485.44	1412.43	1349.48
Zemun	1289.54	1305.05	1308.29	1251.22	1193.69
Rakovica	1198.09	1273.63	1200.36	1131.61	1059.19
Palilula	1199.03	1236.23	1220.80	1158.10	1126.34
Čukarica	1264.47	1340.01	1280.65	1286.38	1164.62
Suburban communes					
Surčin	505.65	654.91	839.36	758.67	624.52
Grocka	530.98	625.67	785.61	839.55	858.08
Mladenovac	586.12	562.04	614.72	626.66	647.00
Sopot	391.72	424.69	493.04	359.49	533.72
Barajevo	351.96	481.94	422.46	484.85	497.99
Lazarevac	590.68	635.35	643.81	698.13	650.71
Obrenovac	579.96	622.90	706.78	670.92	687.62

Nevertheless, the central territories are still the most expensive, as indicated by Figure 1.38. This is typical even in sprawling cities across the globe because of the possibilities for alternative use that keep price levels high in central locations. But

the trends of suburbanization in Belgrade are strong enough to undermine price levels of properties in the central communes. What is more – suburban price levels did not fall during the period of the economic crisis and in this way have become relatively more expensive.

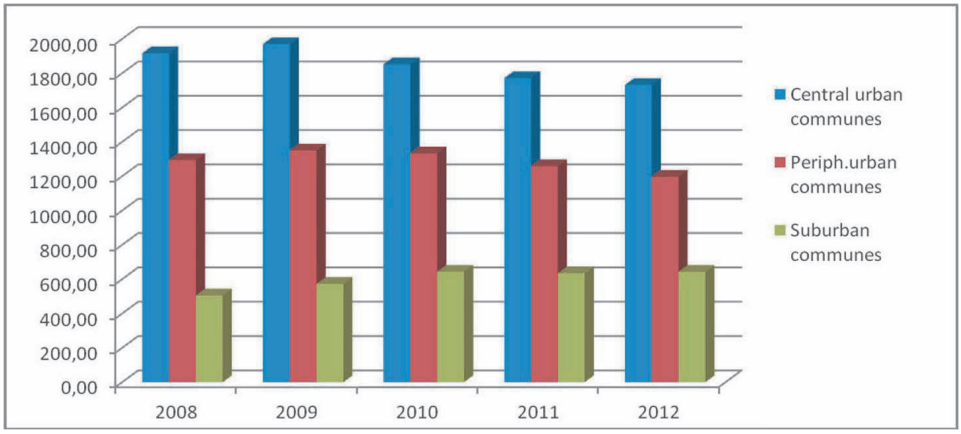

Figure 1.37: Mean housing prices in the communes of Belgrade by years in EUR/ m^2

Source – data from table 1.21

During the 1960s, illegal construction occurred in peripheral urban areas. This was due to rapid urbanisation, high housing demand and the inability of the socialist model to provide residential space. Since the 1980s, single-family housing has developed in the suburban areas of the BMA, usually characterized by poor or nonexistent public infrastructure. The lack of real policy of construction land and urban development additionally contributed to this situation, as a parallel model of housing provision. The process of privatisation of state and socially owned dwellings (1990-1995), which began in 1990 and continues until today, has been coupled with a massive and intensifying phenomenon of illegal building. In the 1990s, the key driving force was the accommodation of a large number of immigrants who came from Croatia, Bosnia& Herzegovina and Kosovo& Metohija to the BMA.

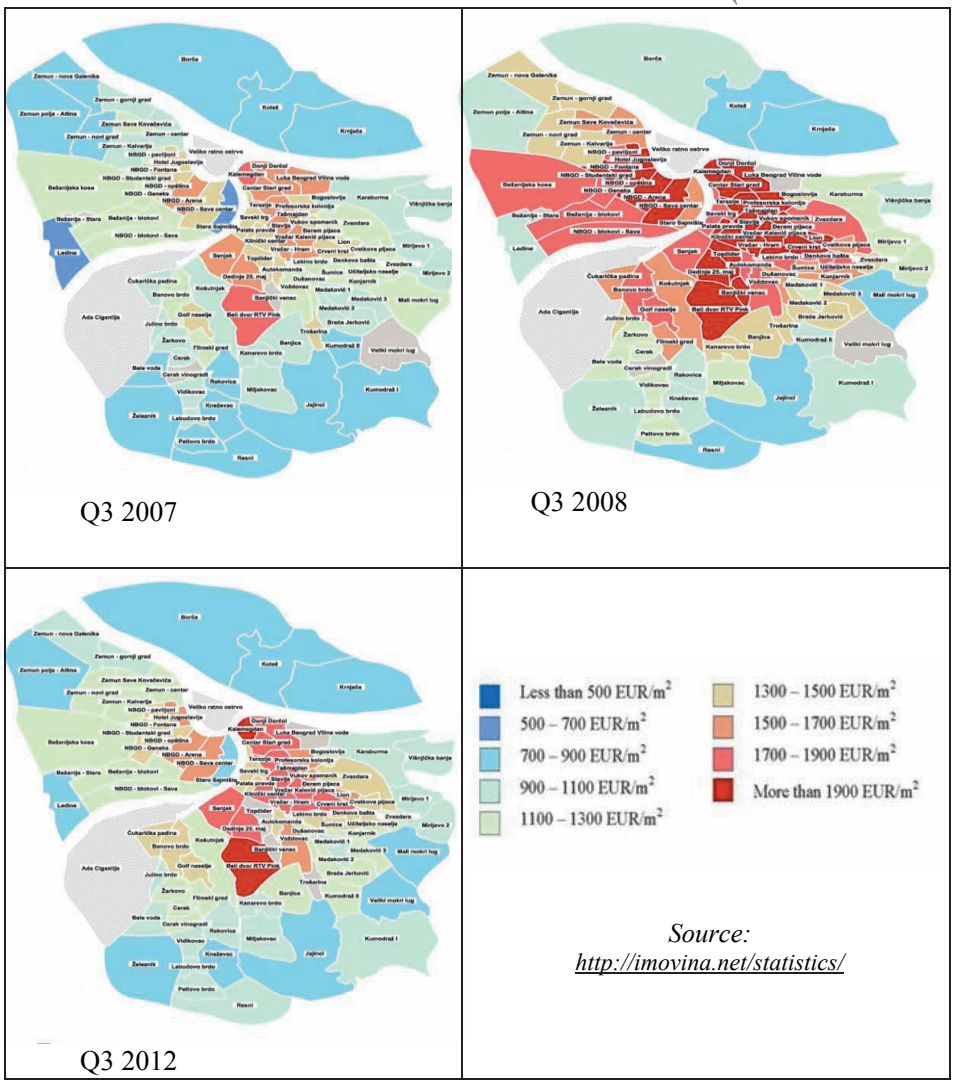

Figure 1.38: Territorial distribution of housing prices in Belgrade (up to zones, Q3 2007 – Q3 2008 - Q3 2012)

According to Harvey (2005), the main characteristics of post-socialist urban transformation are: privatisation of the state and social fund, creation of new urban face and identity, real estate bubble, deindustrialisation, intensive change of urban core, suburban industrialisation, and the rise of socio-spatial inequalities as the consequence of post-fordism. Since the 1990s, the new political contextual framework (a neoliberal market concept) supported the transformation of housing policy in Serbia. In this transformation we identified four main directions: a) mass privatisation of social housing in 1990-1996, b) mass and intensive illegal construction (especially in Belgrade), c) intensifying market housing construction, and d) initiating solidarity housing construction to a smaller extent (after 2000).

These processes initiated 'frantic-growth' in the City of Belgrade, with very high land conversion rates and population densities in some illegal settlements (Zeković et al., 2016). Manzotti (2009) indicates that Belgrade is a city almost half built in an "informal way", or illegally. At the heart of this phenomenon that never seems to slow down, despite the authorities' efforts to thwart it, lie real estate speculation and a systemic incapacity of planning to respond to the very real need for housing.

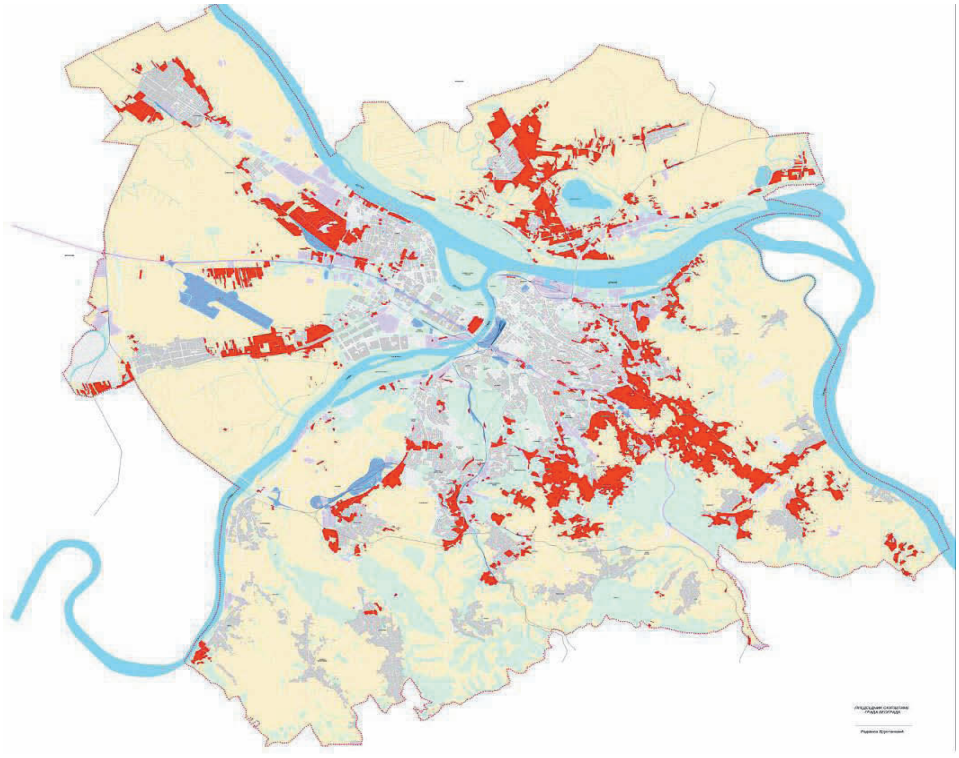

Figure 1.39 - Illegal and informal settlements in MUP Belgrade (red zones)

Source: UN-HABITAT, 2006

In Serbia, the "real-estate bubble growth" manifested itself via additional increases in illegal construction, now totaling some 1.6 million illegal buildings (34.8% of their total number). In the City of Belgrade there are around 400,000 of illegal buildings (Ministry of civil engineering, 2016, http://www.politika.rs/scc/clanak/310503/Cije-ce-se-kuce-rusiti-na-Tari-i-Zlatiboru). According to UNECE (2009), in the broader Belgrade area, these settlements represent the key form of urban sprawl, covering 22% of the land for construction and taking up to 40% of residential areas (Figure 1.39). The majority of informal residents live in compact housing, scattered over 34 zones and in 18 low density informal settlements in surrounding areas. This development was generated by the

decisions of numerous decentralised agents who solved their housing problems by decentralised actions which were of market type.

In the period 1990-2015 four laws were passed legalizing massive illegal buildings. However, these failed to regulate sprawl. The average time needed for issuing a permit has been around 130 days in 2009, but from 2015 it decreased to 30 days. Apart from the current crisis, unresolved property issues have been the key reason for prolonging pertinent procedures, and especially those which had to do with the – otherwise legally provided – opportunity to convert the right of leasehold on urban land into property right.

Measuring the sustainability of urban land-use and urban sprawl in the Belgrade metropolitan area

Some indicators for measuring sustainability in land use and urban sprawl in the Belgrade metropolitan area are presented in Table 1.22. In 2011, urban land consumption in the Belgrade metropolitan area was 670 m^2 per person. This is an extremely high value, higher than in all other European cities (compare with Bertaud, 2012). It is an indication of excessive urban sprawl (Zeković *et al.,* 2015) which makes Belgrade the "leader" in inefficient land-use and urban sprawl. Uncontrolled urban expansion with massive illegal construction is an indicator of "unhealthy" housing policy, urban governance, land policy and planning instruments in the post-socialist era.

Table 1.22: Indicators of sustainability of urban land use and urban sprawl in the Belgrade metropolitan area - NUTS2 (Zeković et al., 2015)

Indicators	**1991**	**2011**
Urban density (people per ha of urban area)	42.9	14.9
Urban land consumption p.c. (m^2)	233.0	670.47
U-Index (Human Use Index)[2] as % of human land use	-	68.78
Residential floor space m^2/p.c.	18.9	28.0
Agriculture land p.c. (m^2)	1,431	821-1,271
Urban sprawl (change in urban area vs. change in population; index 2011/1990)	-	0.378

[2] Human land uses have significant effects on environment (ecosystems, biodiversity, habitat, air and water quality, etc.). Urban sprawl can be measured by the so-called U-Index (Human Use Index). The U-Index is a measure of the total area that is covered by either urban or agricultural lands or the percentage of human land use in an area, including agriculture, urban and suburban development. The larger values indicate main disturbance of natural land area, while lower values show less deviation of natural land cover.

U-Index indicates some disturbance of natural land area in BMA. The greatest areas of urbanization in the Belgrade region occur in the central urban area of BMA. The urban sprawl index in BMA is 0.378 > 0 when the growth of the build-up area is greater than the growth of population, i.e. the density of the metropolitan area has decreased.

Current suburban trends in Rome

As explained in section 4, there are still no dedicated regulations, such as physical, strategic or local planning tools, seeking to address the issue of extensive soil consumption. Laws enacted in the last years that seek to control the processes of soil sealing have been adopted only in Emilia-Romagna (Regional Law 20/2000), Umbria (Regional Law 1/2004) and Tuscany (Regional Law 1/2005). Lazio is not among those regions, so these issues are not being treated seriously in Rome. It can be stated that regional and local legislation, regulations and planning in Lazio Region and the Municipality of Rome have not addressed the problems of urban sprawl so far.

According to Corine Land Cover data, nearly 90% of the land use changes that occurred in Italy between 1990 and 2000 were due to loss of agricultural areas, forests and semi-natural environments for artificial areas. More than 80,000 ha of Italian territory were "artificialized" by the new residential, industrial and commercial developments, as well services, extractive areas, roads, railways, etc (Maricchiolo et al, 2005).

Although residential areas underwent the greatest expansion (more than 500 square kilometers of land per year are consumed on average), industrial, commercial and infrastructural areas had a greater percentage of increase (10.7%). Soil sealing is largely attributable to Italian spatial planning strategies that have not taken into account the irreversible loss of soil, the environmental consquences, the valuable resources sacrificed and a lack of tools to be able to measure it. According to the Legambiente annual report "Ambiente Italia 2011" (http://www.edizioniambiente.it/eda/catalogo/libri/571) released by the Istituto di Ricerche Ambiente Italia (http://www.ambienteitalia.it)the estimated data are as follows:

urbanized areas = 2.350.000 ha = 7.6% National territory (= 415 sqm per inhabitant)

Urbanization increases mainly at the expense of agricultural areas, which decreased by more than 140,000 hectares in 10 years in Italy. The conversion of non-irrigated crops into urban land (sparse and discontinuous buildings) occurred for more than 17,000 hectares, and from rural areas with complex farming systems more than 16,500 hectares were lost. More than 15,000 of non-irrigated crops were transformed into industrial or commercial areas. The phenomenon of urbanization is most evident in the North, where almost half of the areas that have become artificial have left agriculture and growth of natural areas larger in the South, with 70,000 hectares of ex-farmland now used differently and 40,000 hectares of new natural or semi-natural areas.

In recent years, the area of the city of Rome has experienced a massive expansion of building. One study on soils transformation into urban uses in Rome from 1993 and 2008 reveals that in 15 years, artificial areas increased by 12% (4,800 hectares, almost three times the "historical" city included within the Aurelian Walls). During the same period, the population increased by 30,887 inhabitants, with an average of 150 square meters of soil transformed for each new inhabitant. The transformation particularly affected rural soils (Rome is the largest rural area in Europe) but also major portions of natural areas. A total of 4,384 hectares of agricultural land was pushed out, 13% of the total and 416 ha of forest land. Currently, according to planning regulations and programs in force in Rome, a further consumption of 9,700 acres (*0.4047= ~4000 ha) is expected. This expansion will affect mostly agricultural areas and will eclipse the transformation which occured between 1993 and 2008.

Last but not least to denounce the continuing critical situation in the City of Rome were some environmental groups. In recent months, the City of Rome Authority launched a call to identify some areas for social housing development. The current prediction is 135 areas expected in 1,900 hectares, with 20 million cubic meters. Numbers of the real housing needs, which had been estimated in 27,500 housing now become more than 60,000 (Republica, July 05 2012).

The following analysis is based on data of housing purchase and sale transactions, collected and processed by Italian Territory Agency - Agenzia del Territorio. The statistical enquiry considered by the Real Estate Observatory is the Normalised Number of Transactions (NTN). The second one –also elaborated by the Real Estate Observatory- is the IMI, an indicator of Real Estate Market Intensity representing the ratio between the NTN and the Real Estate Stock. The comparison among nine main cities (Turin, Milan, Genoa, Bologna, Rome, Florence, Naples) showed that in 2010 the Rome area ranked second for completed transactions (51,484), only after Milan. For the Real Estate Intensity Indicator, the Rome area ranked second (2,4%) also after Milan while in 2006 it ranked fifth and in 2008 fourth. Between 2004 and 2010, there was a decrease in annual purchase and sale transactions in all the areas. However, in 2010, they increased again with an average growth of 6,9%. The best results were in Milan (+6,7%) and Rome (+12,7%).

Considering the geographical distribution, the Real Estate Market Observatory has focused on the shift towards neighborhoods in the last years. The main reasons for this shift are:

- The increasing housing prices in main cities
- The greater availability of dwellings in neighborhood areas

In 2007 17,165 new dwellings were built in Rome and listed in the Real Estate Register, some 9% less than the previous year. In Italy, only in Milan there has been a growth in the number of new dwellings (19,289). Nevertheless, there is an opposite trend because in Rome, dwellings are mostly built inside the city borders while in Milan, they are developed outside them. This mostly occurs due to the huge

extent of city territories in Rome as well as the importance of some relevant cities in the Milan province. The greatest number of new dwellings in Rome is built outside the urban belt highway (G.R.A.) accounting for about 70% of new houses in 2007.

Exceptionally in Rome since 2010 there has been an increase both in city and neighborhood areas even if in 2008 a relevant decrease was registered. The fall started in 2006 while in neighborhood areas it started in 2007 compared to the previous year.

In 2010, excluding Bologna, there was an increase in the turnover of purchase and sale transactions. The building sector and urban processes deeply influence real estate market trends.

Property prices in Rome

Data[3] in this paragraph are based on information provided by the Observatory for the Real Estate Market (OREM) of Agenzia del Territorio and recorded prices refer to OREM areas on which the Observatory made a precise segmentation. For better data processing, the city of Rome has been divided into 23 macro areas which share similar characteristics with regard to density, social and economic situation, etc., which aggregate a number of OREM areas (in total 308).

The highest market price is recorded in Rome. In fact, in Rome the houses for residential use have an average value of € 3,307 / sqm.

The prices differ widely: the average value ranges from € 10,750 / sqm for an apartment in Piazza Navona to € 2,050 / sqm. for an apartment in the east suburban area of the City. The average value of the hinterland ranges less: from € 1,000 / sqm. in Canterano (East interland of Rome) to € 3,200 / sqm for a valuable house in Grottaferrata (South – East interland of Rome, in so called Castelli Romani area).

Territorial centrality hasn't been the only parameter considered. Three other important factors have been taken into account: proximity and access to services, housing quality and socio-environmental context.

In Rome there are many central areas whose housing quality is increased by their historical-artistic heritage and desirable social contexts. Nonetheless, there are many poor-quality areas. Moreover, even some central areas are degraded while some of them are undergoing huge restorations.

As for provincial neighborhoods, the main factor raising market prices is the distance to Rome. It is followed by the distance to coastline where the demand is not only supported by residents but also by people who want to buy a summer residence for holidays.

[3] Claudi Baffioni and colleagues from Comune di Roma have contributed substantially to data collection and analysis in this section.

Table 1.23: Mean prices of housing in OREM macroareas in the period 2005- 2011

URBAN MACROAREAS	2005 €/sqm	2008 €/sqm	2010 €/sqm	2011 €/sqm
Historic center	5,366	6,922	6,467	6,796
Appia Tuscolana (semi-central)	3,164	4,287	3,989	4,012
Aurelia Gianicolense (semi-central)	3,193	4,231	4,042	4,090
Ostiense Navigatori (semi-central)	2,753	3,679	3,426	3,439
Parioli Flaminio (semi-central)	5,215	6,418	6,196	6,215
Prati Trionfale (semi-central)	4,130	5,487	5,372	5,347
Salaria Trieste Nomentano (semi-central)	4,038	5,361	5,114	5,130
Tiburtina Prenestina (semi-central)	2,531	3,579	3,360	3,370
Appia Tuscolana	2,774	3,584	3,341	3,373
Aurelia	2,567	3,441	3,169	3,187
Cassia Flaminia	3,445	4,537	4,438	4,464
Cintura Eur	2,230	3,346	3,325	3,341
Eur Laurentina	3,057	4,189	3,941	3,972
Portuense	2,625	3,526	3,214	3,234
Salaria	2,665	3,778	3,543	3,559
Tiburtina Prenestina	2,340	3,111	2,845	2,887
Outside the ring road - east	1,876	2,697	2,507	2,509
Outside the ring road - north	2,058	2,758	2,523	2,554
Outside the ring road - north west	2,058	3,002	2,933	2,907
Outside the ring road - west	1,336	2,800	2,575	2,604
Outside the ring road - south	1,855	2,597	2,495	2,548
Outside the ring road - south west	2,243	3,147	2,921	2948
OSTIA LITTORAL	2,247	3,320	3,004	3,021
TOTAL/AVERAGE CITY of ROME	**2,888**	**3,883**	**3,634**	**3,673**

Table 1.24: Average price for housing market (values at constant prices in 2010)

Group	Denomination	AVERAGE PRICE			Variation		
		2006	2008	2011	2006-2008	2008-2011	2006-2011
1	Central	5,145	5,696	5,347	10.7%	-6.1%	3.9%
2	Semi-central	3,461	3,856	3,537	11.4%	-8.3%	2.2%
3	Peripheral	2,865	3,208	2,871	12.0%	-10.5%	0.2%
4	Outer periphery	2,477	2,799	2,522	13.0%	-9.9%	1.8%
5	Metropolitan area	1,801	2,084	1,959	15.7%	-6.0%	8.8%
6	Suburban area	1,081	1,240	1,187	14.8%	-4.3%	9.8%
7	Metropolitan periphery	790	883	865	11.9%	-2.1%	9.6%
8	Border Communes	780	897	886	15.0%	-1.2%	13.7%
	TOTAL	2,260	2,546	2,353	12.7%	-7.6%	4.1%

Source: CRESME's processing on data provided by Agenzia del Territorio.

Table 1.24 is derived from a study conducted by the well-known expert institution (CRESME) of housing market. The study confirms that the cost per sq/mt in the external periphery is less than half of the cost in inner city center and 2/3 of the price of sq/mt in the near inner city zones (near-centre zones). The cost of sq/mt of housing becomes extremely low in the marginal Comuni (in the extreme periphery of metropolitan area) and in some areas of the periphery of Roma Comune. It is wise to note the decrease of market value of sq/mt of housing between 2008 and 2011. In the center the value collapsed more than -6% as well as in all zones of the metropolitan area Only the marginal Comuni resisted having a percent decrease of about -1%. It is possible to deduce that since 2008, the inhabitants looking for substantial savings in housing costs were moving to other Comuni and to commute to Rome for working.

Real Eastate Transactions

In 2010, 51.484 residential real estate transactions in the Province of Rome were registered. Of these, 33,168 transactions (equal to 64% of the provincial housing market) were registered in Rome.

Observations about real estate market trend in Rome – Years 2005-2008-2010-2011

As for year 2005 (II quarter) the broadest market in terms of number of standardized transactions (NST) , by analysing macro areas, is OUTSIDE OF GRA

(RING ROAD OF ROME) EAST macro area (5.151,48), then Tiburtina Prenestina area (4.284,09) where new housing settlements are growing and Aurelia macro area (3.280,86). Vice versa, OUTSIDE OF GRA (RING ROAD OF ROME) WEST (442) and SEMI-CENTRAL PARIOLI-FLAMINIO (544) are the macro areas with less market volume, the first one scarcely built-up, while the second one includes not very extended OREM areas (Observatory of Real Estate Market) with not very intensive housing typology .

As for year 2008 (I quarter) DON BOSCO 1 (1,077 NST – macro: APPIA TUSCOLANA), LUNGHEZZA DI CASTEL VERDE A (649 NST –- 12 -macro: OUTSIDEW GRA EAST), OSTIA LEVANTE (591 NST – macro: OSTIA LITTORAL) and MONTESACRO A (590 NST –macro: SALARIA) are areas with higher handling of houses. These areas have two opposite situation in terms of variation of number of standardized transactions (NST), while DON BOSCO 1 (-6.22%), LUNGHEZZA DI CASTEL VERDE A (-22.53%) and OSTIA LEVANTE (-47.95%) areas reflect market negative trend, MONTESACRO A (62.10%) area shows an important increase that could result from buy-sell transactions related to real estate securitizations.

As for year 2012 (II quarter) the majority of real estate buy-sell transactions (>1000 NST) are registered in outside GRA East macro areas (1,856 NST), Tiburtina -Prenestina (1,523 NST), Aurelia (1,254 NST) and Salaria (1,033 NST). Only one of the four areas (Outside GRA East) shows a little downturn of transactions compared with the second semester of 2009 of -6.0%, the other areas show a positive trend with increases from +3.9% (Salaria) to +11.1% (Tiburtina Prenestina). The highest increases, more than 20% of real estate changes compared to the second semester 2009, are the Cintura Eur macro area (+80.3%), Outside GRA West (+42.0%) and Portuense (+24.7%). Outside GRA East macro area, with an increase of nearly 2% (compared to the first semester 2010) of sales quota based on the Municipality, accounts for in this semester 11.63% of roman market, followed by Tiburtina Prenestina macro area with 9.54% of roman transactions. The smallest part of the roman market belongs to Outside GRA South macro area, which takes up only 0.79 % of NST.

As for year 2011 (I quarter) the majority of real estate buy-sell transactions are registered in Outside GRA East macro areas (1,655 NST), Tiburtina Prenestina (1,532 NST), Aurelia(1,197 NST) e Salaria (1,133 NST). Nevertheless, these four areas report worse losses in Salaria (-7.4%) and Aurelia (-6.4%) areas, lighter ones in Outside GRA East (-3.5%) and Tiburtina Prenestina (-2%) areas. There are on the contrary increases by over 10%, compared to the first semester 2010 in Outside GRA South West macro area (16.5%) and Semi-central Tiburtina Prenestina (108%). The biggest part of roman market belongs to Outside GRA East and Tiburtina Prenestina macro areas that together represent nearly 20% of the entire municipal NST quota, (respectively 10% and 9,2%). 14 of the 23 macro areas of Rome, regarding the previous period, which count for nearly 70% of municipal housing stock, have a decreasing variation, among which Ostia Littoral. Historic Center, Outside GRA North West, Eur- Laurentina and they also have a considerable flexion which goes from 0.8% to 16.5%. Outside GRA South West area (16.5%) and Semi-

central Tiburtina Prenestina area (10.8%) growths are remarkable. The highest market price is registered in Historic Center (6,796 €/sqm) which shows a differential equal to 1.90 times the municipal average.

There are then Semi-central Parioli–Flaminio macro areas with 6,215 €/sqm, Semi-central Prati-Trionfale with 5,397 €/sqm and Semi-central Salaria-Trieste-Nomentano with 5,130 €/sqm which represent the most prestigious areas of the city. As for the municipality, macro areas with lowest average market price are registered in some areas outside of GRA, particularly in East area with 2,509 €/sqm, South area with 2,548 €/sqm and North area with 2,554 €/sqm.

1.5. Conclusions on the role of urban planning in regulating the processes of urban growth in Sofia, Belgrade and Rome and guidelines for developing specific rules and regulations

Research goal: - To summarize the findings of the analysis with respect to the main issues of sustainable and resilient development of suburban territoties of Sofia, Rome and Belgrade. To identify the main changes needed in the regulatory framework of the processes in suburban territories and to formulate the main requirements for such changes.

1.5.1. Conclusions on the role of urban planning in Sofia

This last part of the analysis aims to summarise the research undertaken so far and to formulate directions for preparation of specific regulations (rules and standards) concerning the peripheral and suburban territories of Sofia. Therefore, firstly the concrete goals of the current authority should be identified. These goals, however, should be relevant to:

- The objectives of the Master Urban Plan, updated according to the perspective of the current leadership of Metropolitan Municipality of Sofia and the Directorate of Architecture and Urban Planning
- The directions towards sustainable and resilient urban development, as adopted by the EC and the specialized institutions of EU, mainly the EEA

A) Summary of the objectives of GUDP with regard to peripheral and suburban territories and the update of these objectives accordint to the current leadership

In the text of GUDP, the objectives of the plan with regard to peripheral and suburban territories are formulated as:

- Achievement of competitiveness, adaptivity and integrity (whatever the latter means)
- Decentralization of the dwelling function (housing),
- Providing conditions for accessible (affordable) single-family housing;
- Absorbssion of territories attractive for the dwelling function (housing),
- Activating suburban areas and stimulating prestigious housing markets.

Those objectives should be assessed as somewhat confusing. Above all it lacks a coherent tree of goals, sub-goals, relavant measures/ activities and tools of

implementation. Second, the formulated system of objectives apparently disregards the isuues of urban sustainability and resilienc. For this reason tiers are confusing and some objectives are conflicting (affordable single-family housing versus prestigious housing markets).

However, with regard to suburban territories the GUDP is working towards the following objectives:

- Concerning the southern suburban areas the goal of the GUDP is to stimulate two types of housing:
  - Development of affordable single-family housing
  - Development of the so-called high-level housing.

Logically, this goal can be achieved through measures like relevant zoning (low-rise housing with low density and a lot of green spaces), preservation of the green areas (called in the GUDP green wedges), protection of the environment and improving the access (transportation).

- Concerning the northern suburban areas the goals of the GUDP are:
  - To stimulate moderate development of the dwelling function (housing)
  - To reserve territories for eventual future urban development.

Measures for achievement of these goals are: zoning with predominant prohibitive regimes (rural land prohibited for development/ construction), protection and restoration of the environment, sound and accelerated improvement of the access (transportation).

As a specific measure concerning housing in suburban territories the GUDP plans for the development of 75-80,000 dwellings. 56,000 of these housing units are to be built in the southern districts and 22-23,000 in the northern districts. An approach that is "popular" in many cities all over Europe and the world (Krisjane and Berzins, 2012, Stanilov and Sykora, 2013, Bertaud, 2010) is observed in Sofia too – most often planning simply follows the market by providing what market players wish.

B) Update of the objectives of planning according to the current leadership

As of today the leadership of the Municipality of Sofia puts a much stronger stress on the development of the northern districts, since the southern territories are now considered to suffer from overdevelopment. It is the perception of the Municipality that the improved acces do the Vithosha collar, in result od the reconstruction of the Southern Arch of the ring road of Sofia and the delay in the development of the road network in the north have contributed to a critical misbalance between thes two main suburban areas. Therefore, now the development of the northern districts is major priority, but thus far correcting this misbalance is only an intention of the municipal authorities and now actions are taken in this direction.

C) General approaches for urbanization of suburban territories

As it has been outlined several times through the statement – the population growth will inevitably result in urban expansion (at least this is the "European

tradition"). So the goal of planning is to regulate the expansion and it faces, generally, two alternative approaches:

The first approach is the one usually adopted. Planning starts with forcasting the future number of residents, then, on this basis the number of housing units needed is calculated and, respectively, the area needed for future housing. Finally the plan identifies the concrete territories for new housing. There is a major problem with this approach concerning its coordination and "collaboration" with the market. Planners usually try to establish some level of coordination with the market by forecasting market trends. But this is a mammoth task which is hardly ever properly realized and, then, after "forecasting" market trends the plan leaves no space for the market to operate "freely".

The second approach would allocate for housing new areas (or rural/ other lands that are allowed to be converted for housing) territories in scale much larger than the needs in order to allow for the market to choose which territories would be, eventually, developed. After providing "freedom" for the market, planning would steer market development through what is called "market instruments". This second approach should be considered as more efficient, since it provides for better coherence between planning and the market, provided that threats must be eliminated like those of sprawling development – i.e., "leap-froging" "scattered" suburban forms, overconsumption of land resources, loss of green spaces, overdevelopment of infrastructure, car dependence, etc. Willingly or not, the GUDP of Sofia has actually adopted the second approach. Therefore, it is of critical importance (in such cases) that relevant market istruments, i.e., regulations should be adopted, so that the quoted threds are eliminated. The regulations should achieve this goal not by combatting the market, but by cooperating with it.

D) Directions for preparation of Specific Regulations and Standards for the suburban areas of Sofia

Based on the above conclusions the Specific Regulations and Standards for the suburban areas of Sofia

1) ought to stimulate/ encourage

- The efficient use of suburban land resources, which means:
  - Densities higher than the "traditional" in each respective suburban zone,
  - Development of activities/ properties providing for high added value (revenue to the local community and the municipality) at low environmental costs
- Compact urban forms,
- Trnasport networks that should be efficiently used (highly loaded) advantageous for mass transport and less advantegous for individual transport (private cars)
- Strict preservation of public green spaces and all potential opportunities – that is, sopen spaces
- Preservation and stimulating the enhancement of greenery in private plots

2) ought to limit or discourage (where appropriate – limit/ discourage to the maximum possible)

- „Leap-frogging" or „scattered" and low-density urban forms
- Urbanization of small parts of territories in disregard of the impact on larger territory
- Development that consumes land, other environmental or public resources without paying adequate compensation
- Development of infrastructure networks at the expense of all residents of the city, particularly when these networks serve a small or limited number of users
- Development of activities/ properties to the detriment of the environment

The Specific Regulations and Standards for the suburban areas of Sofia proposed in relation to this WP5 research should be directly related and should seek to gain impact on the following regulations currently in force:

- Specific Regulations and Standards for Planning and Development, enforced by the Master Urban Plan of Sofia
- Ordinance for determining the size of local taxes
- Ordinance for determining and administering local fees and the prices of services provided by the Municipaity of Sofia
- Ordinance for development, maintenance and preservation of the green system of Sofia Minicipality
- Ordinance for development of the elements of the technical infrastructure on the territory of Sofia Minicipality
- Ordinance for the conditions and the order of delivering data and providing inquiries about the provisions of the Master Urban Planof Sofia and Sofia Municipality
- Ordinance for public discussions (public hearings, public participation)

1.5.2. Conclusions on the role of urban planning in Belgrade

Urban/construction land policy in all parts of Serbia suffers from number of insufficiencies, legal, procedural and substantive. System and practices are inferior to better standards, albeit in recent years a strong effort has been demonstrated to introduce better practices, in accord with EU norms and standards. The current system and practice of managing urban land in Serbia have not been harmonized with the main courses of transitional reform and change. A great number of basic, conceptual problems have not been solved yet, considering the fact that their predictable institutionalization would affect the realization of sustainable spatial and urban development and land use policy. The urban land market is undeveloped, and therefore the basic regulatory mechanisms and institutions, as well as more up-to-date ways of financing urban land development have not been established yet.

Essentially, basic approach is still predominantly administrative. That has a number of negative consequences, also applying to zoning regulations, traditional economic tools of urban land policy (development fee, land-use fee, local utilities taxes) which have proved as particularly vulnerable and with the helplessness effect on limiting urban sprawl. Zeković (2009) indicated the following characteristics of the current situation:

- **Weaknesses of the current information system**: Registration of all properties in the National Land Cadastre is still in progress (approximately 80% of real estate is registered, in Belgrade around 60%), which results in lack of adequate statistic data and indicators, poor coordination between land register data in courts and the cadastre and also the data of the government tax authorities.
- **Inefficient use of urban land**. In the field of urban land, by rule, there are no economic laws – the current instruments of land and fiscal policy have been established so they would not permit redemption and capitalization of social investments, not even in a longterm economic period. The invested financial means into urban land are highly inefficient since they are not returned into the reproduction of new locations, due to the absence of a land market and adequate urban land management mechanisms. The negative effect is also the **administrative way of determining the user** of land by decision of a competent agency of the local authorities. In land distribution investors/users do not pay the economic value of land in relation to the advantages of location, but they pay only the costs of equipping land i.e, rent determined in an administrative way. A significant effect of the current land system is still the **political dimension** in land management system even in the period of transition, as well as the social dimension in land management (e.g., longterm hold of land by a firm that is on the verge of bankruptcy, so the lay-off of workers is postponed). Around 20% of court cases are about land, property and real estate (*Serbia investment climate assessment*, 2004).
- **Belgrade's land policy** has not been substantially transformed in the transition period. It is managed via zoning of construction land and determining initial amounts for compensation and lease by employing criteria and standards. These criteria and standards are established in an inconsistent way and do not correspond with actual real estate value at the Belgrade's market. Zoning systems and differentiation for certain purposes are not based on relevant market factors, monitoring of transactions and prices of land and real estate, planned solutions, standards, information systems, and relevant modern fiscal, economic and market instruments and institutional arrangements.
- **Limited construction and investment**. This is mostly a resul*t of* the uncertainty of the future process of privatization of urban land, possible increase of costs for the investors after purchasing land even though they paid earlier the land development fee; uncertainty concerning the fee for urban land use – e.g., increase of market value of the tax base; land trade is possible only if there is an object on that land, which makes it impossible to determine the price of land); and uncertainty in the stability of the land management system due to frequent changes of decision.
- **Decrease in local land revenue, deficiency of locations and other problems** – are the consequence of reduced fiscal effects due to a less efficient use of urban land i.e, dependency of fiscal revenues on market values of real estate (as a

tax base). As the main negative effects of the current urban land system in town and spatial planning, apart from the aforementioned, are problems with deficiency of urban land of different levels of development, at acceptable prices according to the purchasing power of households, high costs of urban land development, inefficient public programs for urban land development, entrepreneurs'unwillingness to follow unrealistic plans and programs for land development (which consequently leads to numerous cases of unlawful building, urbanistic chaos, substandard settlements, and lower quality of living in towns). The state and local community lose enormous potential tax revenues in land transactions, as well as for the fact that an urban rent has not been determined yet.

- **In Serbian cities and towns there is a lack of locations with regulated and furnished infrastructure that are suitable for commercial and industrial purposes:** Investors are mostly offered undeveloped sites, thus encouraging the development of "greenfield", and neglecting the use of "brownfield" sites. The slow process of land procurement and obtaining building permits is one of the key obstacles to investing. The bottleneck usually occurs already in the process of finding available locations and long non-transparent and sometimes risky procedures regarding the possible emergance of former owners and their heirs (due to unfinished restitution process). The above stated factors make it difficult for investors to reliably assess the prospects and effects of investing in already developed land in Serbian cities. In terms of providing attractive and convenient business locations in cities, Serbia is exposed to strong regional competition from the surrounding countries in transition, especially in the "greenfield" category investments, which have a key role in the growth of national economy and the restoration of a part of the territorial asset. The interests of investors were not targeted to larger use of brown-field locations in urban tissue, mainly due to the lower land prices and arrangement in the peripheral, still undeveloped (green-field) areas on the urban fringe. As long as investors find more appropriate to further invest in the existing green-fiels in the peripheral zones (mainly for considerably lower costs), they would restrain themselves from redirecting the key course of investing into brown-fields. The implementation of MUP directly rests on the land development fees and on land price. Thus peripheral urban and suburban areas along Pan-European corridor X attracted a new housing and developments.
- **The enacted legislation itself presents problems as well.** The *Planning and Construction Act* (2009, with amendments from 2010-2015) and the *Ordnance on conversion of right of use into right of ownership* (2010) enable the holders of privatized land to convert their rights of use into the right of ownership. This legislative solution would be economically acceptable if the Government had not adopted the aforementioned decree which includes the overall cost of capital and property under expenses of acquiring the rights of use. This practically implies that the buyer of former social and/or state enterprise whose land was cheaper during the privatization process than the price of the company itself will be given that land as a gift. This legislation made it possible to donate land to privatized companies, thus closing the circle of corruption and malpractices that accompanied the privatization process.

- **The lack of appropriate policies and instruments influenced the process of the suburbanization** in the City of Belgrade which continued incessantly in the years after the promulgation of *MUP, 2003/2009* (as well as escalation of urban sprawl from 1970s till 1990s in accord to MUP, 1972 and 1986). By the end of 1990s the spontaneous suburbanization had ended. But, during that time, due to large refugee inflow, sprawl has continued trough massive construction of illegal buildings in a new speculative way, sometime with support of local governments (e.g. in municipality Zemun in Belgrade, see Zeković, et al., 2016).
- **The politics play the main role in the land policy situation.** There seems to exist **a lack of political will, as the main reason for the delay in the privatization of urban land**. The system "defect" in the rules and regulations regarding construction land management has in fact "caught on" very well on the fertile ground of privatization of locationally attractive enterprises, complexes, and zones. Typically, applied profit evaluations of privatised entities, according to provisions of the corresponding law and regulations on evaluation, did not incorporate the value expression for construction land (since the subjects of sale usually were the beneficiaries of public land with the "right of use"). The main motive for privatization were the convenient locations of businesses that were to be privatized, with the open intention to subsequently change the basic purpose of the land and use it in commercial and residential purposes. In the process of privatization of enterprises and rights over the developed state-owned construction land, which are acquired by purchasing buildings, there is a number of uncertainties and contradictions. In the process of auctioning (or tender), potential buyers can make a bargain to inexpensively obtain attractive and good locations by purchasing for example unsuccessful companies or companies with derelict facilities, which – through subsequent investment programs – they can rebuild, modernize, and eventually sell or change their purpose after the expiration of the sales contract – which also applies to the case of the Port of Belgrade, pointed to above. Consequently, there is an apparent need to introduce a new evaluation approach, i.e., estimates of the effects of urban land policy in the cities and the impact of laws which regulate these fields. This can be measured and/or controlled by introducing more complex and/or sophisticated approaches, for example, RIA/Regulatory Impact Assessment, TIA/Territorial Impact Assessment, etc. This would predictably influence the political elites of Serbia, in the sphere of urban/construction land management, with a view to stop, or even to redirect, now mostly uncontrolled process of urban sprawl, non-rational use of land, and so forth.
- **The adaptation of the traditional urban policies and introduction of more innovative and flexible urban land policy tools**. Traditional planning tools and tools of urban land are: zoning/land regulations, urban growth boundaries, infrastructure investments, green belts, as well as development fees, property taxes, land tenure, expropriation, etc. Suggested guidelines for the introduction of more innovative and flexible urban land tools, and their harmonization with the urban regulations, are: 1) *Urban rezoning,* 2) *Tradable development rights, trading density for benefits - density bonus policy* (Purchase of Development Rights, or Transfer of Development Rights), 3) *Infrastructure finance,* 4) *Regulatory arangements of the Public-Private-Partnership.* PPP includes different types of legal acts/tools -

community development agreements, community benefits agreements, planning agreements**,** negotiation, covenants, easements – as types of servitudes, models of the B.O.T., R.O.T, B.T.O, the concessions of public goods; 5) *Introduction of the financial instruments* (municipal bonds, governmental bonds, financial derivatives - CDS, etc.), *6) Reinvestment,* 6*) Land value capture tax* as a funding source for urban investment, as well as potential introduction of the Global Land Tool Network (GLTN), etc.

- **Dramatic decrease of the size of agricultural land in the Belgrade City and intensive urban sprawl.** To assess the scope of urban sprawl in the City of Belgrade, one should take into account circumstances of unreliability and controversial data. In 2011 total agricultural land in the City of Belgrade was: 212,000-215,000 ha (statistics) or 130,000 ha *(Agricultural Census,* 2012) or 136,214.07 ha (Republic Bureau of Geodesy, 2013), that is 79,200-85,000 ha less. Also, all data indicate on intensive sprawl. **Massive illegal construction is the dominant form of urban sprawl** (Zeković *et al*., 2015) in Belgrade and Serbia.
- MUP has not identified **suburbanisation and sprawl** as specific issues and has not explicitly stipulated any respective measures. Widespread of illegal housing development in suburbs has been studied by the plan and measures had been outlined. The policy of MUP concerning suburbs comprised (1) better control of this process (sprawl), (2) better equipment of peri-urban zones with technical infrastructure and public services, (3) better control of environmental development, (4) better control of illegal construction in MUP, (5) legalization of illegal construction, and (6) conversion of land ownership and leasehold, as well as conversion of rural to urban.
- **MUP zoning is not the basis for determination of development fees or any fiscal instruments** although the zoning was the main instrument of the master plan to regulate the development of suburban areas, but, in case of Belgrade with insufficient success. Implementation of MUP is made by elaboration of planning documentation (Detailed Regulation Plans/DRPs). Approximately 1/4 of DRPs will be finished till 2017, while elaboration of 1/4 of DRPs for suburban and peripheral areas can be expected till 2025-2030. **Urban zoning is not correlated to zoning for determining land development fee and property tax**. Low development fees along road corridors and in suburbs directly support urban sprawl and limits financing the new infrastructure. These tools can help in the current inconsistencies between key objectives, measures, planning solutions, urban land policy and its instruments in limitation of urban sprawl in Belgrade.
- The analysis of impact of the legislative framework on urban sprawl suggests that laws and regulations on the national, metropolitan and local level have strong influence on the territorialisation of urban expansion in Serbia and Belgrade and sprawl-induced consequences.
- We have concluded that legal framework stimulates the in-efficient and in-effective usage of land resources in the Belgrade area. In Serbia, the legislation of spatial development, land use and settlements regulation does not directly address urban spraw. Urban sprawl has characterized spontaneous urban expansion followed *de facto* by ex-post massive legalization or passing of legislation. Planning apparatus was based on *Planning and Construction Act* with poor regulation of buildings

illegality, methods of conversion of land-use rights into property rights/ownership (privatization) and conversions of lease into property rights, loss of agricultural land, land consumption, while the key role has a huge ordnances (in this *Act*).

It is clear that the Italian urban planning legislation is obsolete, complex and confused in its application, thereby producing slowness and uncertainty regarding the item and implementation timing. This led to an inevitable building speculation often uncontrolled. In Italy the idea of last years is the Testo Unico (One Text) for Urban Planning to unify and order the different regional and local laws, clarifying the role of the different institutions, decentralizing responsibilities, simplifying procedures by identifying certain rules and durable procedures to overcome extraordinary policies on housing emergency, but still nothing came of it.

The Italian Government is now aware that the national urban planning, over the years, has been deaf to the new European reforms that being taken to manage the territory with the aim of sustainable development of cities, with the exception of some of the Local realities (most advanced Italian regions). Spatial planning so far has not effectively addressed issues relating to environmental sustainability, livability in cities and the containment soil consumption.

1.5.3. Conclusions on the role of urban planning in Rome

Only in May 2016, the Italian Chamber of Deputies approved the "Draft Framework Law concerning valorisation of agricultural areas and the containment of soil consumption" and now it is under discussion in the Italian Senate. However, even in this case the process is dragging over the years, if we think that the related Decree Law has been adopted on September 2012 and approved last December 2013. But it is the first real important rule to that effect! The law aims to promote the agricultural activities, to oppose the illegal development and limit the soil consumption, through specific actions such as demolition, reconstruction and densification of existing settlements enabling recovery, regeneration and urban renewal procedures in a consistent framework for the sustainable mobility of people and goods. No more increasing of soil sealing, but measures addressed on the existing city by the recovery of disused areas and underutilized building heritage to meet the demand of house and services, always ensuring the accessibility of areas and facilitating the concentration on major public transport infrastructures and close to the interchange nodes.

A transformation of the existing city, therefore, for containment of soil consumption! The urban planning, which until now mainly dealt with planning and design in terms of urban growth, now wants to become a tool to improve the quality of life and well-being of citizens, in a logic of sustainable balance of green areas, gardens and agricultural land to be protected and enhanced, with the clear aim on containment of soil consumption and reuse of the built territory.

The Draft Law, just approved, with the demolition and reconstruction of disused and / or underutilized areas aims to reach the soil consumption "zero" in 2050, that is eliminating the overbuilding to the detriment of green and agricultuiral areas in the application of Community policies. However, there are still some critical issues, which presumably will be discussed in the Italian Senate, among them:

- the definitions of "soil consumption", "natural and semi-natural agricultural area" and "urbanized area";
- the principles and criteria on which to characterize the "regeneration of degraded urban areas" (Art. 5), as well as tools and / or parameters / indicators for its application;
- the transitional rule of law enforcement, where the implementing urban plans for which interested stakeholders even just have submitted a request before the entry into force of the law are preserved (art. 11).

Solving these issues will be the key, given the impact they have on the effectiveness of the objective to be achieved. Just as it is understandable that Local Administrations will have a key role in the applicability of the law and in the updating its local regulations.

In particular Rome Municipality, in the regulations for the territory management, should or could focus on the implementation of "*green gradient* in the city, in its suburbs and its buildings", to achieve the goal expected by the Law on the containment of soil consumption. *To operate a transition from the re-built towards the "re-built green"*! And if Rome Capitale government already updated the value of the usable square meters of greenery to 13.78 per inhabitant (State of Environment of Roma Capitale, December 2012), compared to what defined by the Ministerial Decree n. 1444/1968 of 9 sqm / Inhabitants, to focus on this indicator and increase it further (eg. increase up to 100%) could become the winning move! Its application should not just addressed to the open or free areas but also to buildings, including the "green" as a structural component of the buildings, both in new construction, in the reconstruction process after the demolition, and in older, in the regeneration and restructuring process.

Building Regulations of Rome should ensure that *each new building should have at least one green the green roof or external wall* and the this rule should always be *applied in new buildings as well as for renovation of old buildings when the roof is retorted through increasing the building volume*. This kind of actions should be successfull to achieve a sustainable city!

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