T U R A S
TRANSITIONING TOWARDS URBAN
RESILIENCE AND SUSTAINABILITY

FORMS OF URBAN GROWTH IN SOUTHEAST EUROPE:

TRANSITIONING TOWARDS URBAN RESILIENCE AND SUSTAINABILITY

VOLUME 2

Edited by

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THE ROLE OF MARKET AND STRATEGIC PLANNING AND GOVERNANCE IN URBAN GROWTH AND DEVELOPMENT: THE CASE OF THE METROPOLITAN AREA OF BELGRADE (SERBIA)

Compendium of contributions of the IAUS team to the Project TURaS

Content

4.2. Market analysis of housing in Belgrade

Slavka Zeković, Miodrag Vujošević and Tamara Maričić

This contribution represents a report on the research for task 5.5 on the relations between market and regional & urban planning.

4.2.1. Introduction

A standard theoretical dictum says that the price dynamics in the sphere of urban (construction) land (as well as in most other development fields) is a result of the interplay of factors from two broad groups, i.e., market and planning (governance, "steering", management, and similar). However, neither market nor planning exists in its "pure" form. They are always "imperfect", and it is this "imperfection" that greatly determines the final outcome of this "game". Apart from that, the specific geographical and historical characteristics ("fixities and givens") of a concrete area (place, locale, region, state, nation, etc.) also render some influence, which may often play a significant role in this respect. Thereby, supply and demand of urban land are "two sides of the same coin"; since they cannot be determined in an isolated way, that is, without taking into account the influence of the "other side". The ultimate aim of the market and planning function is to provide appropriate urban land for construction in terms of its quantity and quality.

The key **factors of demand for urban land** stem from the following groups: 1) Achieved development level of the area (measured by standard general and specific indicators, indexes, coefficients, etc., to reflect the general condition of economy, welfare, health and so forth). 2) Purchasing power of potential buyers. 3) Price of land and its availability for rent (leasehold). 4) Population dynamics. 5) Development prospects of the area (predictable prosperity, crisis, or stagnation, etc.). 6) Fiscal policy and related financial interventions (incentives, disincentives, and similar). 7) Planning policies, instruments and measures, by means of which the following are being determined: a) structure of urban land (number functions and their mixes); b) availability of public services (amenities, utilities, etc.); c) planned land uses (and respective conversions); d) zoning schemes determining land uses, land values and so forth; e) adjacent urban lands (structure, functions, value, technical equipment, etc.); f) quality of physical environment (natural, artificial, etc.), etc.

As for the **supply-side factors of urban land** (excluding physical assets), they belong to the following groups: 1) Physical characteristics of place (area). 2) Planning factors, determining: a) construction density (stipulated); b) planned "timing" of land supply (also including respective conversions of land use); c) flexibility of land supply, etc. 3) Land stock exchange (of urban land of various

uses). 4) Land speculation (especially under the circumstances of economic crisis). 5) Land use policy regarding monopoly. 6) Costs of land acquisition, spatial organization and equipment, determining the expected profits. 7) Land use fiscal policy, determining the size of urban land lots. 8) Procedural and administrative determinants. 9) Interest rate, determining the supply/demand dynamics, development costs and rent dynamics.

4.2.2. Key principles of urban land management (the so-called "stratified demand" aspect)

A standard approach in urban land planning and management rests on the estimation (assessment, appraisal, and so forth) of expected land demand. Usually, this takes the form of the so-called "functionally stratified and segmented demand", via a number of approaches, methodologies and techniques, for various land purposes and uses, viz., housing construction, commercial and business uses, industrial uses, public services, etc., as presented hereinafter. For these and similar purposes (i.e. assessment), inputs are usually used, as defined in the pertinent development and related documents, as well as in the various regulatory and sector standards, rules, norms, etc.

The estimations of **demand for housing construction on urban land**, on one hand, are usually based on the relevant demographic forecasts and projections (size of population, age brackets, household structure, migration, purchasing power of households and individuals, potentials for affordable housing, etc.). On the other, here of priority significance are the census and other statistical sources on housing stock, such as age, size, renewal rate, spatial /regional distribution, urban/rural split, etc.

The estimations of **demand for commercial and business purposes and uses** are based on employment forecasts (usually for the time period of 10-15 years), distinctively for commerce, business, insurance, and other related services; and on the experientially acquired standards regarding the constructed office space in relative size (e.g. 20-30 m^2 per employed person). This approach is usually practiced in order to "translate" the relevant planning stipulations on economic and population growth into concrete parameters regarding requests for constructed space (surface area), e.g., via Floor Space Index (FSI), or Floor Area Ratio (FAR), measuring constructed space vis-à-vis total surface, etc. This "conversion" method differently applies to various uses within the given interval, for example, usually 2.0-5.0 for commercial uses in the central (downtown) zones, 0.5-2.0 in urban periphery, and so forth, also significantly varying among cities (towns) of various dominant functions. This procedure is typically performed as a sequence of iterative steps, within a structured framework of consecutive estimations. The above-mentioned indexes should be used very carefully; otherwise, the findings based on them will most predictably produce wrong signals to the market actors. To note, there will almost always be a difference, sometimes sharp, between the planning stipulations on the urban land use size and structure on the one hand, and practically calculated urban

land size and structure, based on experientially established standards (to be used as a "practical guide to everyday practice") on the other.

For larger cities, as well as for metropolitan areas (as are the cases of Rome, Sofia and Belgrade), relevant are also the appropriate estimations of stratified international, regional and city demand for urban land. Similarly to the above-mentioned parameters, here the key indicators should also veritably present the following attributes, viz.: dominant or primary (out of mixed) urban land uses/functions (housing, commercial, business, open/public space, industrial areas, warehouse areas, etc.); planning/governance level (regional, local, city-town, zonal, blockwise, etc.); planning restrictions (regarding environmental protection of specific places or areas, per sector and/or per function); achieved quality of life (living standard, development level, etc.); the brown-field/green-field split; spatial and time distribution of demand; elasticity of urban land demand, etc.

4.2.3. The case of Belgrade metropolitan region (Greater Belgrade Area)

The amended Master Urban Plan (2006, 2007 and 2009) covered the planned area of 77,602 ha, out of which the construction land was pitched at 55,560 ha, which means that one part of agricultural, forest and water management lands was not included, as well as the relevant infrastructure corridors. To note, some marginal land of this kind was included into the construction land. Following the appropriate legal definitions, a separate category was defined, i.e., "urban construction land", to cover 45,692 ha.[11]

In the Master Urban Plan of Belgrade of 2003 (hereinafter MUP), which was amended most recently in 2009, it was stipulated that some 2004 ha would be used as commercial and/or urban land in the central area in 2021. This represents a gross exaggeration of more than 1,336 ha, as only 667.98 ha were used for these purposes in the year 2001. The extra amount of 1334 ha of urban land was planned in the MUP until 2021, calculated by means of FSI of 4 in the central zone of the city (exceptionally 5), and of FSI of 3 in the intermediate urban zone. (This follows a stipulation proposed by an appropriate by-law, i.e., the Rule regulating the parcelling out of construction lots and their regulation and construction – *Правилник о општим правилима за парцелацију, регулацију и изградњу*, Службени гласник Републике Србије, бр. 50/2011. The nominal values stipulated by the MUP are, of course, smaller.)

[11] This figure differed from that provided by the Republic Cadastre of Serbia, i.e., 63,000 ha.

Table 1. Existing (2001) and planned (2021) 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

This would also imply that by 2021 in the Belgrade area covered by the Plan some new 534,000 jobs would be recorded in the business services sector, which is in sharp discrepancy with the current figures. In 10 city municipal communes (municipalities) of Belgrade, the total floor space was ca. 37.15 million m^2, and yet calculated by applying the above-mentioned iterative approach; this would amount to even 13.3 million m^2 of new business and commerce space! It should be understood that the stipulation from the MUP did not take into account the recent collapse of the real estate market in Europe, only the fact that the already existing (constructed) space has not been sufficiently utilized, as it has been largely oversized. In terms of spatial distribution and organization, four broad areas were defined by the MUP, out of a 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) Border zone (43.902 ha). Within these, 57 specific urban zones were defined based on the above-mentioned broad zones, i.e., 22, 22, 15 and 20, respectively.[12] More detailed decomposition is presented in Table 1.

Table 2. Planned land-use structure (in %)

	Current land-use (2001)	Planned land-use
Housing	16,2	18,64
Economic zones	2,06	6,12
Commercial zones and centres	0,86	2,58
Public services and centres	1,45	1,86
Sports and leisure zones	0,88	1,42
Green areas	14,65	25,85
Agricultural zones	51,1	27,82
Water surfaces	5,25	5,38
Cemeteries	0,44	0,63
Transport zones	5,70	8,62
Public amenities and utilities	0,44	1,08
Undeveloped land	0,97	0,0
Total	100,0	100,0

To summarize, in the 2001-2021 time period, the largest reduction of the existing land uses should be undertaken in the agricultural sector, i.e., 18,007 ha (from 51.1% of its current share to 27.8% of its future share), primarily along the key transport routes. A part of that should be converted into industrial parks (zones), and the rest into greened open space, resulting ultimately in an increase of the latter, that is, 8,686.7 ha (from 14.65% of its current share to 25.85% of its future share, as presented in Table 1 and Table 2). In absolute terms, the largest changes will take place in the economic zones, transport zones, housing zones and commercial zones and centres, 3,155 ha, 2,269 ha, 1,888 ha, and 1,336 ha, respectively, with an analogous rise in their respective percentage shares.

As for the supply of urban land used for residential purposes (MUP), 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 ca. 15%; thereby, increasing its share in total urban land area in the Belgrade metropolitan area from 16.2% to 18.64% (see Table 2). Should one apply a low value of FSI (FSI=1), this would give a preliminary assessment that at

[12] To note, the borders of these areas and urban zones coincide with the statistical areas. However, the MUP has not been adjusted to the above-mentioned Republic Rule on the Parcelling Out of Construction Lots and their Regulation and Construction, as the latter was passed later than the MUP in 2011.

least 18.88 million m^2 of new residential gross space (floor) area could be built in accord with the planned stipulations, which would equal to between some 200,000 and 300,000 housing units (dwellings). Should a larger FSI be applied, this would consequently enlarge the number of housing units (dwellings).

4.2.4. General remarks about the practice of urban land management in the Belgrade City Area

According to the MUP (2003 and 2009), there have been a number of characteristics of the current system of urban (construction) land management in Belgrade,[13] which would determine the main course of developments in this area for a longer period, viz.:

- Out of a total area of 77,600 ha, 84% of urban land is construction land proper, owned by the state and the City of Belgrade, 1% goes to mixed ownership, and the rest of 15% is categorized as non-construction land.
- Out of the total surface area, various City authorities use ca. 10% of urban land (6% is used by local municipalities, 2% by various directorates, and 2% is used by the City authorities proper); 2% is used by railway authorities; 11% is used by the Belgrade Agriculture Estate, and the rest is used by various statutory public and private users. (The owners of urban land are the state, i.e., the Republic of Serbia, and the City of Belgrade with its constituent municipalities.)
- By sectors, out of 77,600 ha, around 70% is agricultural; 5% is water management land; 7% is forest land, and some 3% of land is occupied by various buildings.
- Continuously built area covers some 22,000 ha (ca. 30% of total area).
- In administrative terms, a public enterprise, the Directorate of Construction Land and Development of Belgrade is responsible for urban (construction) land management. This public agency is responsible for leasing the urban land for various uses, via public tenders.
- There have been a number of specific agencies responsible for the management of various utilities and amenities.
- A number of ownership and management problems still stem from the legal (formal) status of urban land ownership, generated by the nationalization, confiscation and other forms of de-privatization of construction land undertaken after the Second World War. The Constitution of the Republic of Serbia still prevents the de-nationalization of construction land, viz.: for a general lack of urban land leasehold, greatly resulting from low housing rents and fees for communal services in the public sector (amenities and utilities); for a lack of proper legal and spatial and urban regulation, (rules of the "black market" often

[13] It refers to the area covered by the MUP, the surface area of 77,600 ha, with some 296,000 land parcels (lots).

prevail over the officially promulgated rules and procedures); for a lack of proper market and other rent regulations- a large part of rent is appropriated without being properly taxed, and is thus kept by various kinds of "rent-seekers"; for a lack of a proper rent mechanism, a large number of the most attractive lots (sites) in the very central parts of the City of Belgrade have been occupied by stakeholders generating relatively low profits, thereby the problems of technical and social infrastructure in these parts have become ever more complex and not easily resolvable; for the lack of proper urban planning and regulation, especially regarding the proper "timing" of pertinent activities, there has been a widespread non-authorized parcelling out of urban land lots in the peripheral parts of the area covered by the MUP, and their illegal sale , followed by massive illegal construction; for the system and practice of mortgage loans and credits is still insufficiently developed, etc.

The Directorate responsible for urban land management and construction (Direkcija za građevinsko zemljište i izgradnju) is giving state- and city- owned un/developed urban land to usage up to 99 years, while the competent city and municipal authorities (serb. *sekretarijat*) are issuing construction permits for those locations. However, due to different reasons (including that resulting from the previous Law on Planning and Space Arrangement, there has not been a time limit for the activation of given locations, e.g. construction according to given construction permits) investors often did not start construction, e.g. they kept "empty" plots. According to data from the MUP (2009), in the last 5 years, the Directorate for urban land management has given to investors the plots on which it is possible to construct over 4 million of m^2 of housing and commercial floor-area (for which they later got building permits from competent authorities). Only 18% has been realised. That is considered to be one of the reasons for the deficit of free plots in Belgrade and for the low level of realisation of issued construction permits on state-owned urban construction land.

However, due to a lot of unfinished construction work and effectively non-activated land, there has been a general lack of properly spatially arranged urban land, which is ready for construction. (This pattern varies by municipalities of the City of Belgrade.)

Ultimately, it should be reiterated that corruption in Serbia is endemic, and according to many estimates, this country belongs to the group of the most corrupted states in Europe. This is also visible in the sphere of urban land management, especially regarding the public tenders for land. Despite the fact that fairly open and transparent procedures have been prescribed by law, in effect, a "hidden agenda" often dominates this scene along with the poorly-developed institutions of coordinated market-and-planning approach in urban land management and a system where strategic thinking, research and governance seems to have collapsed a long time ago.[14]

[14] It seems that this 'hidden agenda' may have mostly influenced a stipulation to appear in the Amended MUP of 2006 regarding the Port of Belgrade, which has

There has been a strategic aim in the sphere of urban (construction) land management, established by the MUP in 2003 and also reiterated by the amended MUP in 2009, to establish a new governance model, based on, firstly, market principles and secondly, on correcting its imperfections by means of embedded general public interests. In 2003, the public sector occupied approximately 30% of the economic sphere in Serbia, as compared to 40-60% in the more developed European countries. Based on these general directions, specific strategic aims were defined in the following way by the MUP:[15]

- The first aim has been to denationalize both the ownership and management of urban (construction) land, as a key step to further marketization.
- The overall marketization should be corrected, in social respect, by specific protection of the stakeholders that would not sustain the volatilities of a more market-oriented system.
- Urban rent should play its genuine role in effecting the functioning of the urban land market, providing relevant information, and thereby taking into account the interests of all market stakeholders ("players"), in terms of ownership, property, leasehold, and so forth. Simultaneously, this would also have to protect the respective interests of all investors and financiers, them being either in public, private or other property sectors, directing the system and practice towards rational behaviour, management and husbandry of urban land.
- These would altogether introduce real market parameters, thereby providing predictable and veritable market signals to all the involved and potential parts.
- Consequently, new market principles would set the ground for the introduction of a number of proper market policies and instruments, to serve a number of specific goals and targets, viz.: faster activation of the already disposed urban lots (now under prolonged construction) both for reconstruction and new construction; delimitation of public and other urban lands, supported

considerably changed a corresponding strategic aim from the MUP of 2003. Namely, in its Part 7 (Spatial zones and urban areas of Belgrade), a stipulation of ultimate strategic significance for Belgrade and Serbia was introduced to convert 70 ha of its current use (port, warehouse and transport function) into 'commercial, more profitable functions of the central City', mostly business and housing and other 'compatible' uses (i.e., leisure, public space, etc.). This was paralleled by a decision to develop a new port, downstream of the Danube River in the Belgrade region; thereby one of the development hubs of Serbia, the key element in developing the Belgrade area as one of the 'Gateway Cities' (of South-eastern Europe, has been predictably and definitively crippled for a longer time period.

[15] A specific provision was also proposed - the process of the so-called "de-metropolization of Serbia", which should take place as soon as possible, meaning the putting into effect a more dynamic development of the other parts of Serbia than the Belgrade metropolitan area, and thereby lessening its population and economic burden (i.e., the pressure on its physical stock).

by appropriate cadastre and related services (electronic bases, systems of indicators, etc.); introduction of a rounded-off property evidence, fully coordinated with the cadastre; defining a long-term urban land policy in order to integrate various sector policies of all public stakeholders in the City of Belgrade constitutive municipal communes (e.g., tax policy, ownership management, physical land management, sustainable spatial and urban development policy, etc.); systematic preparation of detailed land arrangement (e.g., parcelling out of the urban lots) and development schemes, and their consecutive efficient and effective implementation; etc.

Almost a decade after the adoption of the MUP of 2003, almost none of the strategic goals have been achieved. Moreover, the Planning and Construction Act of 2009 may have even made things worse, with the stipulations providing for a conversion of leasehold on urban (construction) land into a property right – without applying the actual market prices to the urban land kept by the privatized companies! Nominally, the market prices of urban land are determined on the basis of a number of ordinances.

4.2.5. A preliminary analysis and assessment of housing market in the Belgrade area

Introductory comments

According to key strategic documents, housing construction in the wider Belgrade area should match the demand for housing space, as reflected both by the planning and market. The volume of construction is expected to satisfy both in quantitative and qualitative terms. The existing model of general management in this field sharply differs from that inherited from the previous system of socialist, political and ideological monopoly. In the former system, the so-called "societal (social) directed housing construction" was made possible because of, firstly, almost non-exhaustible quantities of disposable lands in the urban outskirts, mostly of agricultural use; secondly, the relatively low costs of their conversion to various urban uses, and thirdly, dominant social (collective) ownership of urban land. Planning played a key role in determining the supply and demand, paralleled by a minor, almost marginal role of planning. Under such circumstances, in the area of the City of Belgrade until towards the end of the 1980s, on average, 10,000 housing units (apartments, flats, houses, and similar) were built annually (e.g., 9,879 housing units were built in 1989). The transition to a post-socialist, mostly market-driven system, dismantled almost all the elements of the former system (with the exception of a small portion of the so-called "solidarity housing construction"), especially regarding institutional settings and financial mechanisms and sources, now directing the key course of changes towards the functioning of a "free urban land and housing market". A large number of new players appeared in the housing arena, following the restructuring of the previously large construction companies, often ending in their bankruptcy. The new, in effect, spontaneous yet unfinished and provisional institutional and organizational settings proved hardly efficient in providing

adequate new housing construction. The annual average of construction drastically fell from 2,500 to 3,000 (in the time period 2000-2005) and from 4,000 to 6,000 (in the time period 2005-2011) housing units of various structures. However, the average number of constructed dwellings should be significantly larger, i.e. 16,690 units per year, if data from two consecutive population censuses (2002 and 2011) were applied. This difference may well be ascribed to a large-scale illegal construction of residential buildings (ca. 187,000 units in the City of Belgrade Area). The supply seems mostly to have failed to satisfy the demand in terms of quantity, structure and quality. This is not easily explainable vis-à-vis the fact that this sector recorded extremely high profit rates in this period, in effect, much higher than in the majority of other European countries, i.e., 30-200% and 5-20%, respectively. The recent (since 2008) economic and financial crisis only complicated the already deep flaws in the Serbian (Belgrade) system of housing and other assets market. Due to the evidently low elasticity of demand, profits fell sharply, thereby additionally complicating the already existing problems and flaws in the system, viz.: a lack of proper (completed) planning documents; poor information system, burdened with an extreme "asymmetry of information" among the market stakeholders; still very non-transparent system and practice of the cost management of urban lands, kept to utilize some quasi-market instruments from the previous system (e.g., fees for land reclamation and servicing); a lack of effective market instruments regarding public amenities and utilities; poor management of construction dynamics; long, complicated and slow procedures for the issuing of planning permits and construction permissions); non-effective and non-transparent judicial system, resulting in an enormous number of litigations and other unfinished cases; poor practice of license issuance, questioning the credibility of construction firms; legally accepted and stipulated legalization of illegal ("informal") buildings, yet unresolved in many key aspects; etc. Particularly dysfunctional has been the case of the legalization of illegal buildings. On the basis of the *Planning and Construction Act* from 2003, in 2005 some 130,000 applications of this kind have been submitted in the Belgrade area, mostly for various housing units, of which only 3-5% has been resolved so far. Upon the amended *Act* (in 2009, 2010 and 2011), additional 57,000 requests have been placed, now totalling to 187,000 cases. The illegal status of a constructed building negatively affects its market value, even up to 25-30% of its market price. Based on the above-mentioned comments, in what follows a preliminary assessment of housing supply and demand is given in turn.

Housing demand

According to the so-called "first results" of the Census of Population, Households and Dwellings in the Republic of Serbia in 2011, 1,639,121 people were living in the City of Belgrade, in 604,134 households. In the same year, the total number of units reached 739,630, which was 167,897 more than in 2002, also indicating a surplus of 135,496 housing units over the number of households, i.e., some 100,000-120,000 tenants living in rented dwellings. In 2002, the housing stock of the City of Belgrade amounted to 586,889 units (35,928,256 m^2), of which 571,733 are in private ownership. The population of 1,576,124 lived in 578,390

households. Some 39,000 units were permanently not used, and 3,456 were abandoned. Apart from that, 30,773 units were used for leisure and 3,283 for other service purposes.[16] The MUP of 2006 presented a number of projections for the year 2021, viz.: the share of investment in the housing sector in total investment of 2% (ca. 2.1 billion €); the total number of new and/or completed housing units of 75,000 (600,000 m^2 of floor space), at average annual production of 7,500 units; the average household size of 2.9; gross floor space per household member of 22m^2; NFS/GFS ratio of 1.25; the average size of housing unit 63.8 m^2 (NFS), i.e., 22 m^2 per household member; the average size of housing unit 80.0 m_2 (GFS); etc. The implementation of the aims during the first four years slightly differed from the forecast values: in general, demand surpassed supply, both in terms of size and spatial distribution; the reconstruction of the City zones became a first priority, as well as the transformation of some low density zones, with low quality housing stock, into areas of high density; "brownfields" also seem to have appeared among the priorities; etc. However, there has been no systematic and complete insight into the volume and structure of construction, apart from the fact that 6,416 housing units were completed in 2011, the total floor space of 379,681 m^2, out of that 6,018 (with 351,435m^2) newly- constructed units. There are still a large number of uncompleted (under construction) units, varying in spatial terms (by the municipal communes of Belgrade), as could be seen in Table 3.

The average floor space of a new housing unit was 70.6 m^2. By the City ordinance, some 40% of the units were built in the Pplus6 storey buildings, ca. 20% in the Pplus1 and some 14% each in P+0 and Pplus4 storey buildings.

Table 3. Number of completed and uncompleted housing units in Belgrade (1995-2011)

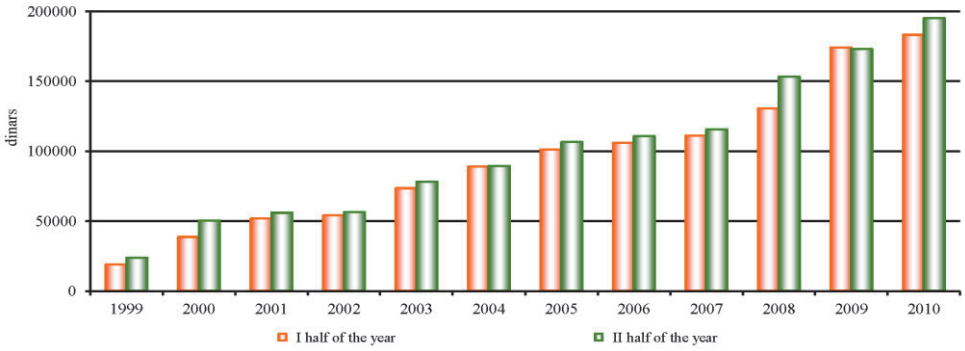
Year	Nr. of completed units	Floor space of completed units (m^2)	Nr. of uncompleted units	Completed units per 1,000 inhabitants	Nr. of demolished units	Average size of unit (m^2)
2011	6,416	379,681	11,657			59,2
2010	5,684	358,659	10,134	3.5	168	63,1
2004	3,673	242.050				65,9
2001	2,663	174.000				65,8
1995	3,280	210.312				64,1

It is of importance to note here that the Belgrade City area belongs to a very small group of Serbian regions with a steady increase of housing construction, which has not been the case in the majority of other regions, where the construction volume has been decreasing.[17] An exception to this rule is the South Banat District,

[16] *Saopštenje 90/2004*, Institute for Informatics and Statistics, Belgrade

[17] Municipalities and districts in Serbia in 2011, The Statistical Office of the Republic of Serbia, Belgrade, 2011.

where only in May 2012 the volume of its housing construction surpassed that of the Belgrade City area, which also applies to the value of the newly-constructed housing stock (Graph 1).



Graph 1. Prices of new construction in 10 City municipalities[18]
Source: Statistical Yearbook of Belgrade, 2010, Institute for informatics and statistics, Belgrade

Price statistics on housing construction (Belgrade vis-à-vis Serbia)

There has been no systematic evidence on price statistics on housing construction for specific local areas. The official statistics cover only totals, for the Republic of Serbia, the Autonomous Province of Vojvodina and City of Belgrade. In 2012, according to another source the *National Corporation for House Loans Insurance / Nacionalna korporacija za osiguranje stambenih kredita*) an average price of 1 m^2 of housing space in the Belgrade area reached 1,291-1,252 € in 2008 (categories Q1 and Q2, respectively). The maximum for Q4 for the same year was also recorded in Belgrade, i.e., 1,507 €/m^2, and the minimum value was 1,100 €/m^2 (for Q2 in 2007). This resulted from a longer upward trend, since the price in Belgrade fluctuated within the range of 900-3,000 €/m_2 in the period 2004-2005, on average around 1,200 €/m^2 (no VAT included).[19] Afterwards, in the period 2008-2012, the average value decreased for some 27% (the estimated value, see Table 4).

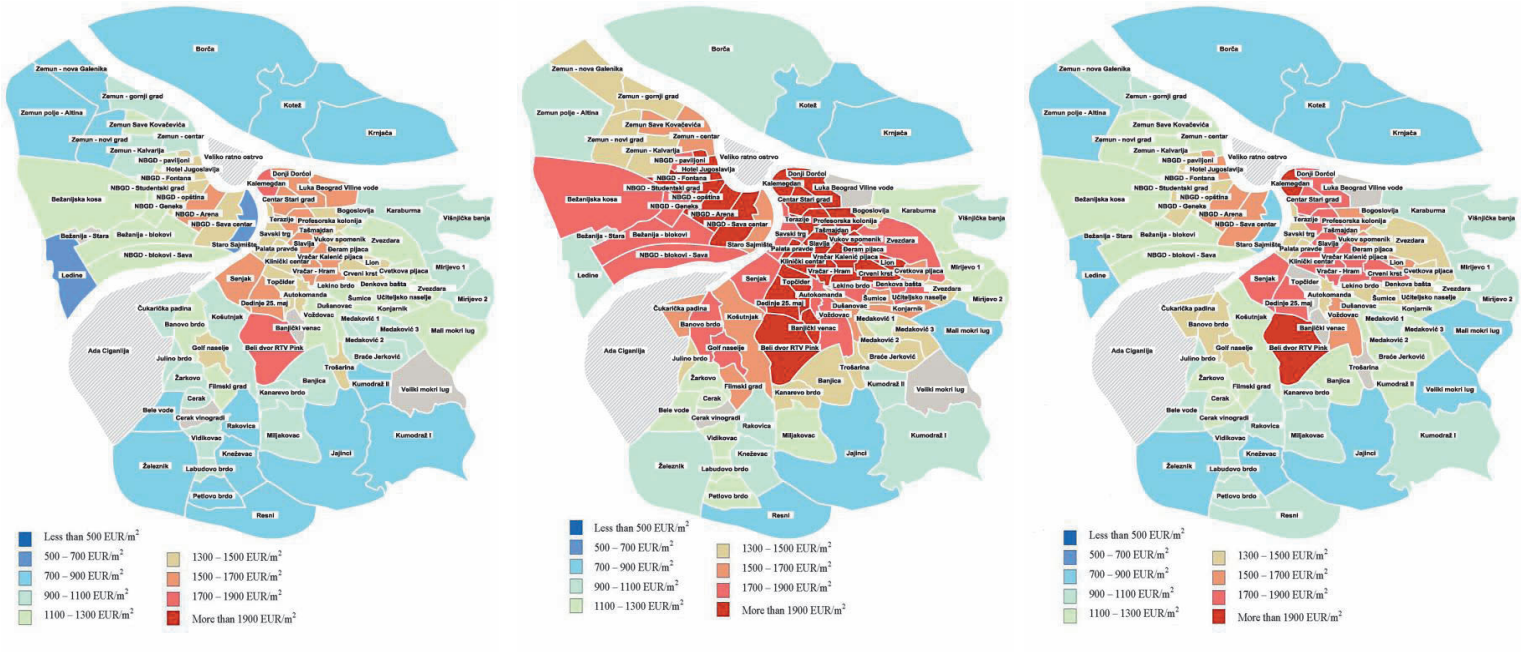
[18] There had been a difference between the contracted and final prices for newly constructed dwellings in the period 1999-2002. The presented data showed contracted prices, for 10 City municipalities, viz.: Vračar, Voždovac, Zvezdara, Zemun, Novi Beograd, Palilula, Savski venac, Stari grad and Čukarica.

[19] Announcement No. 181, LIV, 03.09.2004, GR20, The Republic Statistical Office

Table 4. Housing units price flow (Q1 2007- Q2 2012, in EUR/m^2)

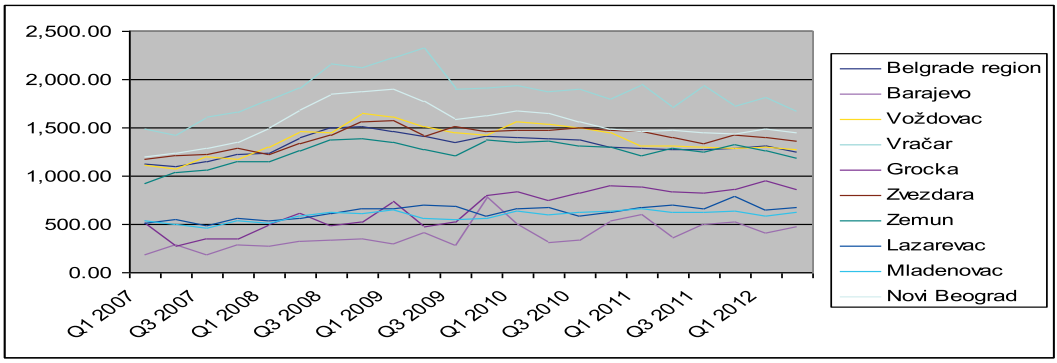
	2007				2008				2009				2010				2011				2012	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Serbia	**719**	**668**	**704**	**744**	**772**	**811**	**862**	**873**	**845**	**802**	**814**	**933**	**989**	**961**	**934**	**917**	**939**	**915**	**949**	**982**	**969**	**956**
City of Belgrade	**1,120**	**1,101**	**1,152**	**1,229**	**1,236**	**1,395**	**1,500**	**1,508**	**1,467**	**1,412**	**1,351**	**1,414**	**1,402**	**1,392**	**1,377**	**1,300**	**1,289**	**1,279**	**1,277**	**1,291**	**1,316**	**1,253**
Barajevo	188	283	189	285	280	331	335	346	295	410	291	786		311	341	535	600	364	502	531	418	**470**
Voždovac	1,110	1,075	1,198	1,180	1,299	1,461	1,444	**1,653**	1,616	1,519	1,449	1,420	1,562	1,537	1,500	1,444	1,315	1,307	1,302	1,290	1,303	1,276
Vračar	1,486	1,424	1,610	1,666	1,788	1,915	2,167	**2,129**	2,227	2,327	1,896	1,910	1,941	1,873	1,899	1,802	1,946	1,718	1,942	1,723	1,807	1,663
Grocka	507	278	345	344	503	612	483	529	737	469	520	802	840	747	825	900	883	841	822	859	947	**867**
Zvezdara	1,179	1,207	1,221	1,285	1,225	1,339	1,429	**1,563**	1,570	1,419	1,512	1,459	1,471	1,477	1,504	1,472	1,457	1,401	1,343	1,423	1,402	1,366
Zemun	929	1,039	1,059	1,154	1,152	1,266	1,375	**1,392**	1,349	1,274	1,215	1,370	1,349	1,368	1,316	1,304	1,210	1,284	1,253	1,325	1,268	1,185
Lazarevac	508	547	491	564	538	564	608	661	661	696	682	592	661	675	585	629	678	696	664	787	656	**669**
Mladenovac	534	501	457	534	511	591	628	615	644	558	547	559	640	605	621	637	660	619	625	632	584	**623**
Novi Beograd	1,198	1,235	1,288	1,352	1,499	1,693	1,856	**1,873**	1,906	1,771	1,591	1,622	1,679	1,645	1,562	1,491	1,464	1,471	1,452	1,432	1,488	1,448
Obrenovac	531	376	511	545	563	568	598	584	553	640	601	689	693	715	705	734	698	732	681	633	699	**652**
Palilula	1,045	1,038	991	1,101	1,102	1,160	1,240	**1,363**	1,384	1,278	1,121	1,222	1,362	1,258	1,242	1,097	1,164	1,128	1,166	1,143	1,202	1,081
Rakovica	976	981	1,009	1,049	1,114	1,202	1,278	**1,391**	1,415	1,279	1,246	1,253	1,234	1,206	1,197	1,163	1,160	1,129	1,118	1,160	1,064	1,028
Savski Venac	1,457	1,428	1,391	1,630	1,676	1,812	2,064	**2,090**	2,063	2,449	1,980	1,839	1,793	1,606	2,029	1,657	1,832	1,562	1,693	1,722	1,879	1,652
Sopot	287	285	300	300	235	360	335	360	548	595	410	197	329	491	661	517	308	329		445	576	**588**
Stari Grad	1,482	1,591	1,666	1,780	1,897	2,056	2,261	**2,182**	2,235	2,219	2,102	2,028	1,915	2,026	2,145	1,913	1,804	2,065	1,823	1,756	1,797	1,802
Surčin	633	343	480		321	507	557	**767**	778		776	531	1,095	920	337	476	375		1,148	443		703
Čukarica	1,034	1,044	1,057	1,177	1,182	1,348	1,333	**1,338**	1,288	1,450	1,187	1,360	1,309	1,301	1,294	1,322	1,292	1,286	1,356	1,275	1,122	1,250

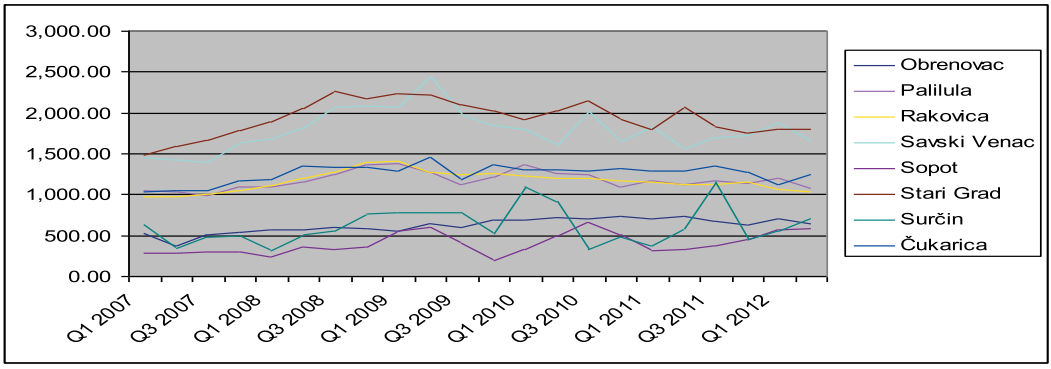
Source: Nacionalna korporacija za osiguranje stambenih kredita (NKOSK), http://www.nkosk.rs/srlat/content/indeks-cena-nepokretnosti-nacionalne-korporacije-za-osiguranje-stambenih-kredita (10/08/2012)



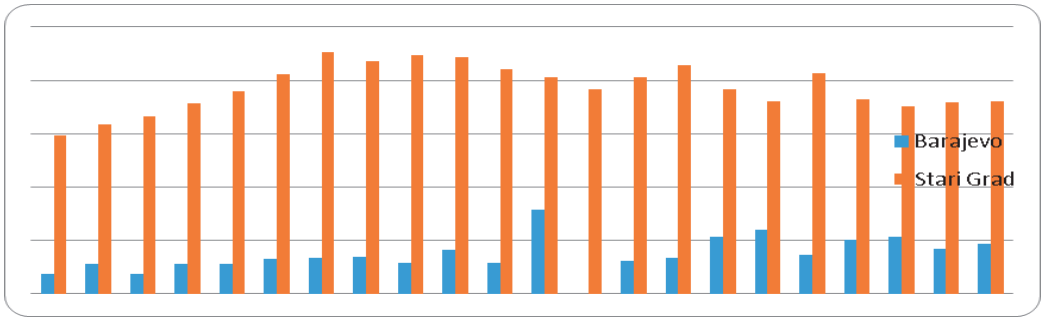
Map 1 – Territorial distribution of housing prices in Belgrade (up to zones, Q3 2007 – Q3 2008 - Q3 2012)

Source: http://imovina.net/statistics/





Graph 2. Housing price in City of Belgrade municipalities (Q1 2007-Q2 2012, source: NKOSK), in EUR/ m^2

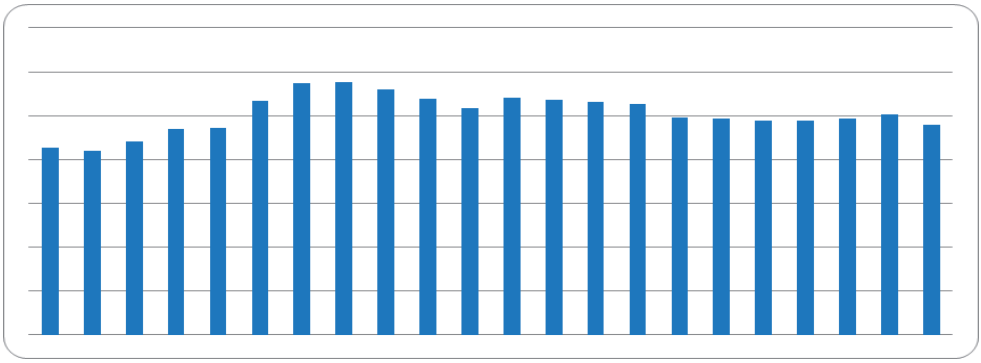


Graph 3. Housing units price flow in the most expensive (Stari Grad) and cheapest (Barajevo) municipality, in EUR/ m^2

The minimum price of housing units was recorded in peripheral municipalities, ca. 600 €/m^2 and the maximum price in the central City municipalities, ranging from 1,500 to 1,700 €/m^2 (see: Graph 2 and Graph 3, Map 1). As for the level of competitiveness of an otherwise segmented housing market, some parts of the older housing stock (of moderate age) may well compete with the newly-built housing units in value (for lower prices and an exemption from the VAT) and often in

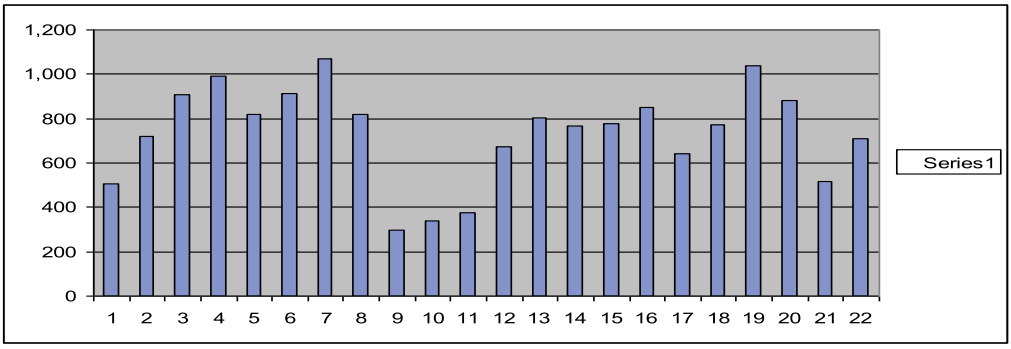
quality. For that reason, the major part of the current housing supply originates from the former construction, and the lesser from the newly-constructed stock.

As for the spatial distribution (by municipalities), an upward trend of housing prices was recorded in the peripheral communes in the period 2007-2012, paralleled by a downward trend in the central municipalities of the City of Belgrade, particularly after 2008, the year of the outburst of the global and national economic and financial crisis . This is illustrated by the values of the national asset index (DOMex), as it has been shown in the Graph 4.[20]



Graph 4. Index DOMex for Belgrade Q1 2007-Q2 2012

According to some sources (fiscal authorities), in the period 2007-2012 there were some 800 market transactions/ quarterly with housing units, provided by market agencies. Most probably, there should be a larger number of market transactions on housing units, which is not covered by this evidence.



Graph 5. Housing units purchase flow in Belgrade (2007-2012)

Source: http://imovina.net/statistics/

[20] This index is collected and presented for the municipalities, districts and few macro regions of Serbia. It does not cover assets financed by cash payments and/or non-secured loans. DOMex is calculated, for a given period and given territory/area, by comparing the average value of market transactions on housing assets (per m^2) with the average value of all market transactions (per m^2) in the base period.

There has been a sharp decline of market transactions in the categories Q1 and Q2 in the recent period, perhaps 40% as compared with the year 2008. Especially, the selling of houses, business space and construction sites dropped considerably. As this statement is based on partial evidence only, the effective decrease must have been even larger. However, due to the low elasticity of demand (and supply), the prices fell below the market turnout in the same period. According to one estimate, there have been three times more business premises and housing units offered than really needed (in terms of effective demand) in the City of Belgrade area.

Estimates on expected demand for housing units

In the foreseeable future, the impact of prolonged crisis will predictably distort a number of rules established by the "regular" functioning of the housing market, viz.: the impact of economic recession; unfavourable housing credit and loan instruments (e.g., steady increase of interest rates, etc.); an ever-increasing number of households unable to service the mortgage loans; stagnating (or even decreasing) purchasing power of a large majority of households, both for buying and maintaining housing units;[21] a steady gap (deficit) in the housing stock; steady migration to the Belgrade-Novi Sad metropolitan region of people from other parts of Serbia, thereby putting an additional burden on the already existing deficit of housing stock;[22] ever-larger part of dilapidated housing stock, whose replacement is made complicated by a lack of appropriate policy instruments and financial sources; problems in the market mechanisms to serve the evermore specified, differentiated and segmented demand for various housing units (in terms of their location, quality, energy efficiency, etc.), and the poor predictive power of the responsible authorities in the sphere of urban development, affordable housing, sustainable spatial development, etc.

For the above-listed reasons, only a rough (preliminary) estimate of the future demand for housing units is presented here, indicating that not more than 20,000

[21] For example, according to data published by the Republic Statistical Bureau of Serbia (Расположива средства и лична потрошња домаћинстава у Републици Србији, 2011, Коначни резултати 2011, ЛП11; Расположива средства и лична потрошња домаћинстава у Републици Србији, I квартал 2012., ЛП12), in the year 2012, in the category Q1, the average share of housing costs of a household in Serbia reached 17.7% of the total household expenditures, and 4.6% for current maintenance (the latter mark was 5% in 2005).

[22] It is of some interest to note here that in the MUP of 2003 the total population and employed persons number in the area covered by the MUP was predicted at 1,371,000 and 491,000 in 2010, and at 1,400,000 and 545,000 in 2021, respectively, which considerably differ from the estimates by both the Spatial Plan of the Republic of Serbia (2010) and the Population Census of Serbia in 2011. This forecast also contradicted with the strategic aim of the so-called 'de-metropolitization', since this implied that the share of the Belgrade population in the total population of Central Serbia would increase from 22.6% in 2001 to more than 24% in 2021. The MUP also predicted the following shares of sectors in 2021: total employment, 545,000 (of which 418,000 in the real economy and 127,000 in other activities); 2,200 in the primary sector, 142,000 in the secondary sector and 401,000 in the tertiary sector.

housing units would be demanded effectively by 2020, i.e., on average 2,500 annually, which is half of the predicted construction of new housing units (see Table 5). To note, this forecast is not completed and fully reliable, as it would necessitate an additional check, in the first place, one which would be based on a concrete analysis of market demand.

Table 5. Expected demand for housing units in the City of Belgrade area till 2020.

	Base for (general) assessment	Preliminary estimate of demand (housing units)
1	Current housing deficit (as ratio of no. of housing units to no. of households)	8,000
2	Demand generated by the increase of population (annual average of 1,000 new inhabitants, paralleled by 9,000 new marriages per year)	8,000
3	Demand generated by an increase of purchasing power and an increase of household size)	2,000
4	Replacement of old housing stock	2,000
	TOTAL	20,000

Construction permits issued in the City of Belgrade Area

From September 2009 (when the new *Planning and Construction Act* was promulgated) to September 2011, more than 600 construction permits were issued in the City of Belgrade area, of which 96 permits for buildings of a floor space more than 800 m^2. This is considerably less than in the earlier period for many reasons. Apart from the current crisis,[23] unresolved property issues have been the key reason for the prolonging of the important procedures, and especially those which have to do with the – otherwise legally provided – opportunity to convert the right of leasehold on urban land into property right. (A number of cases of the kind were completed in accordance with the *Act*, in total 1,905.) The total floor space of housing and business buildings that are currently in the procedure of getting permits (upon both the former *Act* and the existing *Act*) surpasses 1 million m^2, which is equivalent to a three-year construction volume in the City of Belgrade area (for newly-erected buildings). On average, the time needed for issuing a permit has been around 130 days. In the period from September 2009 to March 2012, 3,728 requests for a location permit were submitted, of which the responsible authority (the Secretariat of Urbanism of the City of Belgrade) issued 1,353 permits. In the period from September 2009 to February 2011, 1,218 construction requests were approved;

[23] A similar pattern has been recorded in Serbia at large. According to the data from the Republic Statistical Bureau of Serbia, in the first five months of 2012 (I-V), the total of 2,016 construction permits were issued in Serbia, of which 814 for new houses and 420 for non-housing purposes, by structure as follows: business premises (75); commercial premises (44); garages (50); warehouses (37); industrial buildings (35); hotels (12); kindergartens (9); schools (5) etc.

855 requests accepted (registered); 796 approvals for building use issued; 1,353 location permits and 148 construction permits were issued (out of 305 requests).

Market prices of urban land in the City of Belgrade Area

Approximated on the basis of statistical sources and pertinent experiential values, it could be stated that in the share of a property the acquiring and related costs of the urban (construction) lot fluctuates between 25-35% of the market value of the constructed building. In 2011, the highest prices in Serbia were recorded in the Belgrade Area, i.e., 540 €/m^2, and ca. 900 €/m^2 in 2012 (source: www.djinas.com), considerably varying within the Area. An estimate by the responsible agency, based on the sample of 2,273 market transactions of assets, pitched the average price of urban construction land at 148 €/m_2 in 2012 (source: www.gohome.com). The market prices of urban land for business and commercial purposes also varied, and they may reach even 1,200 to 2,240 €/m^2 in some more prestigious parts of the City (for example Marina Dorćol near the Port of Belgrade), while the average market prices for economic (industrial sites, warehouses, and similar) varied between 50-120 €/m^2 of construction land. In recent years there has been a significant decrease of market prices, following an overall downfall of purchasing power on the one hand, and over-supply of available business space on the other.

As is the case in other parts of Serbia, Belgrade's land policy has not been substantially transformed in the transition period. It is managed via zoning of the construction land and determining the initial amounts for compensation and lease by employing certain criteria and standards. These are established in an inconsistent way and do not correspond with the actual real estate value in the Belgrade market. Similarly to other places in Serbia, the zoning systems and differentiation for certain purposes are not based on relevant market factors, monitoring of transactions and land and real estate prices, planned solutions, standards, information systems and relevant modern fiscal, economic and market instruments and institutional arrangements. The construction land policy in Belgrade practically does not exist and the partial changes in the institutional framework that regulates this area, as well as in the organizational adjustments, have not introduced the necessary reforms to this policy that would be crucial for the further development of the city.

Undeveloped state-owned construction land is subject to lease for a fixed time period up to 99 years, which is estimated based on the purpose, area and the amortization period of the structure. The leasing procedure is conducted at a public auction for facilities up to 10,000m^2 of gross construction area, where the minimal amount of lease and the lessee's obligations are determined in the announcement for an open tender. The initial value of the lease is determined by zone (5 zones and an extra zone) and purpose of the object (objects of public services, housing-individual, buildings, commercial-manufacturing, business-service and business-commercial). In 2001, the size of total urban construction land was 45,692 ha (or 63.005 ha, according to the Republic Bureau of Geodesy). In total, 57 urban compact zones have been defined, 22 in I and II zone, 15 in III and 20 in IV zone. The boundaries of zones coincide with statistical territorial units. The largest initial lease amount is paid by business-commercial objects, if located in the so-called extra-zone (20.48

RSD or 20 euro cents/m^2 of useful area). Lease prices range from 1:3.3 for structures for public services to 1:6.31 for individual housing structures. For business-service facilities, the range is 1:4.29, and for business-commercial facilities it is 1:5.33. The widest range is in Zone I, i.e., 1:7.26. Zone boundaries, which are also used for the purposes of determining the initial rental fee, are established (by municipal ordinance) based on the market value of the location, defined by "attractiveness and business, traffic coverage and accessibility, scope and diversity of supply within the zone, the number of users visiting the zone, special benefits for certain purposes..."(Figures 1-3). This reflects a general intention to harness the land development policy for more strategic purposes, viz., to improve the position of the Belgrade metropolitan area in a broader geographical context based firstly, on its geostrategic position being at the crossroads of the European Corridors VII and X, and secondly, on the attractiveness of this area and its commercial zones.

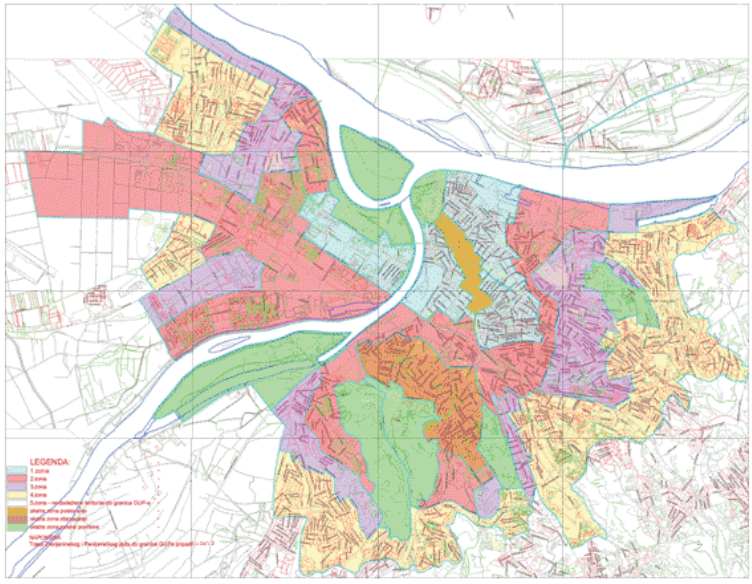


Figure 1. Urban Land in Belgrade – Zones (Extra, Zones I-V)

Source: http://www.beoland.com/zemljiste/gup2021.asp

Compared to the market value of the site/location, one can cast doubt on the mechanisms of their determination by local and republic administrative methods derived from regulations. For example, locations within the urban construction land of Belgrade will not depend on turnover, i.e., they are driven by market mechanisms of supply and demand. Currently, along highways and other development corridors of Belgrade there is no a single square meter of land open for construction. Construction land is being sold at prices ranging from 50-1500 EUR/m^2. This situation could have a discouraging effect on potential investors.

More detailed and/or more operational research for the T 5.5 should be undertaken, provided the necessary indicators are made available. Hereinafter, two groups of indicators are proposed. The first includes the basic indicators regarding some key market categories, and the second, a group of indicators by means of

which a multifunctional land use is estimated, evaluated and compared with a reference to three metropolitan areas, i.e., Belgrade, Rome and Sofia.

4.2.6. Basic market indicators for urban land and real estate

Annual volume of demand for land (for industrial, commercial and residential uses, in ha per year).

Transaction volume, which expresses an annual number of plot transactions for commercial and/or residential purposes. It could also be expressed as the ratio of the number of sales and purchase agreements to total housing stock, i.e., as the turnover rate.

Annual number of dwelling transactions (sales and purchases).

Average annual volume of supply of urban (construction) land (for industrial, commercial, residential, public and other purposes, in ha per year).

Median and extreme prices of urban (construction) land (€/m^2).

Prices of various types of dwellings (flats, housing units, etc.) in €/m^2.

Number of housing starts (per year).

Number of permits issued (per year).

Change in urban area vis-à-vis change in population (as %, or as index).

Annual gross rental yield per housing unit (annual rent/house price x 100%).

Annual gross rental yield for commercial properties (AGRYCP=Annual rent per m^2 of floor space x m^2 of built space/Value of built space, expressed in %).

Gross rent multiplier (GRM=Market value/Annual gross income-rent). This indicator is suitable as a rough ("quick and dirty") assessment tool for the general assessment of over-pricing – or under-pricing – properties (assets) to serve as a measure of ***resilience*** of investment property policies over time, both for the existing and newly-constructed units.

Buy-rent gap like the ratio of the costs of purchasing a flat to the rental costs, which compares the costs of owning a flat in relation to its renting.

Vacancy rent of built floor space or unit (Effective number of occupied units, in m^2/Total number of units, in m^2 in a certain zone and/or building category).

Indicators of multifunctional land use

Land development multiplier, which expresses the relationship between the average price of a spatially arranged and organized plot (lot, site, parcel, and so forth) in a developed (or built-up) area and the average price of undeveloped land in a non-built (non-developed) area.

Diversity index, as a quantitative measure, expresses the different land use functions (or "planned destinations") that could simultaneously exist in the project area. Apart from its general form (Diversity = Actual number of functions/Maximum number of feasible functions), there is also a number of its variants (True diversity index, Shannon entropy index, etc.).

Dispersion index (deriving from the HHI, Herfindahl-Hirschman Index, measuring the size of firms in relation to the industry, as an indicator of the amount of competition among them), in the urban land management it expresses the variability of functions in a given area, as in the formula:

$$D = \frac{1}{l \cdot \sum_{i=1}^{l} \left(\frac{M_i}{S}\right)^2},$$

where i =1, Mi - the amount of m^2 land used by a single function i (input), S - the total amount of m^2 land use of the project area, l - the actual number of functions (l has the maximum according to the number of land use functions of planning or other documents).[24]

Index of efficiency and intensity of land use (FSI, etc.), as a standard measure of the utilization of some area (space).

Also, a number of other indices may be developed to express: urban expansion patterns; the degree of compactness of urban land (compendious development, linear/corridor development, "leapfrog" development, cluster space development, etc.); the degree of urban sprawl; etc. They would, individually or simultaneously, measure certain multi-dimensional concepts applied to a certain area, e.g. the level of competitiveness, environmental quality, territorial/spatial cohesion, as these concepts cannot be captured and expressed by a single indicator. Along this approach, and based on the appropriate theoretical framework and methodological approach, composite indices would be selected and combined in a way which is most suitable to express the concept in question (i.e., compactness, urban sprawl, resilience in the use of urban land, cohesion, etc.).

Acknowledgements:

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