



# Spatial regularization, planning instruments and urban land market in a post-socialist society: The case of Belgrade



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## ABSTRACT

Over the last three decades, Serbia has moved from a mixed centrally planned – deliberative – self-governing economy to a market-based economy, but key institutional reforms are still not complete. Based on the contextual framework of post-socialist countries and theoretical background, this research focuses on the interaction between spatial regularization and existing planning instruments *versus* urban land market and land-use policy, and their impact on urban expansion in the Belgrade metropolitan area (BMA). The intention is to clarify the implications of urban land use policies and their (im) balance with planning instruments and the land market. The contextual framework of post-socialist Serbia, the transformation of its urban land policy as well as the land development management in the BMA illustrate complexities of spatial regularization, further emphasized by the delay in introducing and adopting new urban land policy. Key findings include: extremely inefficient urban land use and excessive urban sprawl (in the last two decades the urban area has tripled; with high urban land consumption of 670 m<sup>2</sup> per capita compared to other metropolitan cities); and important role of urban land policy (existing, still untransformed instruments contribute to urban sprawl).

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## 1. Introduction

After the dismantling of the “Soviet bloc”, followed by the subsequent transitory drop of almost all macroeconomic indicators, that is, GDP, employment, standard of living, etc., the European socialist countries were forced to introduce market reforms. This new model of reforms argued for gradualism and stressed the importance of the institutional and legal framework and the minimization of the social costs of reforms (see: Nellis, 1999; Stiglitz, 1999), but they often resulted in various negative effects. The transitional gap was widely explained by international financial institutions and other advocates as mistakes in the introduced macroeconomic policies, unreadiness for market reforms, the lack of certain necessary reform steps, and limitations within the political system.

Focusing on the specific context of post-socialist Serbia (political and social change, economic growth, urban change, etc.; see Vujošević, Zeković, & Maričić, 2012), this paper aims to provide a comprehensive analysis of the changes in the urban land market

and suburban expansion related to spatial regularization and current planning instruments in the Belgrade metropolitan area (BMA) during the transition period.

The Belgrade population increased drastically during the 1990s (Rašević & Penev, 2006, estimate that 230,000 refugees came in this period from Croatia, Bosnia and Kosovo and Metohija, and the majority of them settled in the BMA), which created enormous pressure on the existing housing market. This process, along with the already existing trend of urbanization, induced a transformation of urban housing: privatization of state-owned flats, massive illegal housing, owner-built housing in the suburbs and market-based housing. The vast international literature on the transformation of urban planning and housing in transitional countries indicates the dominant trend of suburbanization or urban sprawl (see: Novák & Sýkora, 2007; Tosics, Hegedus, & Remmert, 2001; Pichler-Milanovic, 2001; Deda, 2003; Tsenkova, 2012; Dovenyi & Kovacs, 2006; Dimitrovska-Andrews, 2006; Kährlik & Tammaru, 2006; Nozdrina & Toda, 2006; Hirt, 2007; Slaev & Nikiforov, 2013). Pichler-Milanovic (2001) argues that the post-socialist suburbanization in East European countries represents the most spectacular process of socio-spatial differentiation to affect major cities. Bertaud and Renaud (1997) also indicate that the suppressed urban land market started to “bloom” after 1989 as the

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new housing preferences and consumption developed, and the market for urban development land emerged.

The discourse on urban planning in post-socialist cities has focused on the conflicts between comprehensive vs. incremental planning, centralized vs. decentralized decision-making, top-down vs. bottom-up approaches, and interventionist vs. entrepreneurial, market-driven planning (Altrock, Güntner, Huning, & Peters, 2006). One of the urban planning modes is a post-socialist practice of “transformation” from socialist urban planning to urban planning in market economies (Thomas, 1998), or a liberal market-based urban planning, based on what is known as ‘investor-urbanism’<sup>1</sup> (Vujošević, Zeković, & Maričić, 2010). Particularly in the region of Southeast Europe (SEE), transition to a market economy includes a reform of traditional planning institutions that combine new tools with adapting traditional organizational ways and institutional transformation driven by socio-economic and political change (Tsenkova, 2012). The global economic and financial crisis in SEE is deeper than elsewhere, with low development status, low economic growth, high unemployment, an informal (“gray”) economy, massive informal building, uncertainties related to the impact of the globalization process, an inappropriate institutional framework, poor technical infrastructure, huge public debt, poverty, a prolonged regulatory gap in the economy, investment, urban development, and urban land economics (Zeković & Vujošević, 2014).

In this paper, we used the applied approach and method and the technique of moving averages (i.e. urban population rates, growth of GDP, housing rates, and land-use change) in analyzing the dynamics of the urban land market and land-use change in Belgrade in the post-socialist period. Altogether, the aim was to analyze data points by creating a series of averages of different subsets of the full data set for the relevant fields at the short-term or long-term cycle, in economic and urban applications, based on simple moving averages.

After briefly explaining the contextual transitional framework of post-socialist Serbia as a base for the main structural transformation, our research focuses on the impacts of spatial regularization and planning instruments on the urban land market as a key accelerator and catalyst for creating tools and measuring urban expansion in the BMA (privatization and conversion of urban land, legalization of illegal construction). It also highlights the role of urban land policy as a factor of urban expansion of the BMA while determining some indicators of urban sprawl.

### 1.1. Contextual framework of post-socialist Serbia

Market forces dominate Serbia's transitional economy, but the state sector remains large and there is still a need for many institutional reforms. Today's economy relies on manufacturing and exports, driven largely by the FDI. Serbia grossly missed the wave of economic modernization that took place in Europe during the last two decades of the twentieth century. During the 1990s, Serbia faced deep economic crisis when its GDP dropped more than 50%. The average GDP growth rate in the period 2000–2012 was 3.1% p.a., compared to the average of 3.4% in CEE countries (Arsić, 2013). All social, economic, and environmental indicators have worsened, with crucial consequences for urban and regional development. As a radical restructuring of the economy and society has not occurred, the general trend can be described as a “growth without development” (Vujošević et al., 2010).

<sup>1</sup> Wang, Potter, and Li (2014: 50) documented how China applied reforms that transformed states “from protectionist market actors to investment promoters with monopoly power over land markets” (though construction land in China has not been privatized).

In the most advanced SEE countries, after transition drop in the first years of market reforms, industrial production recovered and doubled after 2000. At the same time industrial production in Serbia is still 40–70% less than it was at the end of 1980s (Hadžić & Zeković, 2013). From 2000 until 2007 Serbia experienced dynamic nominal economic growth of more than 6% annually, with progress in trade liberalization and privatization of many large state-owned enterprises. According to national statistical sources (RZS, 2014), high unemployment of 21% in 2013 and low household income level were recorded among the major socio-economic problems.<sup>2</sup> In the period 2008–2013, the average GDP rate was –0.6%, as a consequence of the global economic and financial recession as well as inner transitional recession. From 2008 to 2013, the number of employees in Belgrade decreased for 105,700 workers (16%), and more than 45% of small businesses closed (RZS, 2014). In the same period, Serbian total public debt as a share of GDP doubled, reaching 65.3% of GDP.

The largest part of previously state-owned agricultural land was privatized or returned to previous owners (restituted), but the conversion of urban construction land has been realized in only a few dozens of cases. Compared to other reforms, privatization of land and state-owned or socially-owned housing/dwellings has undoubtedly been the most radical and transformative aspect of this transition (Marcuse, 1996). Privatization and restitution of property rights took place in most countries of post-socialist Europe by the mid-1990s, but the restitution of 10,900 ha of urban land in Serbia (2652 ha in the BMA) is yet to come. The status of urban land in Serbia remains largely undefined and there are many critics of urban policy (see e.g. Vujošević & Nedović-Budić, 2006; Vujović & Petrović, 2007; Zeković, 2008). This paper demonstrates that, at least in the realms of urban-land privatization and development management, Serbian transition continues to be slowed down by overall societal circumstances.

According to the *Spatial Development Strategy of the Republic of Serbia 2020* (Zeković & Vujošević, 2009), the aims of current urban land policy are rational urban land use and the establishment of an efficient system of urban land management, including adequate regulatory mechanisms, institutional restructuring, new ways of financing land development and market-based instruments of urban land policy. Achieving these strategic aims requires dealing with the privatization of urban land, which is partly owned by the state or local municipalities; deciding how to manage urban land in state/public ownership (leasing or selling); and assessing the consequences of various urban land policies and tools on uncontrolled suburban expansion.

### 1.2. Spatial regularization, planning instruments and urban land market

Transition from a socialist system requires different approaches to the transformation of urban land policy, new institutions and urban development management. The current system and practice of urban land management in Serbia have not been harmonized with the main course of transitional reform and change. A great number of basic, conceptual problems are still not resolved, and their predictable institutionalization will affect the realization of sustainable spatial and urban development and land use policy. The urban land market is undeveloped, without established basic regulatory mechanisms and institutions, nor up-to-date ways of financing urban land development. The mechanism of urban land rent is incomplete, without contributing to rational use of urban

<sup>2</sup> Republički zavod za statistiku Srbije (Republic Statistical Bureau of Serbia) is the central statistical institution in Serbia (subsequently: RZS).

land and socially acceptable distribution of cost and profit among various parties. In fact, the basic approach is **still predominantly administrative**. This has a number of negative consequences, as traditional economic tools of urban land policy (development fee, land-use fee, local utilities taxes) have proved particularly vulnerable and ineffective in limiting urban sprawl.

Substantive and procedural aspects of utilizing agricultural and forest land, their conversion to urban (construction) land and zoning have been defined by a number of national and local legal acts, but without any mention of the urban sprawl process, instruments and mitigation measures. The general intention of the Law on Planning and Construction (LPC) (*Zakon o planiranju i izgradnji*, 2009) is to use urban development land for construction and other related purposes in a rational way, as defined by respective urban planning documents. This Law, which is not *sui generis* for regulating property matters, defines the legal basis for ownership transformation (privatization of urban/construction land), i.e., the conversion of the right to use state-owned urban construction land into the right of private property to private persons without compensation, and to legal entities established by the state, provinces and municipalities.

The LPC stipulates a number of development planning instruments for zoning, viz.: parceling out the land for specific purposes, the so-called “compact tracts of land” and zones; major use of land within the zoning schemes and compact land tracts; obligatory detailed zoning regulation; and regulations on spatial organization and construction of urban lands for which detailed regulation is not compulsory by law. A number of by-laws followed LPC, including a specific Ordinance on common rules for land parcelation, regulation and construction (*Pravilnik o opštim pravilima za parcelaciju, regulaciju i izgradnju*, 2011), as well as regulating the maximum construction index and occupancy rate for nine predominant types of land use. In the majority of Serbian cities, zoning regulations and the corresponding taxing have not been harmonized with broader strategic spatial and urban development aims. Practice only marginally follows the market signals, barometers and instruments. In a majority of cases, especially regarding taxation, the number of zones in Serbian cities varies significantly (nine zones in the BMA, 420 in the City of Kragujevac). In cases of predominantly administrative zoning regulations, this approach decreases the market value of land and related assets, particularly regarding the tenders for leasing or purchasing public owned urban land.

### 1.3. Conversion of agricultural and forest land to urban land

The Law on Forests (*Zakon o šumama*, 2010) allows in some cases conversion of forestry land to other purposes, with financial compensation that may be up to 10 times higher than the land market value. Agricultural land is not considered as valuable for the Law on Agricultural Land (*Zakon o poljoprivrednom zemljištu*, 2006) determines compensation for conversion of agricultural land to other purposes only up to 50% of the market value of arable land. In the period 1980–2011, some 22,191–96,802 ha (depending on data sources; see Table 5) of agricultural land has been lost, i.e. converted to various types of urban/construction land: a) illegal construction; b) construction of technical infrastructure; and c) other uses (59,400 ha); within the privatization of state (social) agricultural estates, paralleled by the increase of ‘green-field’ investments in peri-urban zones of the largest cities. The restitution of formerly nationalized agricultural land (started in the late 1980s) has been almost finished, but the restitution of urban land is yet to come. In amendments in 2009, the Law introduced some provisions intended to prevent the selling out of publicly-owned agricultural land. In at least 27 such sites (out of some 50 peri-urban areas in

total), the former agricultural lands deteriorated, often followed by the illegal construction. The scope of converted land in the BMA is tremendous.

### 1.4. Privatization of urban land and the conversion of leasehold on urban land in public ownership into property right

Salukvadze (2008) and Wehrmann (2010) placed Serbia in group C of Eastern European countries in terms of the countries’ difficulties in the realm of land development management and governance. This relates specifically to the fact that the rules, processes, and structures through which decisions are made concerning access to land and its usage are less advanced than in countries falling into groups A and B, which include the “regional champions” (Estonia, Lithuania, and Slovakia) and “prospective participants” (Bulgaria, Croatia, Czech Republic, Georgia, Hungary, Latvia, Macedonia, Poland, Romania and Slovenia). They classified Serbia among “potential followers” along with Albania, Bosnia and Herzegovina and Montenegro. Another significant problem relates to the issuing of building permits, an administrative process that has great potential to affect land policy and urban development.

Two possible modes of urban/construction land privatization in Serbia have been discussed, viz., the so-called “privatization after restitution”, and “instant privatization and consecutive denationalization” (Begović, Mijatović, & Hiber, 2006; Mijatović, 2008). The LPC also regulates the issue of privatization. It allows legal entities established by the state, provinces and municipalities to convert the right to use urban construction land into the right of public property, without compensation. The LPC enables individuals with the lease right on state-owned construction land to remain liable to pay the lease. Article 103 stipulates that in cases of state-owned construction/urban land with the right to use held by companies and other legal entities that have reached this status during privatization, or are insolvent; the right to use can be converted into property right by reimbursing the market value of the land deducted for the cost of its acquisition. Article 108 stipulates that the Government shall prescribe the criteria for determining the amount of compensation, even though Article 103 states that this should be the market value. The key problem is that the LPC has not defined regulatory rules, market mechanisms, institutions and instruments for conducting the construction/urban land policies (particularly for land evaluation), and managing land transactions. While the LPC stipulated that the market value (the estimation) of this fee should be determined by the Government (Tax Administration, Ministry of Finance), the Regulation on the conditions and way under which a local government may alienate or lease the land for a price lower than the market price, i.e. the lease or free of charge (*Uredba o uslovima i načinu pod kojima lokalna samouprava može da otuđi ili da u zakup građevinsko zemljište po ceni, manjoj od tržišne cene, odnosno zakupnine ili bez naknade*, 2011), Law on Property Tax (*Zakon o porezima na imovinu*, 2013) and Law on Public Property (*Zakon o javnoj svojini*, 2011) relegated this task to municipalities. There is a general lack of appropriate legal provisions regarding the assessment of market value of land and related assets, despite the existence of 28 related laws, many ordinances, instructions, and town and/or local decisions.

Among all relevant legislative acts, regulations and planning documents, those dealing with issues of privatization had the greatest impact on urban development and, especially, on development of peri-urban territories of the BMA. The LPC has perhaps even worsened the situation, providing for the conversion of leasehold on urban construction land into property right – without applying a proper tool of market prices and other market instruments.

There is still no systematic data on the estimated value of state-owned land assets, which raises the related question of assessing the real (market) value of construction land in the public sector, especially in the process of determining the conversion fee. [Table 1](#) shows assessment of the value of the entire state-owned urban construction land and certain other indicators.

According to the already mentioned Regulation on the conditions and way under which a local government may alienate or lease the land for a price lower than the market price, i.e. the lease or free of charge (2011), underdeveloped communes may alienate buildable urban land free of charge or grant a 50% discount (i.e., they may choose not to charge development fees for projects that are of particular importance for stimulating local economic development). Additionally, the minister of civil engineering, transport and infrastructure has to approve disposal of public urban lands by local authorities at a price lower than market value, and to adopt a special legal act for this purpose. This requirement reflects the prevalence of an administrative approach to urban-land management stemming from the government's role as exclusive planner, decision maker, arbiter, and controller. The majority of urban planners consider lack of political will as the main reason for delay in privatization of urban land ([Vujovic & Petrovic, 2007](#)).

### 1.5. Urban land regulations and planning instruments in Belgrade

Specific regulations in the area of urban expansion regulation and urban land policy in Belgrade are the City's *Decision on Construction/Urban Land (2010)*, the *Decision on Criteria and Standards for Determining the Land Development Fees (2014)* and the *City's Decision on determination of zones in the territory of the City of Belgrade (2011)* with nine zones. The development fee for construction land for commercial buildings (576.6 €/m<sup>2</sup>) is up to 67 times higher in the extra zone (CBD) in relation to the price for housing in the peripheral zone (8.6 € in zone VIII). Belgrade's land policy has not been substantially transformed during the transition period. It is managed via the zoning of construction land and the determination of initial amounts for compensation and lease by certain criteria and standards that are not established consistently, nor do they correspond with the real estate market value. Zoning systems and differentiation for specific purposes are not based on relevant market factors, monitoring of transactions and prices of land and real estate, planned solutions, standards, information systems, or on relevant modern fiscal, economic and market instruments and institutional arrangements. The partial changes in the institutional framework that regulates this area, as well as in organizational adjustments, have not introduced the necessary reforms that would be crucial for further city development. Locations within the urban construction land in Belgrade will not depend on turnover, i.e., be driven by market mechanisms of supply and demand. The land turnover relates to the buying and selling of buildings. Currently, along Belgrade highways and development corridors there is not a single square meter of land free for construction of industrial and commercial buildings.

**Table 1**  
Preliminary assessment of urban land values in state ownership in Belgrade and Serbia.

Indicator	Serbia (except Belgrade)	Belgrade
Urban land in state-ownership (in ha)	131,436	63,005
Average price (€/ha)	2,000–25,000	5,000–150,000
Total value (in million €)	40,000	50,000

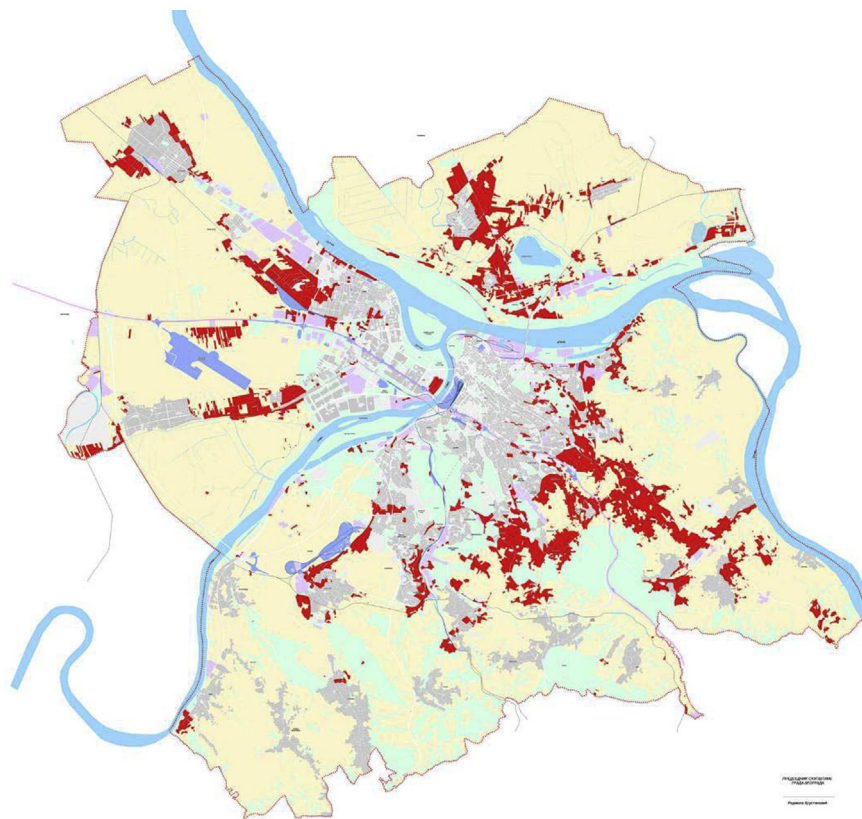
Source: [Vujošević et al. \(2010\)](#).

New urban policy, guided by privatization and deregulation processes, substantially changes the principles of regulating city economics and urban land-use economics by giving priority to private sector and market logic. This supports the creation of a multitude of uncoordinated individual decisions on the use of space, and marginalizes the role of public policy.

The Master Urban Plan of Belgrade 2021 ([Generalni plan Beograda 2021, 2003](#); subsequently: MUP) addressed the problem of accelerating suburban development, mostly by occupying land for housing purposes in the periphery. For the period of 2001–2021, it predicted a significant decrease of agricultural land (by 18,007 ha; i.e. from 51.1% to 27.8% of total share) and the increase of green surfaces, economic, commercial and industrial zones. Some MUP goals are in contradiction, i.e., those related to urban expansion and reconstruction. For example, MUP strongly stipulates urban renewal, but at the same time it predicts the increase of ca. 50% of built urban land.

In order to properly assess the size of urban sprawl in the BMA, one should take into account the problem that available data is contradictory. In 2012, total agricultural land in the BMA (NUTS 2) was 211,000 ha (according to the Republic and the City's statistics) or 136,389 ha (*Agricultural Census, 2012*) or 136,214 ha ([RGZ, 2014](#)). This comprises gardens and agricultural areas out of agricultural holdings (e.g. cooperatives, etc.). All pertinent data indicate a dramatic decrease of agricultural land and an intensive urban sprawl and/or urban growth.

There has been a need to introduce a new evaluation approach, i.e., estimates of the effects of urban land policy, urban sprawl and the impact of laws and other related regulations. This can be measured and controlled by sophisticated approaches in construction land management, with a view to stop or redirect the predominantly uncontrolled massive process of urban sprawl. However, the specific policies and instruments for the redirection of urban development in the BMA did not follow corresponding provisions. This lack of appropriate policies and instruments influenced the suburbanization process, which continued in the years after the MUP adoption (as well as the escalation of urban sprawl from the 1970s until the 1990s according to the MUPs of 1972 and 1986). The strong effect of urban sprawl evident in the BMA is also the result of previous inadequate instruments: urban growth boundaries of the previous Belgrade MUP, urban zoning, building rules, land-use regulations, development fees, government and metropolitan regulations on urban structures (e.g. lower densities, loss of agricultural land, lack of infrastructure, massive illegal and informal buildings, lack of land-use control and governance in metropolitan area); see [Table 4](#). By the end of the 1990s, the spontaneous suburbanization had ended. During that time, due to large refugee inflow, sprawl has continued through the construction of illegal buildings in a new speculative way, sometimes with support of the local government (e.g. in the Zemun municipality). The Belgrade MUP directed sprawl toward: highway corridors, the Zemun, Batajnica and Kaludjerica, Zrenjanin routes, etc. The infrastructure-driven urban sprawl is evident along the highway corridors of Belgrade–Novi Sad, Belgrade–Zagreb, the Ibar route, the corridor to the airport, new industrial zones, commercial zones, and mixed peri-urban zones. Peri-urban growth was initiated by new housing, new SMEs, and the dislocation of certain capacities. Some state-owned plots (owned by earlier state/social agricultural companies) are privatized and used for housing, commercial or industrial purposes. Sprawl and peri-urban transformation mainly represent a combination of “ribbon”, “leapfrogging” and “cluster” types, “green” sprawl and “urban island” as well as compacted urban forms and dispersed low-density urban forms. In the inner part of Belgrade “implosive” sprawl is evident.



**Fig. 1.** Red color represents existing zones of informal/illegal settlements in the territory of Master Urban Plan of Belgrade 2021. (For interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.)

Source: UN-HABITAT (2006:26).

Out of a total number of 4.6 million buildings in Serbia in 2014, 28% (1.3 million) are illegal structures, and about 200,000 of them are in the BMA (RGZ, 2014) – Fig. 1 represents existing zones. Illegal construction, tacitly tolerated by the communist/socialist regime, as well as by the democratic and right-wing ones,<sup>3</sup> significantly supported urban sprawl. Between 1990 and 2013, the state adopted three laws for the legalization of the enormous amount of illegal buildings,<sup>4</sup> but they all failed to regulate urban sprawl. The latest Law on special conditions for the registration of property rights on facilities constructed without a building permit (2013) was enacted mainly because only 700,000 claims for legalization had been submitted until then. Estimations were that registration of property rights for illegal buildings would end by December 2014, and that would resolve the problem of illegal construction. According to available data, only a few percent of the expected number registered.

The analysis of the impact of the legislative framework on urban sprawl suggests that laws and regulations on the national, metropolitan and local level have strong influence on the territorialization of urban growth/sprawl in Serbia (and Belgrade) and sprawl-induced consequences. Some legal regulations of spatial planning/urban growth management policies (tools, instruments) and weak spatial governance are the main sources of urban sprawl. Inefficient effects of used tools (i.e. urban zoning and rules, land-

use ordinances, setup of urban boundaries, infrastructure regulations and construction of new infrastructure, and the cost of public transportation) decreased the possibilities of the local budget for new common urban utilities. Those regulations are verified on the national or metropolitan/city level but their role proved ineffective in guiding and controlling urban sprawl in Belgrade. As for a general rule in this respect (i.e. Alonso, 1964), with the increased distance from city centre or key node of accessibility the prices of urban land and housing (often also urban densities) decrease. Transportation costs (or costs of accessibility) are often larger, but sometimes even lower, e.g., if there is public rail transport. In this case, lower transportation costs are the main reason for urban expansion and lowering urban densities (as well as lower land prices).

The influence of infrastructure construction and finance on urban structures and the impact of urban development on infrastructure costs (the so-called “cost of sprawl”) have to be the subject of every urban sprawl analysis. In general, the level of infrastructure costs (including utilities) and costs of public services are mainly in correlation to urban densities: the lower costs include higher development density (urban, demographic, etc.), and vice versa. The Serbian Constitution (2006) and the LPC set up the development fee (with the obligation on cities/municipalities to determine it) as a tool that reflects the actual relationship between utility costs, public services costs and the level of the development fee. Existing differences in these fees among cities/municipalities can deteriorate possibilities for improved urban planning and governance and for managing urban sprawl.

Legal regulations are the most effective way to influence the urban land market and to decrease/increase market demand and lock or limit the urban sprawl caused by accelerating urban growth

<sup>3</sup> Research by Solé-Ollé and Viladecans-Marsal (2013) pointed to the fact that, as a rule, right-wing governments contribute much more to conversion of rural to urban land than did governments on the left.

<sup>4</sup> Bromley (2009) indicates that formalization of property relations through land registration represents a part of the optimistic policy prescriptions imposed on the poor nations.

or urban reconstruction. Weak spatial governance in the BMA increases the negative effects of urban land tools and planning tools on urban expansion, because of low coordination among the multitude of individual decisions and public policies.

We conclude that the legal framework stimulates the inefficient and ineffective use of land resources in the BMA, as well as the existence of irregular and informal status of many settlements (in suburbs and in the urban tissue). Both the legal framework and current metropolitan/urban planning and governance are keystones of urban (as well as national/regional) policies and thereby encourage self-induced sprawl. Serbian legislation on spatial development, land use and settlements regulation does not directly address urban sprawl. Changes in legislation and institutions in the transition period is poor, or a result of urban sprawl (massive illegal, irregular and informal construction) rather than a prevention framework. Urban sprawl characterizes spontaneous urban expansion followed *de facto* by ex-post massive legalization or the passing of legislation. Following the inappropriate legal provisions of the LPC, in the planning practice there has been poor control of illegal construction, urban land evaluation, and land usage. In particular, the process of land use conversion, based on pertinent ordinances, often mutually contradictory, has been left almost out of control. Concurrent with the absence of effective new mechanisms, procedures and instruments to guide real estate development, during the post-socialist period there has been a substantial rise in real estate prices and the costs of urban development in general.

#### 1.6. Urban land market/policy

The Belgrade metropolitan region covers 3223 km<sup>2</sup> or 3.6% of the Republic of Serbia. It is home to 1.66 million people or 23% of the country's population. In 2005, urban land occupied 695,415 ha or 9% of Serbian territory and 38.4% of Belgrade administrative territory, where more than 50% of urban land is state owned (Table 2). In Serbia, urban construction land makes up 194,441 ha, or 28.0% of the total construction land. The remaining 500,974 ha is construction land outside the borders of urban construction land (47.5%). The largest share of construction land in the total land area is in the BMA (over 38%), while the largest share of urban construction in total construction land is in the Belgrade region (50.9%). The City of Belgrade occupies 63,005 ha of 194,441 ha of public land in Serbia. The surface of total land in private ownership in the City of Belgrade is 1972.95 km<sup>2</sup> or 61.2% (RGZ, 2014).

In the period 1991–2011, the population index in the BMA only grew 103.57%, while the urban land area tripled. There is a high correlation between the increase of construction land (298%) and average urban land consumption p.c. (287.7%). These indicators undoubtedly point to an intense process of urban sprawl in the BMA, especially in the regime of illegal construction. Increase of urban land consumption p.c. in the period 1991–2011 from 233 m<sup>2</sup>

to 670.5 m<sup>2</sup> p.c. was a consequence of income growth, redundancy, FDI, intensive immigration of refugees, extensive land-use along suburban and development corridors, as well as the lack of appropriate urban land policy. Paradoxically, in this period economic growth of Serbia was very low (negative between 1991 and 2000, with a GDP rate of –6.3%). This is contrary to Brueckner's (2000) claims, that urban spatial expansion is the result of higher income, along with growing population and falling commuting costs.

**Urban land consumption (or land-take) of 670 m<sup>2</sup> per person in the BMA indicates an extremely high value as the indication of excessively intensive urban sprawl** – more than in all other European cities (see Bertaud, 2012:342). From this point of view, the BMA is a “champion” in the consequences of inefficient urban land-use and urban sprawl (even outside Europe). For example, Sofia has around 120 m<sup>2</sup> p.c. and Rome around 150 m<sup>2</sup> p.c., or 5.5 and 4 times higher efficiency of using construction land compared to the BMA (in 2011). Inefficient and excessive usage of construction land in the BMA also occurred during the 1990s (according to data by Corine Land Cover, EEA, 2013), when consumption at 233 m<sup>2</sup> p.c. was higher than in the majority of big European cities (e.g. Sofia 106, London 160, Ljubljana 219; p.c.; see Bertaud, 2010:13). With a population density of 15 persons/ha of building land in 2011, the BMA belongs to spatially inefficient cities according to an extremely high consumption of building land. This process indicates the malfunctioning of public policy in the spatial management of Belgrade and in the use of land resources.

**The overconsumption of agricultural land, as one of the roots of urban expansion, is evident in Belgrade.** Depending on primary sources of data, in the period 1980–2012 agricultural land decreased by 22,191 ha or even 96,802 ha. In the same period, consumption of agriculture land per person was 1586 m<sup>2</sup> or between 821 and 1271 m<sup>2</sup>. Uncontrolled urban expansion and the loss of agricultural and forest land along with massive illegal construction is a serious indicator of “unhealthy” urban land policy, the impact of market trends and an incapability of urban and planning instruments to limit urban sprawl.

We assume that the low rate of economic growth is not the key factor in the rise in urban sprawl. A possible explanation for the gap in economic development dynamics and urban growth (especially illegal housing) lies in the immigration pressure of refugees and displaced persons in the BMA and the growth of the FDI in the real estate sector. During 1990–2013 in Serbia, as well in the BMA, there is an evident paradox: very low economic growth (GDP) is followed by strong growth of urban land.

#### 1.7. Urban land development in Belgrade

Urban land development in Belgrade is based on the LPC (RSA, 2009), the City's Decisions on Buildable Urban Land (2010) and the

**Table 2**  
Dynamics of urban population, economic growth, housing, agriculture and urban development land in the BMA in the period 1981/1991–2011.

	1981	1991	2002	2011	Index 2011/1981
1. Number of inhabitants	1,470,073	1,602,226	1,576,124	1,659,440	112.8
2. GDP – total (billion €)	–	8.5	5.76	12.78 <sup>a</sup>	150.35
3. GDP (€/per capita)	–	5,305	3,656.3	7,708	145.3
4. Urban land (ha)	–	37,331.8 <sup>b</sup>	–	111,260.7 <sup>c</sup>	298.0
5. Urban land consumption (m <sup>2</sup> /p.c.)	–	233.0	–	670.47	287.7
6. Agriculture land (ha)	233,191	229,280	222,345	136,389–211,000	–58.5 to –90.5
7. Agriculture land p.c. (m <sup>2</sup> )	1,586	1,431	1,410	821–1,271	–51.8 to –80.1

<sup>a</sup> Source: <http://webzrzs.stat.gov.rs/WebSite/Public/PageView.aspx?pKey=61> (accessed 25 April 2014).

<sup>b</sup> Source: Corine Land Cover (EEA, 2013).

<sup>c</sup> Source: RGZ, 2013.

Decision on Criteria and Standards for Determining the Fees for Land Development (2014) as well as on the Master Urban Plan of Belgrade 2021 – MUP (2003, 2005, 2007 and 2009) and the Regional Spatial plan of Administrative Area of the City of Belgrade (RPP APB, 2004, see Fig. 2). MUP (2003, Fig. 3) covered the area of 77,600 ha within the 3,224 km<sup>2</sup> of the BMA (Fig. 4), and offered some guidance to land policy by establishing the zoning system. Around 84% of MUP area is urban construction land in state ownership. For the period 2001–2021, MUP predicted the biggest decrease of agricultural land (for 46%), mostly to be replaced by industrial parks along the key transport routes, followed by the increase of green surfaces of various kinds (see Fig. 5). In absolute terms, the largest changes are in economic zones (3,155 ha), transport zones (2,269 ha), housing zones (1888 ha) and commercial zones and centers (1,336 ha), see Table 3.

MUP did **not explicitly stipulate prohibition of urban sprawl**. Instead, MUP put the accent on better control of this process, better common utilities in urban sprawl zones with technical infrastructure and public services, better control of spatio-environmental aspects of development, and better control of illegal construction. Development in the previous decade was characterized as “... lost control over the urban development process” (Generalni plan

Beograda 2021, 2003:909), with the following key problems: poor implementation of urban plans; chaotic and illegal housing construction (“spontaneous housing construction”); semi-legal housing; approved construction that is not yet realized; sprawl of poor urban areas and slums; decrease or even extinction of existing industrial zones; devastation of the transportation systems; insufficient regulation of agricultural land use in the broader urban area; and illegal use of utilities. As for the future, even worse, the problem of further integrative growth and development of the MBA has not been comprehensively addressed. Therefore, it is still questionable in which way the chosen direction may contribute to veritably sustainable development.

Based on the *Strategy of spatial development of Serbia* (Zeković & Vujošević, 2009), the balance of land use in the BMA and Belgrade City (10 urban municipalities) is shown in Tables 4 and 5.

#### 1.8. Urban land policy as a factor of urban expansion/sprawl of the BMA

Land consumption for residential development, economic growth, employment, population growth and transportation create serious pressures in urban areas (Nuissl, Haase, Lanzendorf, &

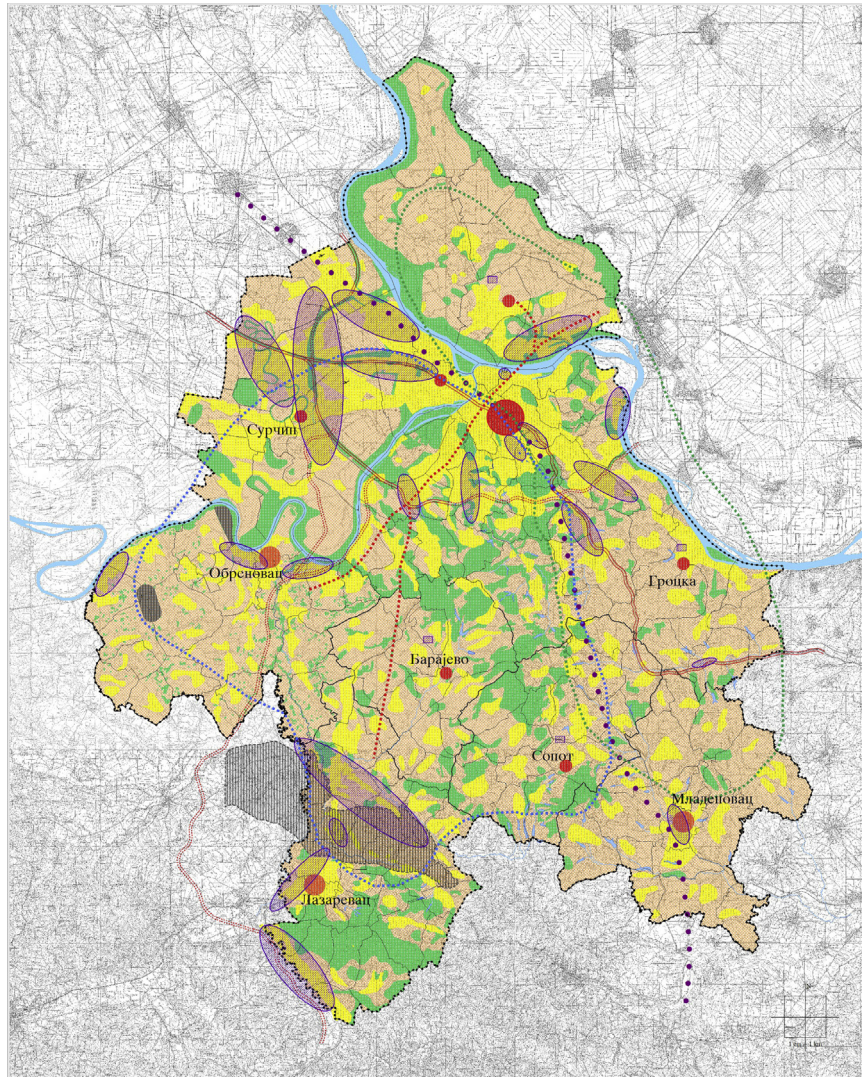


Fig. 2. Planned land use in BMA.  
Source: RPP APB (2004).

Wittlmer, 2009). Accordingly, different policies and instruments try to prevent excessive land consumption and impact assessment of land-use changes in urban areas as well as different types of spatial governance (strong, soft, weak, or multi-level, multi-sectoral, multifunctional 'integrated governance for peri-urban territorial cohesion; Ravetz & Loibl, 2011).

Local budget revenues should depend on volume, dynamics of construction, market property values and the possibility for preparing development land. Land-use regulations should optimize land prices (by planning instruments and conditions for the best or most intensive land-use) in the process of public auction. The regulatory framework supports an administrative approach more than a market approach. In the case of Serbia, urban land instruments (the development fee and compensation for urban land-use) create 5–25% of local budget revenues. In Belgrade, this figure was 11.44% in 2011 (SKGO, 2013). Cheaper urban land in suburbs and more expensive land along highway corridors and the "Airport city" area is a factor for attracting new investors and inhabitants to Belgrade as well as territorial competition. Cheaper undeveloped land and a very low impact fee in the peripheral zones of Belgrade (with excellent accessibility) attract new SMEs, greenfield FDI, new economic zones and encourage urban sprawl.

The average market price of construction land in the BMA ranges between 50–1500 EUR/m<sup>2</sup>. The share of property acquisition and the related costs of urban (construction) lot fluctuate between 25 and 35% of the market value of a constructed building. In 2011, the largest prices for housing in Serbia were recorded in the BMA, i.e., 540 €/m<sup>2</sup>, and ca. 900 €/m<sup>2</sup> in 2012, with these figures also considerably varying within the BMA. An estimate by the agency responsible, based on a sample of 2273 market transactions of assets, pitched the average price of urban construction land at 148 €/m<sup>2</sup> in 2012. The market prices of urban land for business and commercial purpose also varied and reached 1200–2240 €/m<sup>2</sup> in more prestigious parts of the City (Marina Dorćol on the Danube), while the average market prices for economic sites (industrial sites, warehouses, and the like) varied within the interval of 50–120 €/m<sup>2</sup> for construction land. In recent years, there has been a significant decrease of market prices, following a overall down-fall of purchasing power and an over-supply of available business space.

It is still open to discussion whether an insufficient regulatory and legal framework for land-related investment and development has caused this price dynamic. For its part, the "invisible hand" of land and property market has been active, and no doubt dominant over any planning mechanism (TURaS, 2014). The rise in prices of

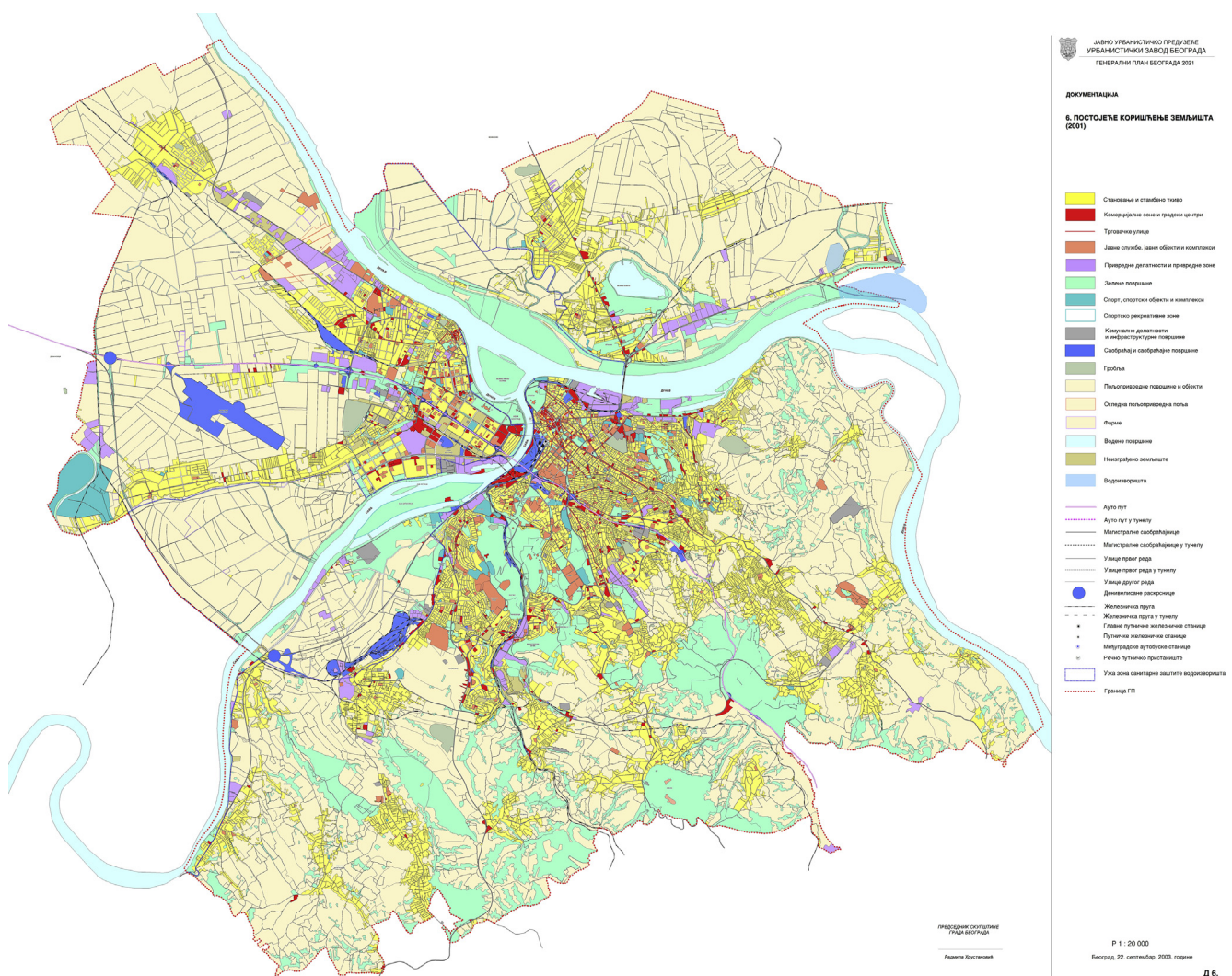


Fig. 3. Existing land use (2001) in MUP.  
Source: Generalni plan Beograda 2021 (2003).



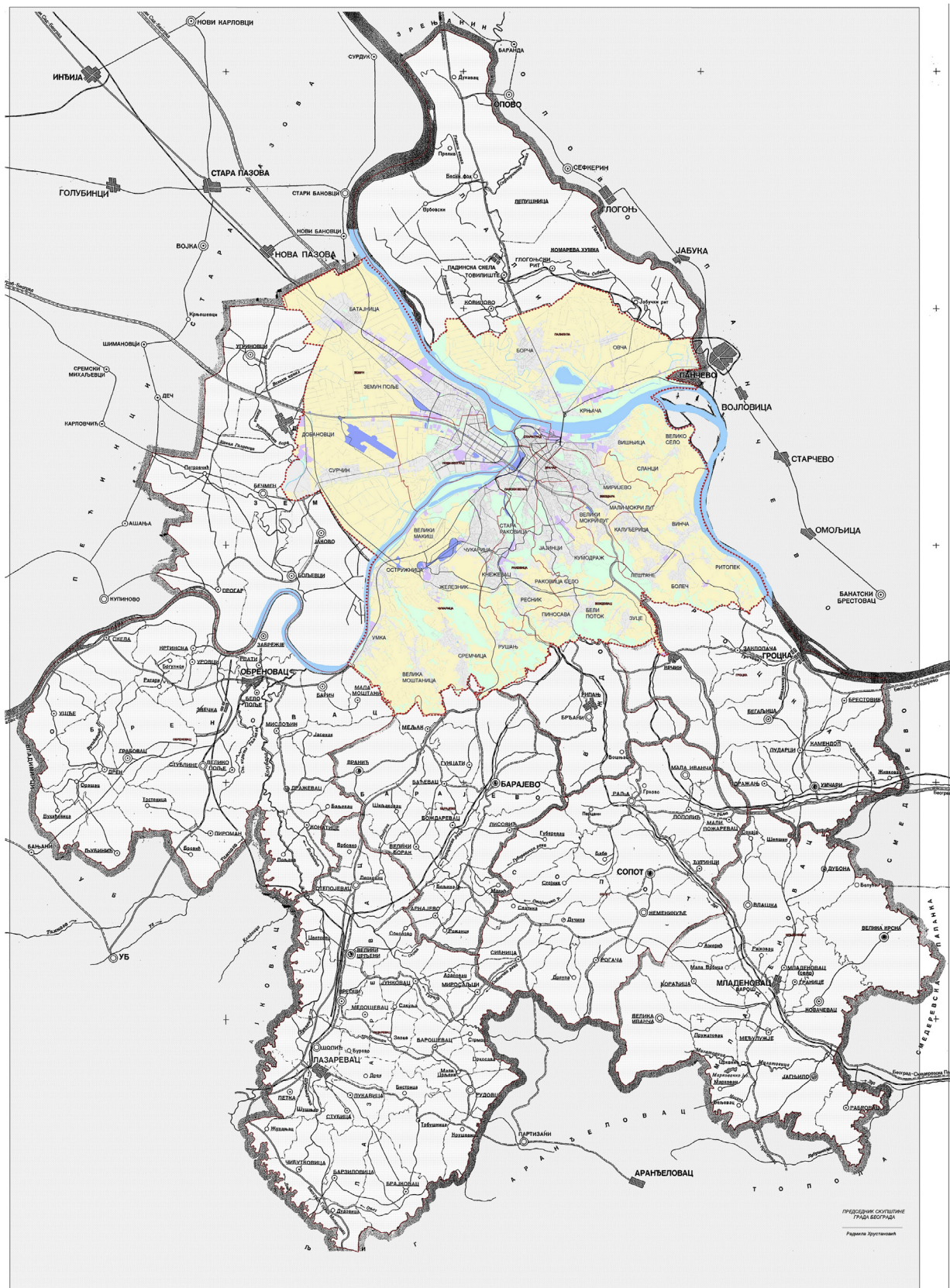


Fig. 4. MUP Inside Belgrade administrative area.  
Source: Generalni plan Beograda 2021 (2003).

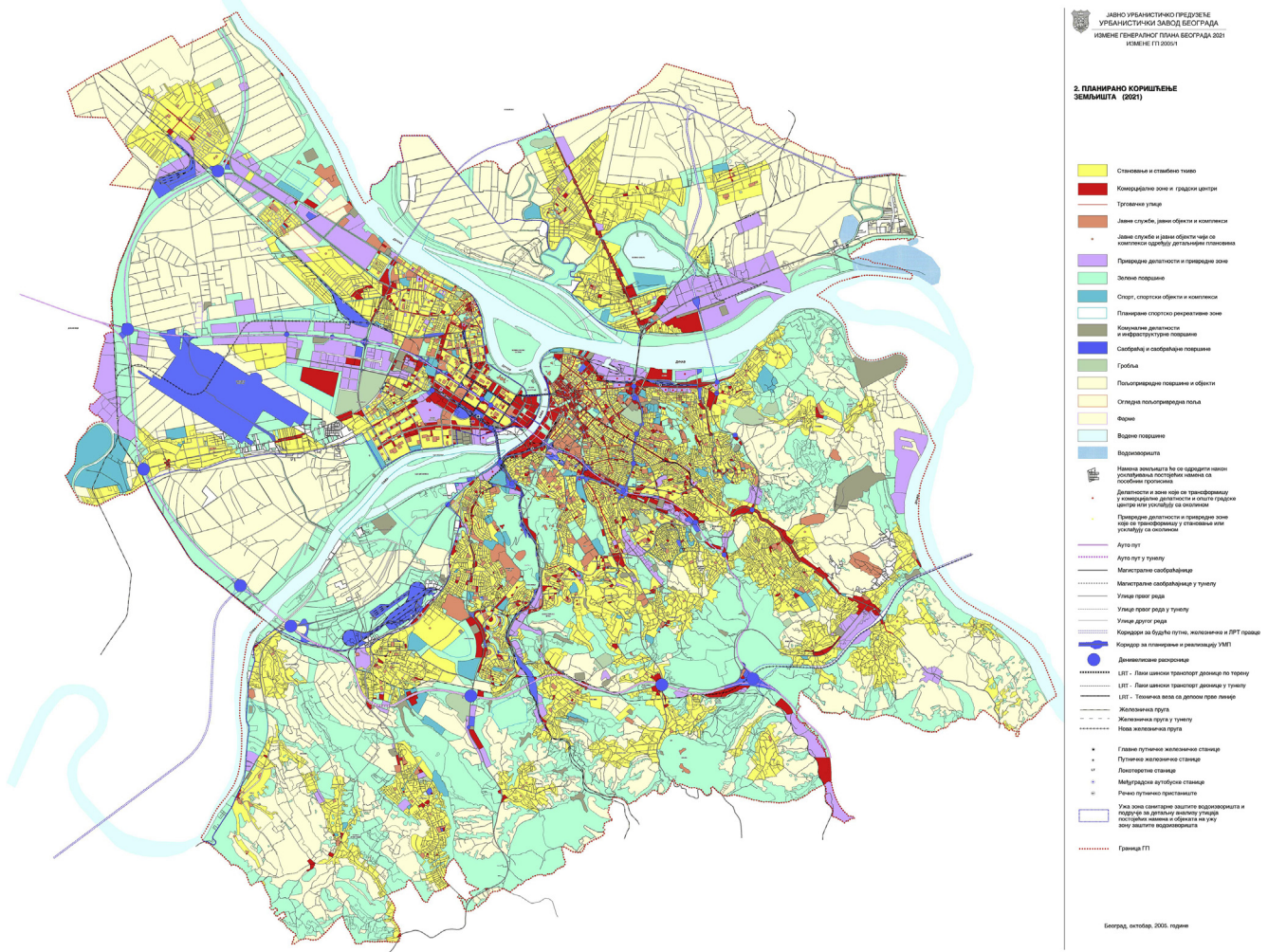


Fig. 5. Planned land use (2021) in MUP.  
Source: Generalni plan Beograda 2021 (2003).

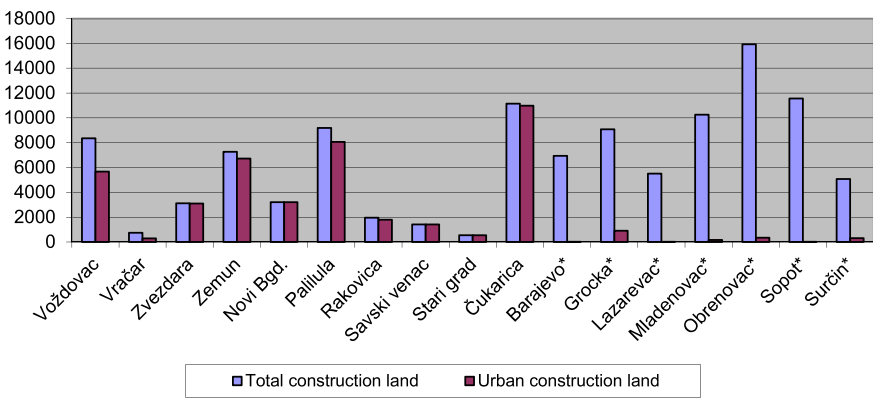


Fig. 6. Total construction land and urban construction land in 17 municipalities (\*suburban municipality) of the City of Belgrade (in ha), in 2012.  
Primary data source: RGZ (2014).

buildable land and real estate has not been paralleled by a proportional increase in local tax revenues (the recent shrinkage of the city budget provides a good indication). As expected in an urban land market with considerable differences between values and prices, land speculation and illegal development have been rampant. Land prices could increase up to 1000 times for parcels

near major public infrastructure or where public investment in infrastructure is planned and announced (World Bank, 2004). Because of the deficiencies of the current regulations, it is impossible to apply market economics to future land activities based on the supply of and demand for land, capitalization of real estate values, and criteria for investing efficiently in specific land parcels.

**Table 3**  
Structure of existing (2001) and planned (2021) land use in MUP (in %).

	Existing land use (2001)	Planned land use (2021)
<b>Human land use</b>	<b>79.13</b>	<b>68.77</b>
Housing and residential tissue	16.2	18.64
Economic zones	2.06	6.12
Commercial zones and urban centers	0.86	2.58
Public services	1.45	1.86
Sport facilities and complexes	0.88	1.42
Utilities and infrastructure area	0.44	1.08
<b>Agriculture</b>	<b>51.1</b>	<b>27.82</b>
Cemeteries	0.44	0.63
Traffic area	5.70	8.62
<b>Natural land</b>	<b>20.28</b>	<b>31.23</b>
<b>Green area (forests, etc.)</b>	<b>14.65</b>	<b>25.85</b>
Water	5.25	5.38
Free (unconstructed) land	0.97	0.0
TOTAL	100.0	100.0

Source: Generalni plan Beograda 2021 (2003).

**Table 4**  
The share of urban/construction land in total surface area in the BMA and Serbia (2005).

Area	Land (in ha)			Construction land (in %)		
	Total	Construction land	%	Total	Urban construction land	Other construction land
Serbia (without Kosovo & Metohija)	7,747,400	695,415	9.0	100.0	28.0	72.0
BMA (NUTS 2)	322,400	123,673	38.4	100.0	50.9	49.1

**Table 5**  
Balance of land use in the BMA (NUTS 2) in 2005 (in ha).

	Total land	Construction land	Agricultural land	Forest land	Other
Urban municipalities of Belgrade	132,516.43	70,089.60	51,538.01	7,354.50	3,534.50
Suburban municipalities of Belgrade	190,662.69	53,583.69	109,247.55	23,711.85	4,119.55
Total BMA (NUTS 2)	323,179.12	123,673.00	160,785.56	31,066.35	7,654.05

According to the formal Cadastre by the Republic Geodetic Authority (RGZ, 2014), construction land in the BMA in 2005 occupied 123,673 ha, while National statistics (RZS, 2014) for 2011 provides around 60,900 ha, i.e. data differ for 62,773 ha or more than 100%. According to RGZ (2014), total construction land in the BMA is 111,260.7 ha, where 46,919.9 ha is in 10 urban and 64,340.8 ha in seven suburban municipalities (Fig. 6).

Two consequences of this hybrid and incomplete system are the unauthorized and uncontrolled subdivision of agricultural land and substandard types of urbanization. There has been a common understanding that the urban land regulation in the BMA, demonstrating a traditional administrative approach, was the reason for massive illegal building and urban sprawl. Some unbalance in market supply and market demand for undeveloped urban land in Belgrade as well as too high or too low values of floor space index indicate the type of regulatory framework and governance which supports an administrative more than a market approach.

Some of the indicators of measuring sustainability in land use and urban sprawl in the BMA are shown in Table 6. The U-Index indicates level of disturbance of natural land area in the BMA. The greatest areas of urbanization in the Belgrade region occur in the central urban area. The urban sprawl index in the BMA is  $0.378 > 0$  when the growth of the build-up area is greater than the growth of population, i.e. the density of the metropolitan area has decreased.

Traditional tools characterize the BMA urban land policy: zoning regulations, urban growth boundaries, green belts as zoning tools, development fees, property taxes, land acquisition and land deposits. In order to limit urban sprawl, land policy must develop more flexible urban land instruments and tools: the impact fees, land value capture tax (with the price mechanism), urban rezoning, trading density for benefits - density bonus policy, support to impulsive and inclusive zoning, better infrastructure finance, public-private-partnerships, community development agreements (e.g. program of urban re-development), community benefits

agreements, planning agreements, negotiation, covenants, tradable development rights, annexation (organizational, functional), and introduction of development land in the periphery. There are many open questions, e.g. How can new instruments be used for more efficient planning?; How can traditional tools be adopted to new requirements?; How can traditional tools be adopted to better compatibility of current urban sprawl trends and challenges?

## 2. Conclusions and recommendations

Following the period of development stagnation in the 1980s, international sanctions and isolation of Serbia in the 1990s, the NATO bombardment in 1999, and selective and insufficient growth and development after 2000, Belgrade has still been searching for its adequate rank in the European and regional networks of post-socialist urban centers. In this respect, its future positioning ranks differently in various regional and urban schemes, paralleled by pertinent academic discussion on this theme, as well as by concomitant political dynamics.

For example, The Project ESTIA-SPOSE (2005) suggested the “creation of SEE/Balkans Integration Zone which could be based in a Transnational Urban System (TUS) - constituted by Sofia, Belgrade, Bucharest, Skopje, Tirana and Thessalonica (p.156). Unlike the other metropolitan cities in the ESTIA region, Belgrade was ranked as a second level center, thereby marginalizing its status and leaving it outside the Metropolitan European Growth Area – MEGA. According to ESPON 1.1.3 (2006:155) “[t]he non-integration of

**Table 6**  
Indicators of sustainability of urban land use and urban sprawl in the BMA.

	1991	2011
1. Urban density (people per ha of urban area)	42.9	14.9
2. Urban land consumption p.c. (m <sup>2</sup> )	233.0	670.47
3. U-Index (Human Use Index) <sup>a</sup> as % of human land use	–	68.78
4. Residential floor space m <sup>2</sup> /p.c.	18.9	28.0
5. Agriculture land p.c. (m <sup>2</sup> )	1,431	821–1,271
6. Urban sprawl (change in urban area vs. change in population; index 2011/1990) <sup>b</sup>	–	0.378

Source: calculations by authors.

<sup>a</sup> The U-Index is a measure of the total area that is covered by either urban or agricultural lands or the percentage of human land use in an area, including agriculture, urban and suburban development. The larger values indicate main disturbance of natural land area, while lower values show less deviation of natural land cover.

<sup>b</sup> The suburbs have grown faster than urban core in majority, i.e. 66 of 78 metropolitan regions in OECD (2010).

considerable parts of the Balkans in the EU, has delayed the transnational integration of the urban systems of the Balkan countries”, including Belgrade. That same year, 2006, in the competition for European cities and regions of the future, organized by the Financial Times, Belgrade was announced as the “City of the future of the South Europe”. Contrary to this, the project *PlaNet CenSE, 2006* has considered Belgrade as a candidate for MEGA 3 level in “Development potentials of urban areas, Trend Scenario 2020”.

According to UN-Habitat (2013:162), in the Southern subregion of Europe “... only a few cities are able to fully integrate into the European and world economies. These are the capitals Belgrade, Bucharest and Sofia (MEGA-4 cities) that satisfy many of the prerequisites for competing with European and world cities and that have good future prospects, even though many social and environmental issues still have to be resolved through further modernized governance, enhanced local governance efficiency and reliability, openness and transparency in decision-making and improved participation.”

It is interesting to note that in the Danube Space Study (EC, 2000), Belgrade received the status of European city similar to that of Munich, Prague, Vienna, Bratislava, Budapest, Sofia and Bucharest, in creating the main axis of transnational cooperation in the Danube cooperation belt. Similarly, in the ARGE Donau project Belgrade received the status of one of the key ports of the Donau Hansa (commercial centres, development centres, specific development zones/free ports).

However, Belgrade has been facing a number of hindrances and challenges with regard to improving its position in the new geopolitical space of Europe. For example, a finding from the most recent research (TURAS, 2014) has shown that mainly market forces generate the current process of suburbanization in Belgrade, while suburbanization and sprawl have not yet been identified as distinct urban processes that require a specific urban policy/approach. On the contrary, planning has failed in assuming the key role in regulating and mitigating the market forces and steering suburban development. The basis of all failures was the poor use of instruments such as zoning regulations, taxes and fees, and the development of primary suburban infrastructure.

Spatial regularization of urban sprawl has significant synergetic social, economic and environmental effects and costs, which poses the key challenge to land use planning and management. Similarly to other urban centers in this part of Europe (Sykora & Bouzarovski, 2011), as a consequence of regulatory transformation, social, economic and urban change, Belgrade is characterized by the creation of a new urban identity, the development of commercial services, deindustrialization, reindustrialization and industrialization of rural and peripheral areas, conversion of agricultural land to construction land, and the privatization of housing and urban construction land.

Unlike the “western (USA and West Europe) experience”, where urban spatial expansion represents a result of a growing population, raised income and lower commuting costs (see Brueckner, 2000), a particular situation of Belgrade is mostly influenced by legislative specificities and the urban policies of Serbia. The paper indicates that, in addition to existing planning instruments and urban land use tools, another set of mechanisms is needed to bridge the gaps related to the urban land market or to guiding and controlling urban sprawl. These mechanisms should address the resolution of key problems, recognized by key findings in the contribution, viz.:

- Urban land consumption in the BMA is 670 m<sup>2</sup> p.c. which indicates extremely inefficient land-use for buildings, infrastructure and open space. Compared to other European cities this extremely high value indicates excessively intensive urban sprawl. With extreme urban land-take and low population density (15 person/ha of urban land) in 2011, Belgrade belongs to spatially inefficient cities.
- At the same time, there has been an evident overconsumption of agricultural land, paralleling the roots of urban expansion in the BMA;
- The still unresolved issue of conversion of urban land leasehold rights into urban land property rights; and
- There has been an enormous increase of illegal and/or informal construction in the BMA, manifesting itself via a number of types of urban sprawl.

All the above-mentioned insufficiencies largely stem from the failure of public policies that have failed in the area of urban development planning-policy and land use management policy, for which a strong departure from the existing policies is needed. Another imperative for radical change comes from the necessity to reform the system in accord with *acquis communautaire*, as a precondition for subsequent inclusion of the country into the EU.

Specific issues and problems, which should be addressed by applying new approaches, methods, instruments/tools and institutional and organizational arrangements, comprise the following:

- Regulation of grossly inefficient urban land consumption;
- Regulation of the elasticity of land supply and land demand, within the synergetic functions of urban land market and urban development planning and governance;
- Reshaping of the administrative arrangements for land use management, also including the transparency of the system, in accord with the pertinent recommendations of European institutions, the World Bank, and others; and
- Streamlining the urban land management system, on the one hand, and the tax system, on the other.

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