MARKET ANALYSIS OF URBAN SPRAWL IN SOFIA

Assoc. Prof. Arch. Alexander Slaev, Varna Free University

The goals of this study are:

- to identify whether and to what extent processes of urban sprawl exist in Sofia
- to identify whether and to what extent these processes were/ are generated by the market
- to identify the main indicators to measure urban sprawl and the impact of the market
- to identify the specific features of market demand generating urban sprawl in Sofia
- to identify the interests of the market players and groups that have major contribution to the processes of urban sprawl in Sofia
- to identify the main indicators to measure urban sprawl and the impact of the market
- to identify social and economic factors and components of urban policy that influence market demand that generates sprawl

1. Processes of urban expansion of Sofia – growth versus sprawl

In this part of the study the growth of the town/ the city of Sofia will be examined with respect to the correlation between the growth of the population, the growth of the urbanized territory and the density of population.

There is a relation between the processes of growth of a city and the processes of sprawl. Like sprawl, urban growth, too, usually results in expansion of urbanized territories. The main difference is that growth normally induces rises in urban densities, while falling densities are an inherent characteristic of urban sprawl.

Therefore, the enlargement of the built-up are of Sofia is the first factor to be studied with respect to studying the processes of growth/ sprawl in Sofia. The second factor to be studied is the population densities. In reality, these two factors, as well as any other aspects of the urban development of Sofia had been determined by the interplay between planning and the market (though this has not been acknowledged so far)

It should be mentioned that though the town of Sofia had existed for more than 2 thousand years and has always been a centre of regional importance (a Thracian settlement existed in this location as early as the 7th century B.C.; in the 3rd century A.D. it was the capital of *Dacia Mediterranea*), still it experienced a considerable growth in its population only after it became the capital of Bulgaria after the country gained its independence from the Turkish Empire. In 1879 when it was proclaimed a capital its population was only about 20 000.

In the next 50 years the population of Sofia grew nearly 20 times. Despite that in the period between the liberation of Bulgaria (1878) and the late 1930s (when the Muesmann Plan was adopted) six plans of Sofia had been developed (Kovachev, 2005), the prevailing assessment of planning through this period is that it did not follow a general vision, it was not comprehensive and, therefore, it could not steer efficiently the growth of the capital. The patterns of urban expansion, in practice, were determined by the market. However, urban development was regulated by the *Betterment Act* (might be translated as *Law on improvement of public and private spaces*, or *Law on public works*, or *Law on organization of urbanization*) and the *Building & Police Ordinance*.

In the years before the adoption of the Muesmann plan of Sofia the urbanized area of the city was almost 60 square kilometers. The average population density was about 65 inhabitants per hectare of the gross area which today should be regarded as a typical European density. But at that time perceptions had been quite different.

The most widely discussed master plan of Sofia before WW II was prepared by the German architect Adolf Muesmann and adopted in 1938. Bulgarian authorities at that time believed that the existing density of Sofia's population was very low and would not allow for an efficient development of the street network and public utilities. The city 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 on such a large scale". Yet Muesmann did not follow these orders. Despite that most planners in Bulgaria have valued and still value Muesmann's work highly, he made a number of wrong assumptions and respective planning solutions (Lampe, 1984, Hirt, International Planning Studies, 2005). Such a mistake, probably the most important one, was that Muesmann assumed that Sofia's elites and the middle class wanted to move to the outskirts of the city and settle in single-family houses on large private plots. The World War

II was a factor to prevent the realization of the plan, but more likely the plan itself was the main reason for its failure.

After the war the new socio-economic conditions required a new policy of development, so in only a year another master plan was prepared by L. Tonev (after a competition among 35 teams). It was approved in 1945 (State Gazette, December 1945). By that time the number of the population of Sofia had grown by 100 thousand inhabitants and reached half a million. With respect to the study of Work Package 5, it is important that the plan of L. Tonev was the first to introduce the ideas of a polycentric system of the urban structure.

The population of the capital grew by another 220 thousand by 1956, when the Council of Ministers decreed the preparation of a new general plan, the assignment for the plan was approved and a competition was open between two teams. The plans of these teams became popular after the names of the team leaders – Neikov and Siromahov. The plan of Neikov envisaged an increased growth of the population and accommodation of 1 050 000 inhabitants (prognosis for 1980) within the compact city of Sofia by 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 polycentric type of development. New housing estates of socialist type were to be built on undeveloped areas on the periphery of the city and in the outskirts (Labov 2000, Hirt 2005). Eventually, the plan of Neikov was approved and adopted tin 1961.

However, though this plan was formally in force for more than 40 years (because of the political transition the next plan was adopted in 2003) in fact it was not the plan to be implemented. The Neikov's plan was quickly abandoned (Hirt, 2005) just a few years after its adoption. One reason was that the population of the capital grew faster than envisaged. The processes of socialist industrialization boosted the trends to urbanization and the pressure for exclusively high rates of housing construction was a major consideration for the city authorities. Such rates in the conditions of socialist state centralism could be achieved only by prefab construction technologies. (Nearly half - 47.3% - of the housing stock existing today in Sofia had been built in 20 years between 1970 and 1990 (NSI, 2012)). (See Figure 2.) The large state plants for panels for prefab housing needed vast empty territories and these were available only on the urban fringe. Therefore, it was the plan of Siromahov that was implemented in practice - with its peripherally located enormous socialist housing estates.

An important question for the purpose of this study is to estimate whether this substantial enlargement of the territory of Sofia during the times of socialism

should be considered as a form of urban sprawl. The main questions to be analyzed are such as:

- Was this expansion a planned process?
- Had the market have any impact on this process?
- What was the density of the peripheral neighbourhoods compared to the historical density of the urban organism?
- Was the enlargement of the city carried out in compact urban forms or the fabric of the newly urbanized territories was discontinuous?

First of all, the territorial growth of Sofia since the end of the 1960s should be estimated as a planned process in many aspects and in only one aspect – as unplanned. It was unplanned only insomuch as the territorial expansion was the opposite of what was envisioned by the adopted general plan. On the other, hand it was planned, because each new phase and area of expansion was planned in detail, though this contradicted the general plan.

It would be a mistake to give a definite answer to the second question too. Communism is, in principle, a social order opposing the market, but the official communist theory claimed that socialism was a market phase of communist society. Nevertheless, the markets were largely suppressed under socialism and, particularly, in the sphere of housing. Still the fact is that the "switch" from the Neikov's to the Siromahov's plan was done in response to a pressure for more housing that is exactly what is meant by "housing demand". The interplay between planning and the decentralized forces (usually referred to as the market) is so intense that even under the conditions of socialism planning in many occasions could not ignore these forces, but had to comply with them.

Finally, the answers to the third and the fourth questions should be more definite and should define with greater certainty Sofia's urban expansion of 1970s and 1980s as a process of growth rather than a process of sprawl. The average gross population density in the peripheral housing estates of Sofia varies between 80 and 150 inhabitants per hectare that is several times higher than what is usually considered to be the "typical" gross density of sprawling urban forms – 10 to 15 (20 at the maximum). Those estates are compact urban forms and have nothing in common with "leapfrogging" and scattered development forms characteristic of urban sprawl.

To summarize, the urban structure of Sofia throughout all its development and, especially, during the 20th century (when the city grew 60 times) had been determined both by planning and the market. Even during the socialist period the interplay between demand and supply had substantial impact on it. The urban form that was produced in effect may not be identified as

sprawled since it was compact with comparatively high densities throughout the whole city and on the urban fringe.

2. Urban expansion of Sofia during the last couple of decades – inward densification versus sprawl

The goal of this part of the study is to investigate the urban development of Sofia and its real estate market in order to give answers to the following research questions:

- to identify whether and to what extent processes of urban sprawl exist in Sofia
- to identify whether and to what extent these processes were/ are generated by the market
- to identify the specific features of market demand generating urban sprawl in Sofia
- to identify the interests of the market players and groups that have major contribution to the processes of urban sprawl in Sofia

Two sub-periods should be distinguished within the period of transition – since the start of the of the transformations in the countries of Eastern and Southeastern Europe. The first period could be defined as the "dark age" of planning, because planning in all its forms (including urban planning) was regarded as an element of communist approach. So, on one hand, the end of socialism marked the opportunity for cities to redefine the ways in which they planned for their futures. With central economic planning at an end, opportunities for less centralised and more locally-based planning emerged. Yet, on the other hand, evidence suggests urban planning in Eastern Europe following the end of socialism was dominated by developers who could often use the ill-defined planning regime to secure approval for individual projects unrelated to any comprehensive master plan or development scheme (,Tsenkova and Nedović-Budić,2006; Stanilov, 2007a). Referred to as the "*laissez-faire* approach to planning" (Tsenkova and Nedović-Budić, 2006) or "opportunity-driven planning" (Taşan-Kok, 2006), planners at large supported the prevailing social attitude and for several years most of them believed that this was the end of urban planning.

During the second sub-period the urban planning was largely re-appreciated by the societies in the countries of Eastern and Southeastern Europe and by Bulgarian society, in particular. This was result of two factors. Firstly, citizens were disillusioned with urban development dominated by free market forces only. Secondly and probably more importantly, at the end of the first period

Bulgaria started its process of accession to the European Union. Among the first and major requirements of EU was the application of the European system of regional planning. In result of these changes in the attitudes and public policies urban planning in Bulgaria experienced considerable revival. After the sub-period of neglect of planning, now in a few years many of the largest cities prepared new master plans. Sofia was one of the first (A new plan was initiated by the Municipality yet in 1990, but, very typical for the first sub-period, the preparation of the plan was canceled).

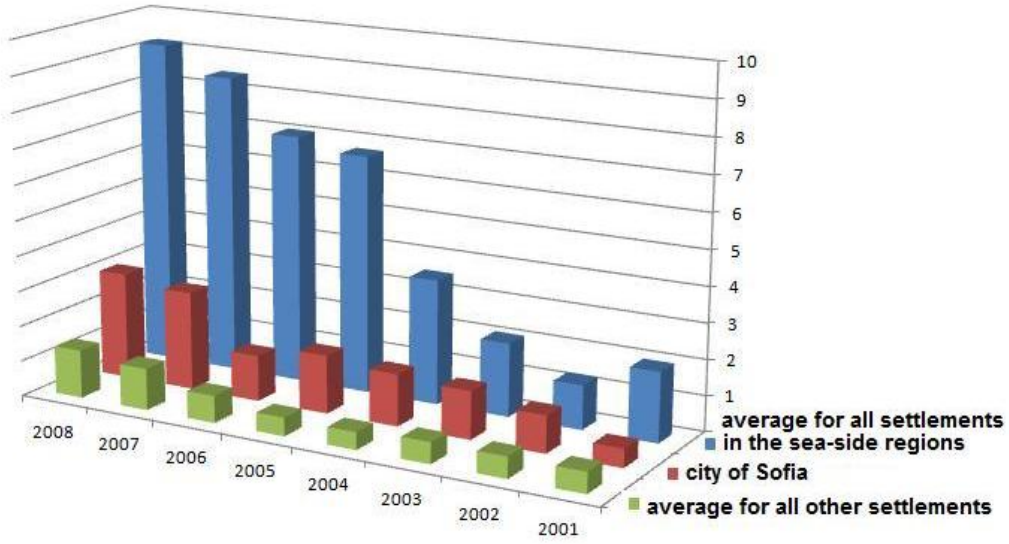
However, conditions during the second sub-period fostered not only planning in urban development, but also the market. This second sub-period – the first decade of the new millennium – was marked by a spectacular boom of the Bulgarian housing market. It was fueled to a great extent by international demand for Bulgarian properties. Naturally, this demand was directed to the sea-side regions of the country. Simultaneously, the housing market of Sofia experienced a boom too. Those could be regarded as two simultaneous, but related processes, because both were due to the opening of Bulgarian housing market to foreign buyers. The opening of Bulgarian tourism to Western tourists generated foreign demand for sea-side properties. And along with it, opening the economy of Bulgaria to the European Union had the same impact on the economic development of the capital as in the other new accessing countries. Capital cities in all post-socialist countries that gained access to the EU developed much faster than the other towns and cities, because they attracted foreign investments and generated employment. Table 1 and Figure 1 demonstrate the accelerated rates of housing development in Sofia and the sea-side regions compared to all other settlements in Bulgaria.

Table 1: Newly constructed housing units per 1000 inhabitants per year

Year / Settlements	2001	2002	2003	2004	2005	2006	2007	2008
Average for all of settlements in the sea-side regions	1,97	1,25	2,07	3,52	6,72	7,03	8,46	9,19
City of Sofia	0,53	1,05	1,35	1,46	1,64	1,29	2,77	3,01
Average for all other settlements in Bulgaria	0,59	0,60	0,60	0,49	0,52	0,76	1,17	1,36

Source of data - NSI, 2009, (http://www.nsi.bg/Population/Population.htm accessed 07.2009), calculations by A. Slaev

Figure 1: Newly constructed housing units per 1000 inhabitants per year



The end of the 1990s and the beginning of the new decade were the last years of the depression of the transition period of Bulgaria. In result of the exceptionally poor demand the rates of construction of new housing units had dropped dramatically – 11 times for Sofia. At the start of the new millennium (2001) the rates of construction were positive only in the sea-side regions. Some bustle in the demand for properties in the sea-side regions already existed, but yet in 2002 similar bustle of the property market could be observed in Sofia. These market trends became particularly vigorous in the next years. In 2005 the rates of construction in Sofia exceeded 3.15 times the average rates of the other Bulgarian settlements, while for the sea-side regions this ratio was almost 13. In 2008 the rates of construction in Sofia still exceeded the average rates of the other settlements 2.21 times and the rates of construction in the sea-side regions exceeded them 6.76 times.

Thus in the period between 2000 and 2010 the development of both urban planning and the property market in Bulgaria and, particularly, in Sofia boosted. However, in practice, though urban planning had overcome the “dark age” of the 1990s, it was still disadvantaged, since it had no experience in the conditions of free market and planners had neither the expertise nor the tools to enforce rational planning standards and limit uncontrolled development.

Naturally, the urban development of Sofia in this decade not only boosted, but also changed its structure substantially due to the new market conditions. This can be observed clearly in the rates of development of the

different districts of the city. Table 2 and Figure 2 present the structure of the existing housing fund of Sofia based on the period when the housing units in each district of the city were built.

Table 2. Housing fund of the districts of Sofia – housing units by periods of construction

city districts	by 1950	1950-1959	1960-1969	1970-1979	1980-1989	1990-1999	2000-2011
Central districts	17774	9127	5898	3828	6067	2370	6699
Intermediate districts	14685	15549	45791	43972	56748	24323	45302
Peripheral districts	1694	2486	17441	62423	59939	12107	23591
Suburban/ rural A	2025	2259	5429	5547	15746	9622	21564
Suburban/ rural B&C	3373	5844	10119	12841	20080	9494	5467

Calculations based on data form NSI 2012,
Census 2011- Population and Housing Fund, Volume 3, Book 23

Figure 2. Housing units in the districts of Sofia by periods of construction

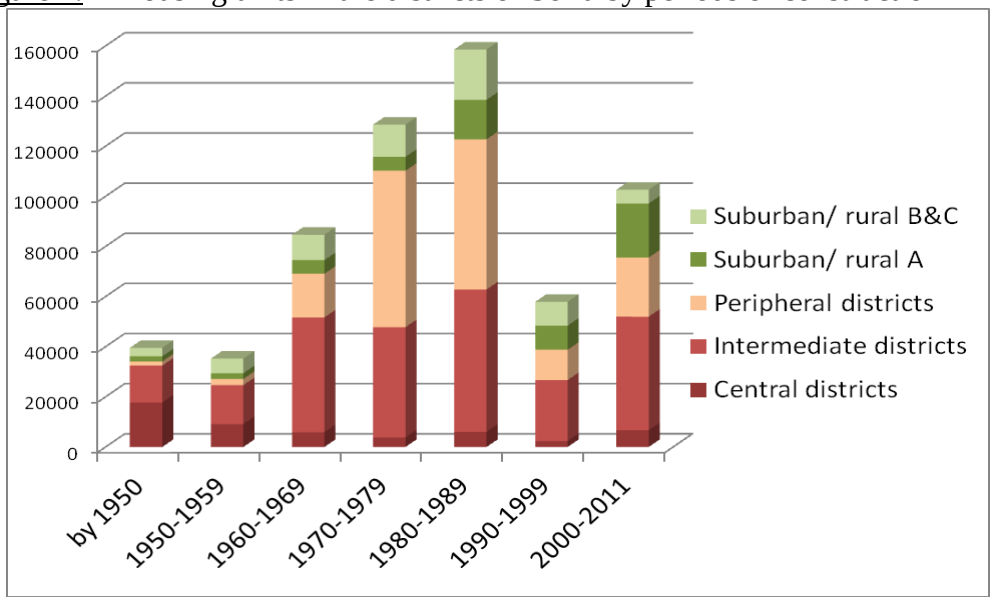
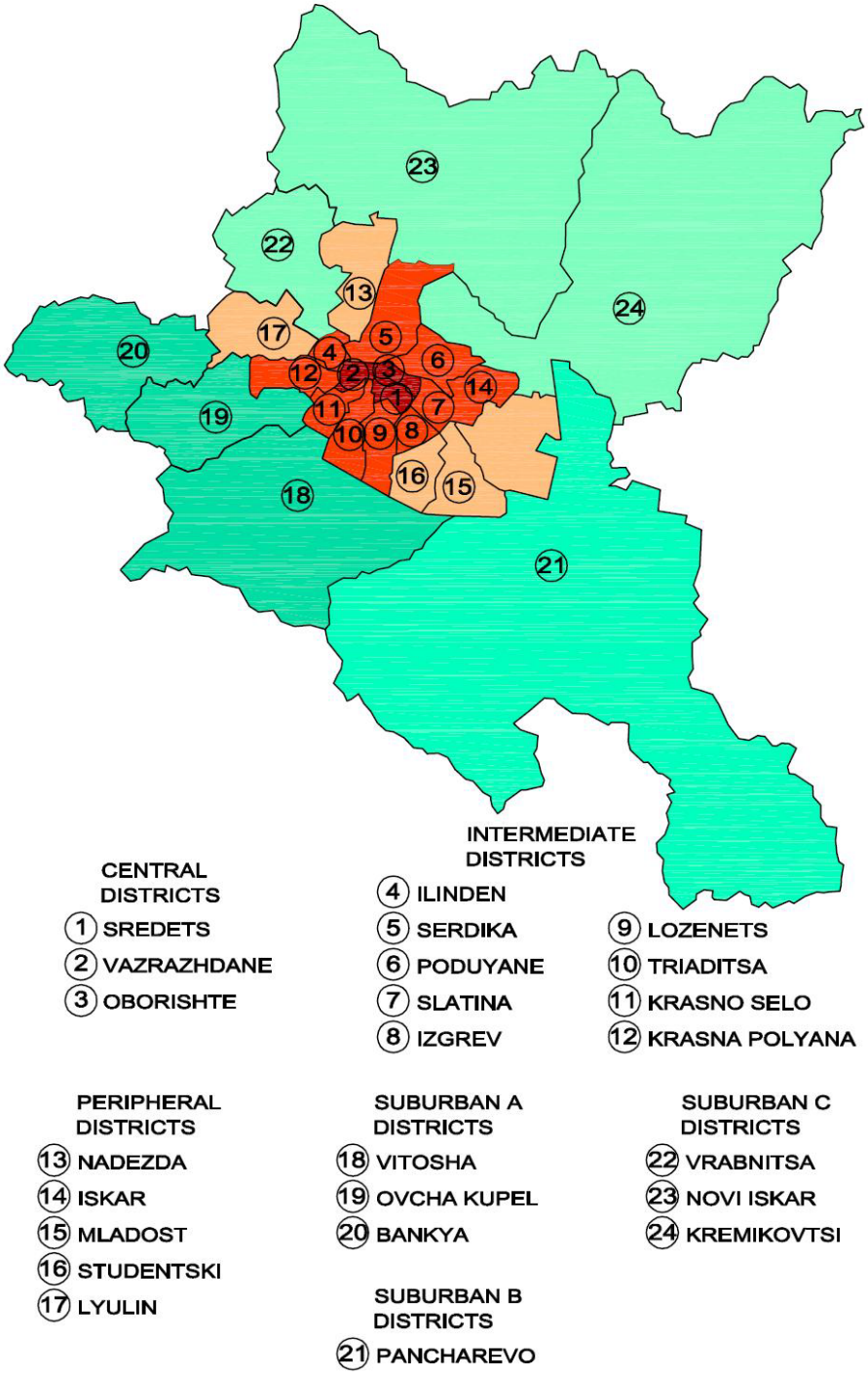


Figure 3. Map of the districts of the Municipality of Sofia



The data about the housing fund of the districts of Sofia – housing units by periods of construction – are telling a lot about the methods of supply of housing and the demand during each period as well as the current trends. They also tell a lot about the traditions and the preferences of the population as factors generating urban sprawl. Though, of course, some number of buildings had been demolished in the course of urban development, the number of the housing units of the existing stock represents the rate of construction in different period. Particularly since the 1960s all construction in Sofia had been solid, so the number of demolished units might be neglected.

In this analysis the districts of Sofia are classified in four main groups. This grouping in general follows the classification done by Hirt, 2005, though though with some significant deviations . First are the central areas – the districts of Sredets, Vazrazdane and Oborishte. Nine districts form a kind of ring around the centre – referred to as intermediate districts or historical, meaning that most of their territories were urbanized in the first half of the XX century. The districts of Nadezhda, Iskar, Mladost, Studentski grad and Lyulin occupy the peripheral territories of the city. They were urbanized mainly in the period after the WW II – in the 1960s, 1970s and 1980s. Respectively, the housing stock comprises mainly prefab blocks of flats that formed the typical socialist housing estates. The last group of districts occupies the suburban areas of the municipality of Sofia. The main activities within these territories are agricultural, so this area may be referred to as rural, as well. At the start of the new century agricultural land occupied 42 % of the suburban area (out of the compact city), forests occupied 40 % and water areas and flows occupied 2.5 %. The territories of the districts are shown on Figure 3. The balance of the territory is shown on Figure 8 at the end of this text reporting the territories occupied by different urban uses in 2001 and allocated to those uses according to the General Spatial Plan (Obsht ustroystven plan) adopted in 2003.

Apparently – in Figure 2, most of the housing fund of the central areas had been developed before 1960. During the 1960s, 1970s and 1970s construction of prefab housing went on a very large scale both in the peripheral districts and also the intermediate. Housing constructed in this period in the intermediate districts and in the peripheral districts today forms, respectively, 24.23% and 23.02% of the existing housing stock of Sofia (47.25 % in total). A for the last two decades, three observations should be made by the comparison between the trends in the period from 1970 till 1990 and the current period since 1990. The observations support two important conclusions regarding market demand and supply during this period.

To start with, despite that most of the potential for new construction of the central areas had been exhausted yet in the first half of the century and by the end of the 1950s, the high market demand after 1990 and, especially, over the last

decade generated more redevelopment opportunities. In result more than 9000 new housing units had been built in these areas.

Secondly, figures prove that the housing demand in Sofia is directed mainly to areas within the compact city and locations close to the city centre, though not necessarily to the "perfect" centre itself. 73.7 % of the new housing construction after 2000 has been realized within the boundaries of the compact city (see Table 4). The largest of the new construction – 44.1 % had been realized within the intermediate districts (see Table 4). There might be no doubt that free market had directed the housing construction to the areas with highest demand. This observation will be supported by the analysis of the prices of housing that will be carried out later in this text.

The first two observations give ground to the conclusion that the largest share of the housing demand in Sofia is directed to the central city areas.

Table 4. Percentage of the housing fund built in different types of districts during each decade after 1970

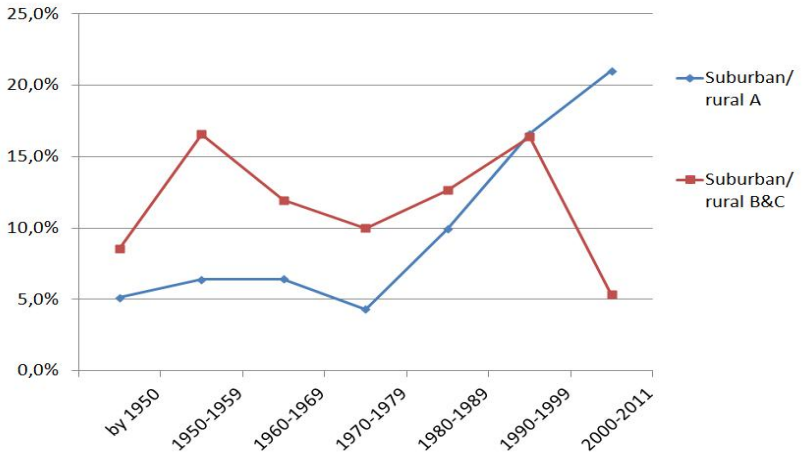
city districts	1970-1979		1980-1989		1990-1999		2000-2011	
Central districts	3828	3,0%	6067	3,8%	2370	4,1%	6699	6,5%
Intermediate districts	43972	34,2%	56748	35,8%	24323	42,0%	45302	44,1%
Peripheral districts	62423	48,5%	59939	37,8%	12107	20,9%	23591	23,0%
Suburban/ rural A	5547	4,3%	15746	9,9%	9622	16,6%	21564	21,0%
Suburban/ rural B&C	12841	10,0%	20080	12,7%	9494	16,4%	5467	5,3%
TOTAL	**128611**	**100,0%**	**158580**	**100,0%**	**57916**	**100,0%**	**102623**	**100,0%**

A third observation should be made, related to the accelerated rates of construction in the suburban/ rural areas to the south of Sofia – in the foots of Vitosha. The share of the housing construction realized in the suburban/ rural areas throughout the XX century has varied, but it has always been about one fifth (between 14 and 23 %). In the 1990s this share increased to 33 %, but the next (the last) decade has marked substantial differences between the districts in the outskirts of Vitosha mountin – to the south of Sofia and the districts in the plain to the north of the capital. The first sub-group comprises the districts of Vitosha, Ovcha kupel and Bankya and it is referred to in this study as Suburban/ rural A. The second group comprises the district of Vrabnitsa, Novi Iskar and Kremikovtsi. In this text it is referred to as Suburban/ rural C. This grouping adopted in this study is based on the attractiveness of these districts. The different levels of

attractiveness can be observed in Table 4., as well as in the study of the market prices and on the number ot ytansactions. If this criterion is used, then the district of Pancharevo should form a separate group – Suburban/ rural B, because it should not be added neither to the group of the attractive districts not to that of the unattractive. Table 4 illustrates that the different levels of housing demand in the three sub-groups have generated very different levels of housing supply.

The analysis of the supply of properties outlines two contrary trends in the development of market demand in the suburban/ rural districts. All available data proves that until the 1970s the demand for housing in the southern suburban/ rural territories was about 5 % of the total demand in Sofia municipality. Yet since the 1980s it grew substantially, particularly since 2000 and during the last decade it formed 21 % of the total. On the contrary – demand for housing in the northern suburban/ rural territories fell from the "traditional" 10 to 13 % (16.4 % in the 1990s) to only 5.3 % during the last decade.

Figure 4. Changes in the percentage of housing built in the suburban/ rural districts



With respect to the above observation a second conclusion might be drawn – that, along with the traditional preference for housing in the central areas, new preferences emerge – towards housing in some of the suburban/ rural districts. It should be stressed that the new preference is for some, not all suburban districts, since there is no preference for the areas in the plain to the north of Sofia. On the contrary – the rates of housing construction in these areas are falling in result of the lack of demand. Establishing a direct connection between the rates of construction of housing and the demand for housing is reasonable, because the supply of land for such purposes in the northern districts is not limited – as explained in the study of the existing system of planning. This is also supported by the analysis of the housing prices carried out below.

Market indicators – prices and sales

Price of land

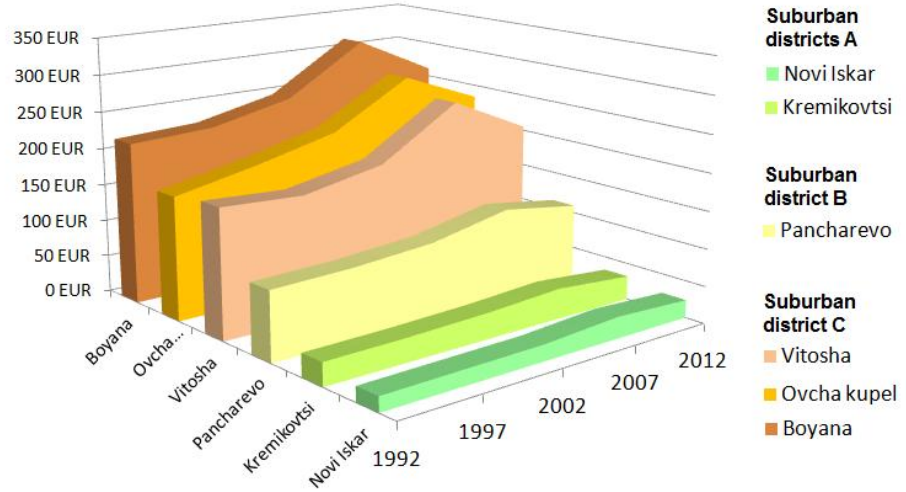
Land for sale is available, though in limited quantities, in the peripheral districts of Sofia and yet in smaller quantities in the intermediate districts. But this study should be focused on land for sale in the suburban/ rural districts, because it is in these territories that processes of sprawl may occur. The price of land is determined by the balance between market supply and demand. The factors of supply and the factors of demand for land in the suburban territories are important for this research, because they both have substantial impact on the process of urban sprawl.

As it was already observed, over the last couple of decades the demand for land in the foots of Vitosha mountain to the south of Sofia is much higher than the demand for land in the plain to the north of the city. This can be clearly observed in the price levels – Table 5.

Table 5. Prices of land in the suburban/ rural districts
Source: Address Real Estate Company

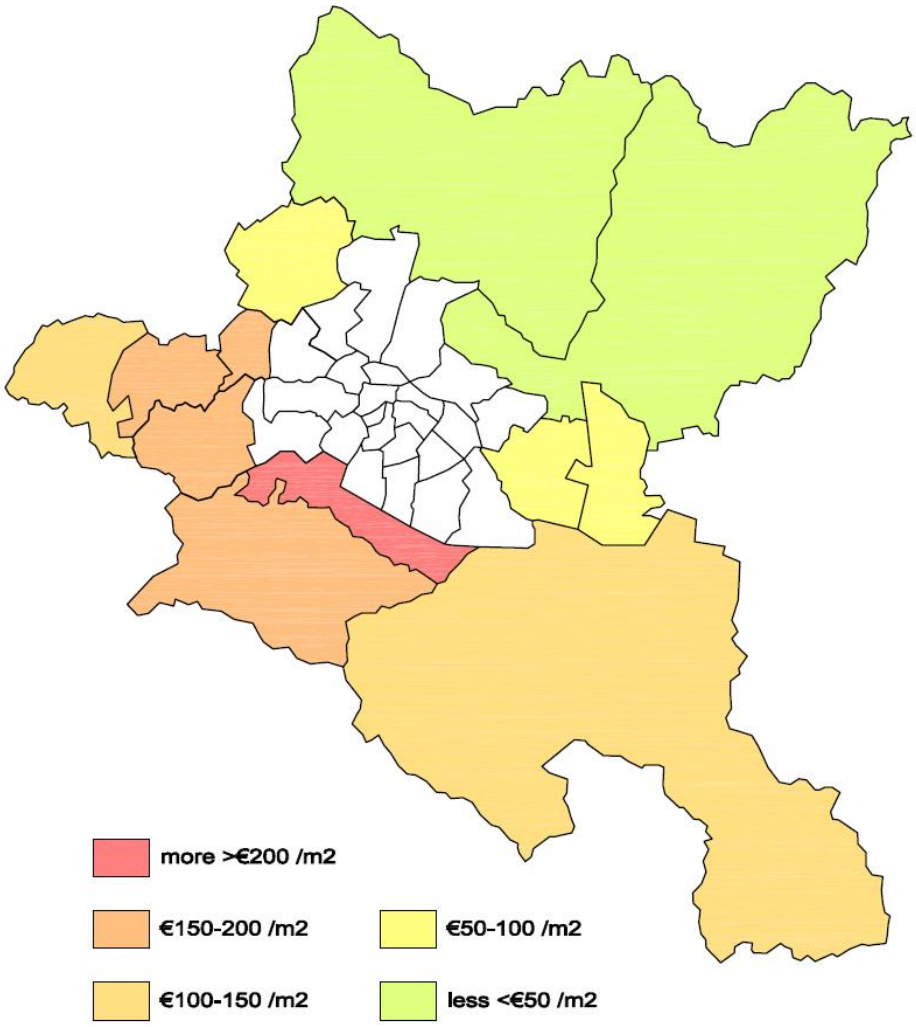
Districts	1992	1997	2002	2007	2012
Novi Iskar	20 EUR	21 EUR	22 EUR	29 EUR	24 EUR
Kremikovtsi	31 EUR	32 EUR	35 EUR	41 EUR	32 EUR
Pancharevo	93 EUR	96 EUR	104 EUR	126 EUR	110 EUR
Vitosha	174 EUR	168 EUR	189 EUR	256 EUR	205 EUR
Ovcha kupel	167 EUR	189 EUR	215 EUR	276 EUR	233 EUR
Boyana	218 EUR	223 EUR	247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

Figure 5 Prices of land in the suburban/ rural districts



The diagram on Figure 5 makes it obvious that the price of land in the southern districts (sub-group A) not only was 8-11 times higher than land in the northern districts (sub-group C), but it also grew much faster until 2007 – that is before the financial and economic crisis. Between 1992 and 2007 the prices of land in sub-group A grew by 52.14 % on average, in sub-group B – by 35.48 %, and in sub-group C – by 38.63 % on average. It is most likely that when the crisis is over those trends and the disparities in the trends between the groups will beresumed.

Figure 6. Map of the suburban territories differentiated by their price levels
Source: Address Real Estate Company



Apparently, any process of urban sprawl that, eventually, has taken place in Sofia Municipality so far has been directed to the southern districts, referred to in this text as sub-group A. More particularly, demand has been attracted mostly by the territories of the district of Vitosha in the foots of Vitosha mountain (General plan, 2003), popular also as the Vitosha collar. This trend had been observed by Hirt (2005) and is proved by the diagram of the prices of land shown on Figure 6. On Figure 6 the Vitosha collar comprises the territories in red colour that corresponds to price levels above €200 per square metre of land.

Since the price of land is determined by the balance between market demand and supply, so it serves as an indicator with this regard. Market supply of land is determined by the factor costs and the productivity of land. The productivity of land for urban use is determined by the allowed floor-space ratio (FSR) and the level of demand (there is no point for the developer to develop a land to the maximum FSR allowed if this contradicts the level of demand). The factor costs for urban land in suburban/ rural territories comprise: 1) the cost of rural land, 2) the costs to convert the rural land to building land (fees and taxes), the cost of time and efforts for the conversion, 4) the cost of the risk (the risk that the land may not be allowed to be converted).

Market demand for urban land in the suburban territories is determined by the level of its utility, respectively, by the preferences of the population such as: 1) pursuit of higher standard and life-style, 2) alternatively, considerations for lower price of housing (in the northern districts); both these considerations can combine with 3) preferences for respective type of housing – for single-family detached houses, or row housing, or multi-family low-rise housing, 4) preferences for specific type of environment – larger open spaces, more greenery and less noisy.

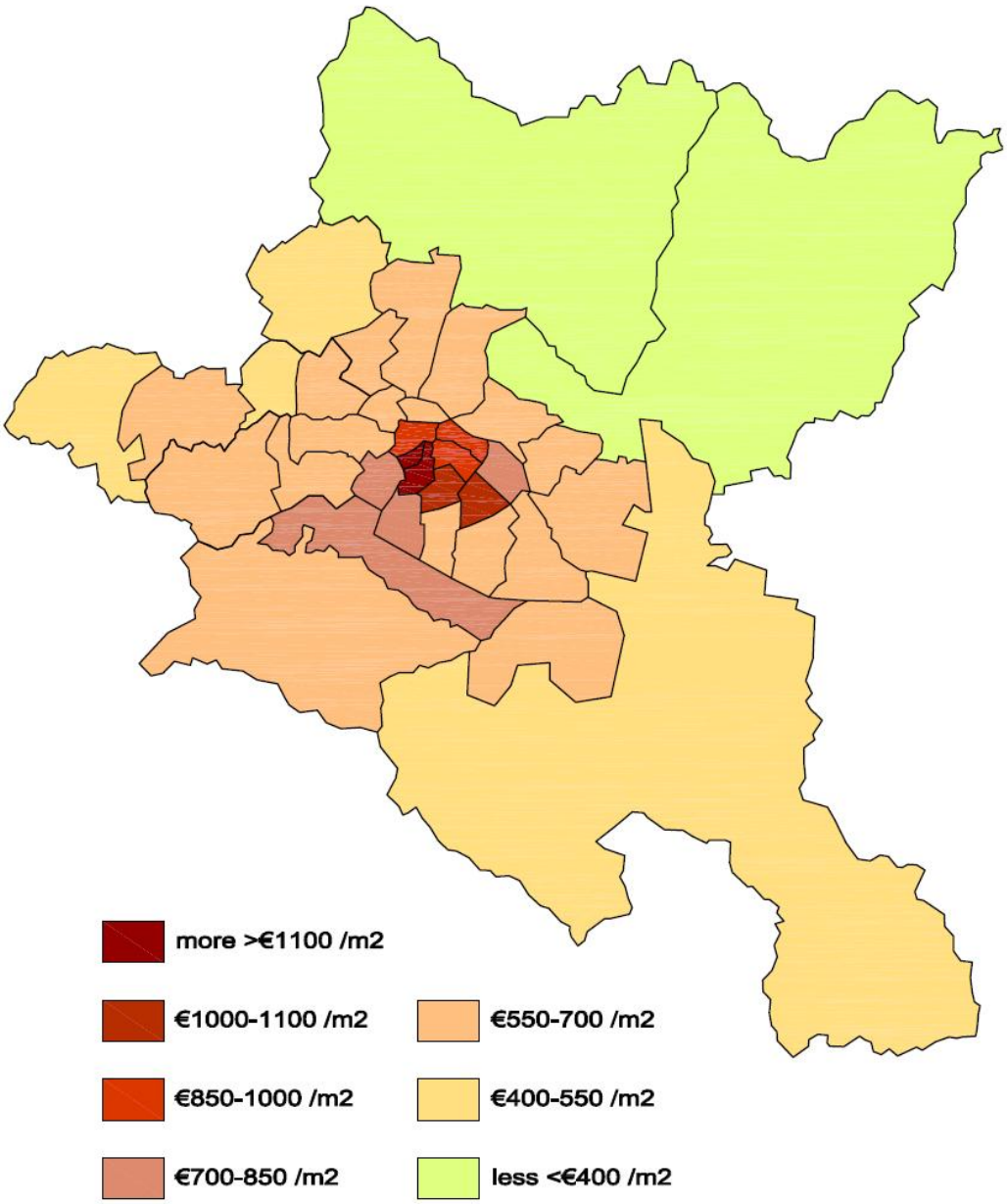
Central planning (including urban planning) can influence market supply of suburban land by imposing stricter or more liberal and easier procedures of conversion of rural into building land, by imposing lower or higher fees on conversion and taxes on different types of land-uses. There must be direct and strong correlations between the objectives and priorities of central planning and the goals of planning strategies and the means of influence on supply just mentioned. Central planning can influence market demand for suburban land by the provision of incentives or disincentives, by tax relaxation or imposing higher tax burden, by the provision of infrastructure or by not providing it (road networks and utilities).

Housing prices

The price of land is a reflection of the demand for land that is, as it was stressed in the beginning of this text – a demand that is derived of the demand for properties. From this point of view the demand for housing directly reflects the needs and the preferences of the population. The data about the prices of housing in each district of Sofia show evidence of the conclusions made in the analysis of the rates of housing construction about the attractiveness of the specific territory. The data for the housing prices in 2010 are visualized on Figure 7.

Obviously, the highest prices mark the areas that are most attractive in the city. These are the central districts and part of the intermediate districts – namely the district of Izgrev and the inner parts of Triaditsa, of Lozenets and Krasno selo areas. The rates of construction logically depend on the rate of demand and the potential for new development in each area – the plots available for development or redevelopment. If the potential for new development is limited, then the prices rise even more. These areas are marked on Figure 7 in brown and dark brown corresponding to prices of €850-1000-1150 per sq. metre and higher. Next come the second highest prices in the district of Slatina and the outer parts of Lozenets and Triaditsa within the compact city. The same price levels are typical for a part of the district of Vitosha – the area that had already been identified as the Vitosha collar. It should be stressed once again that this is the only area with high price levels, which is not centrally located and is not within the compact city. On the contrary, since it located is peripherally, the high prices prove a new trend in consumer preferences in Sofia – the demand for housing on the urban fringe. In fact, the high price of land in the territories of Vitosha, Ovcha kupel and Boyana that existed in the early 1990s testify that this demand existed at least two decades ago, but, because land was not available due to the system of planning of the 1980s , the potential for development could not be realized. As of 2010 the prices of the properties in the district of Vitosha to the south of the collar, the whole territories of Bankya, Ovcha kupel and the territories of Pancharev close to the city are about the same as the prices of housing in the peripheral districts of the compact city. Eventually, the diagram on Figure 7 demonstrates the connection between the low attractiveness of the northern suburban/ rural districts reflected by the low levels of the prices of housing in these areas.

Figure 7. Price levels of housing in the districts of Sofia Municipality in June 2010



Source: Real Property Association –www.imot.bg (accessed 09.2012)

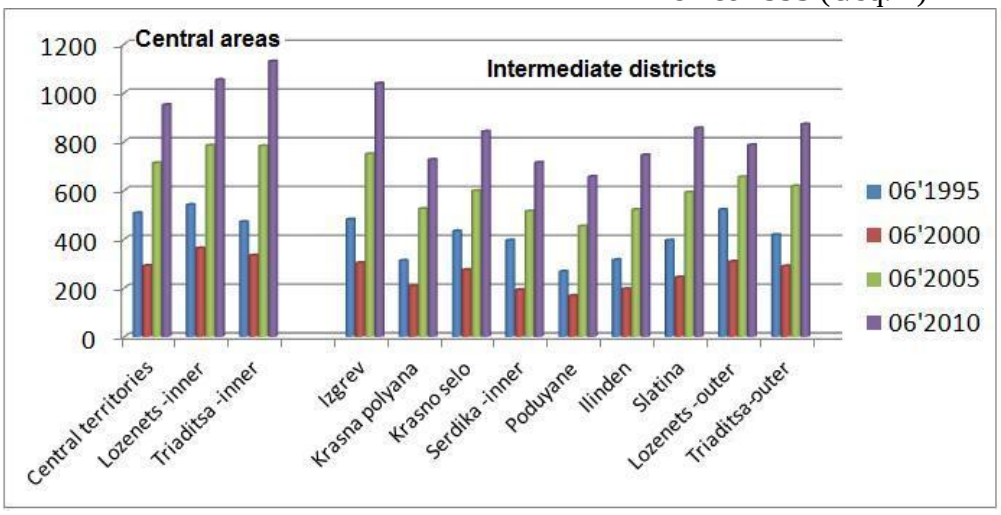
Table 6. Mean prices of housing in the districts of Sofia in respective years

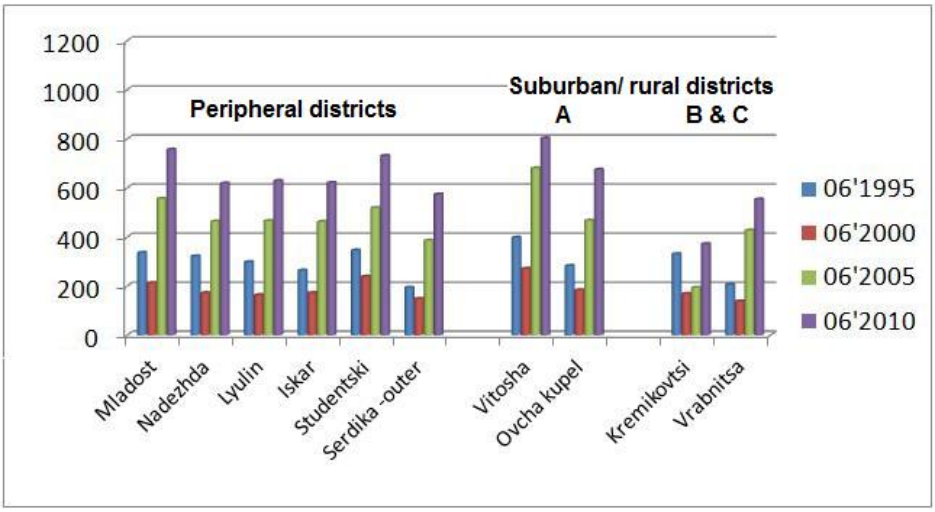
Districts	June 1995	June 2000	June 2005	June 2010
Central territories				
Central districts	507	291	712	951
Lozenets -inner	541	363	784	1054
Triaditsa -inner	471	333	782	1129
Intermediate districts				
Izgrev	481	303	749	1039
Krasna polyana	312	207	525	726
Krasno selo	433	274	598	841
Serdika -inner	395	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

Districts	June 1995	June 2000	June 2005	June 2010
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
Suburban districts A				
Vitosha	398	271	681	803
Ovcha kupel	283	183	467	675
Suburban districts B&C				
Kremikovtsi	331	169	194	372
Vrabnitsa	206	138	427	554

Source: Real Property Association –www.imot.bg (accessed 09.2012)

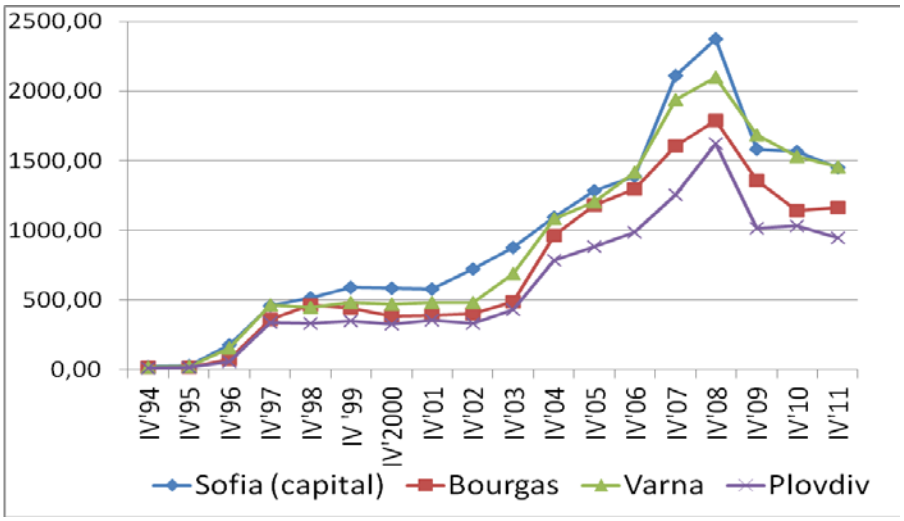
Figure 8. Changes in the mean prices of housing in the districts of Sofia since 1995 (€/sq.m)





As depicted on Figure 8 the trends of real property prices in Sofia were very dynamic during the last two decades. This was typical for prices in all Bulgarian cities. The chart on Figure 9 illustrates those trends. From 2003 to 2008 the prices of housing in the largest Bulgarian cities grew between 270% and 370%. Then the financial and economic crises had its impact and the prices in 2011 were 40 to 60 % lower than prices in 2008. For Sofia the percentage of this drop was 40 %. (note – A comparison with prices before 2006 is misleading, because the hyper-inflation in 1996 - 1997 and the adoption of the currency board changed the scale of all prices in Bulgaria.

Figure 9. Trends of housing prices in the four largest Bulgarian cities (levs/ sq.m)



Number of real estate transactions

The number of sell-buy transactions is another key factor to measure the state of the real estate market and the level of market demand. Also, it is a key factor to understand the market mechanism and the roles of the market players.

The real estate market in all large cities in Bulgaria and, especially, in Sofia had been very intensive most of the time after the start of the political and economic changes at the end of the 1980s and the beginning of the 1990s. As it was explained earlier in this text by the example of Sofia, the socialist housing estates were built mainly (exclusively) in peripheral territories, so the inner areas of most Bulgarian cities and in Sofia remained underdeveloped. Because of the preferences of the population for centrally located housing the demand grew immediately after the changes had started. In result, yet in 1992-1994 the demand was very high, plots for development/ redevelopment were available and the number of transactions quickly grew, despite the generally poor economic situation of the transition period. This was the first boom of housing construction in the big cities after 1989.

There was a slump in the market between 1996 and 2001 due to the hyper-inflation of 1996-1997, but during the second decade of the transition – i.e. after 2001- the market was up again and this induced the second boom of housing construction. Respectively, the number of sell-buy transactions was high again and prices continued to grow for several years. That is indicated in the diagram on Figure 9 and the data in Table 7 below.

Table 7. Sell-buy transactions in some districts of Sofia in the period 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
Suburban A										
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
Suburban B&C										
Pancharevo	6	4	3	4	3	7	4	5	6	2
Kremikovtsi	12	25	29	25	17	74	21	27	18	6

Calculations and chart prepared based on data provided by the national Registry Agency.

Figure 10. Sell-buy transactions in different types of districts between 2002 and 2011

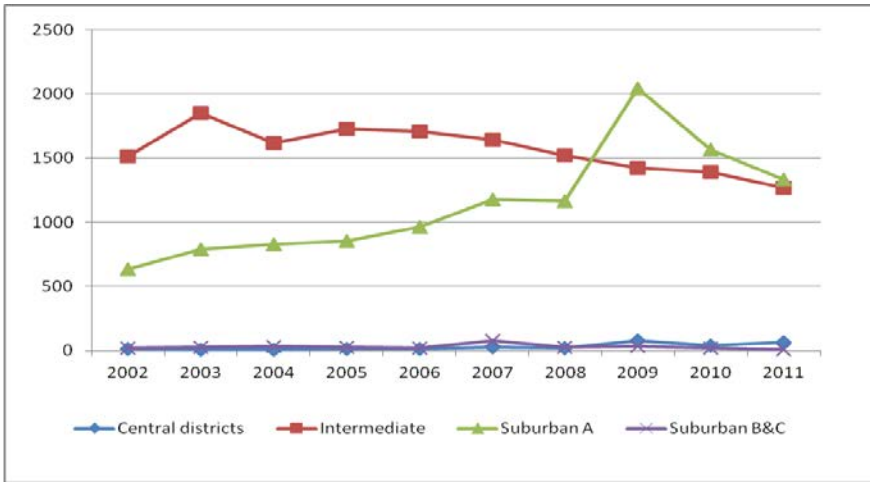


Figure 10 is a very good illustration of the market trends, important for this study. It is also a good example that the investigation of prices only is not informative enough to understand the development of the real estate market. The real estate market should be analyzed by juxtaposing prices to the number of transactions. That is – a comparison should be drawn between the diagrams on Figure 9 and Figure 10. Both diagrams make obvious the strong market trends in the years 2002-2006. However, though the first signals of the financial crisis were present yet in 2007, prices still went up in 2007 and in 2008, while the total number of sell-buy transactions was already decreasing. After 2008 the prices of real properties fell sharply, while there was no great decrease in the number of transactions. In the studied districts (listed in Table 7) between 2008 and 2011 when the decrease in the prices was 40 % (outlined above), the decrease in the total number of sells was only 2 %

Finally, the diagram on Figure 10 gives grounds for three important observations. Firstly, the number of sell-buy transactions in the intermediate districts of Sofia had been very high throughout the whole period of study. Obviously, the number of transactions in the central districts had always been much lower because of the low potential for new housing developments in the central territories. Secondly, the disparity between the suburban/ rural districts to the south compared to those to the north of Sofia should be assessed as quite substantial and still increasing. The number of sales in the northern suburban/ rural districts is exceptionally small – only 1 % of the total number of transactions in the studied districts. Thirdly and most importantly for the research related to

urban sprawl, the southern suburban districts are, no doubt, the "winner" with their quickly growing rates. In 2002 southern suburban districts accounted for 29 % of all transactions in the studied districts; nine years later these districts accounted for almost 50 %. And these were the only districts where the number of sell-buy transactions during the period of the financial and economic crisis had not fallen below the level before the crisis. Even though sales in 2010 were lower than 2009 and the sales in 2011 – lower than 2010, still the number of the transactions in 2011 was 14.2 % higher than the number of 2008.

To summarise, the whole study of the development of the housing market of Sofia supports two conclusions of critical importance with regard to the processes of sprawl. First, the residential preferences in Sofia still favour housing with central location. These preferences are partly due to prevailing traditions in South-eastern Europe – e.g. compared to Greece. They are probably partly due also to motives developed in the course of several decades under socialism, when urbanisation was synonymous to better living conditions. Eventually, these preferences are still strong in Bulgaria and it is not likely that they will change radically in the next 5-10-15 years.

Second, despite the preferences for housing with central location a new trend is observed after 1995-1997 and, particularly, during the first decade of the new century of growing interests for suburban housing. It may be said that such preferences are focused on the territories in the foots of Vitosha mountain - the districts to the south of Sofia.

№	Types of territories	Столична община				Гр.София • компактен град				Околоградски район			
		Опорен план - 2001		ОУП -проект 2020		Опорен план - 2001		ОУП -проект 2020		Опорен план - 2001		ОУП -проект 2020	
		ха	%	ха	%	ха	%	ха	%	ха	%	ха	%
1	Housing territories *second (summer) housing included*	13955 *2375*	10,4% *1,8%*	15577 *1900*	11,6% *1,4%*	7115 *165*	37,3% *0,9%*	8639 *0*	41,2% *0,0%*	6840 *2210*	5,9% *1,9%*	6938 *1900*	6,1% *1,7%*
2	Territories for commercial and public services *poly-functional areas included*	3080 *7220*	2,3% *0,9%*	5267 *2158*	3,9% *1,6%*	1540 *250*	8,1% *1,3%*	3063 *1259*	14,6% *6,0%*	1540 *970*	1,3% *0,8%*	2204 *899*	1.9% *0,8%*
3	Industrial territories *mining areas included*	5950 *1210*	4,4% *0,9%*	5531 *729*	4,1% *0,5%*	2565 *105*	13,4% *0,6%*	2347 *71*	11,2% *0,3%*	3385 *1105*	2,9% *1,0%*	3184 *656*	2,8% *0,6%*
4	Territories for communal and urban services, including dumps and dung-hills		0,0%	645	0,5%		0,0%	*7*	0,0%		0,0%	638	0,6%
5	Territories for transportation and infrastructure, including depots and sheds *primary road and street networks included* *railroads and rail-service areas included*	3320	2,5%	4971 *3852* *718*	3,7% *2,9%* *0.5%*	1195 *828* *222*	6,3% *4,3%* *1,2%*	2392 *1778* *381*	11,4% *8,5%* *1,8%*	2125	1,8%	2579 *2074* *337*	2,3°/c *1,8%* *0.3%*
6	Green territories	5110	3,8%	7126	5,3%	1995	10,5%	3777	18,0%	3115	2,7%	3349	3,0%
7	Teritories for sports and active recreation	515	0,4%	1128	0,8%	245	1,3%	450	2,1%	270	0,2%	678	0,6%
8	Teritories for special services	1685	1,3%	1203	0,9%	550	2,9%	238	1,1%	1135	1,0%	965	0,9%
9	Rivers, water areas and flows	2920	2,2%	2989	2,2%	35	0,2%	45	0,2%	2885	2,5%	2944	2.6%
10	Agricultural territories	49340	36,8%	41208	30,7%	1280	6,7%	0	0,0%	48060	41,8%	41208	36,4%
11	Forests *protected areas and natural reserves included*	45775 *2000*	34,1% *1,5%*	48510 *2102*	36,2% *1.6%*	25 *0*	0,1% *0,0%*	0 *0*	0,0% *0,0%*	45750 *2000*	39,7% *1,7%*	48510 *2102*	42,9% *1,9%*
12	Other Territories	2515	1,9%	10	0,0%	2515	13,3%	10	0,0%		0,0%		0,0%
	TOTAL	134165	100,0 %	134165	100.0 %	19060	100.0 %	20963	100.0 %	115105	100,0 %	113197	100.0 %