

## Implosive Sprawl: Belgrade Case Study

### Introduction

Process of intensive growth of urban region reflects on many aspects of urban life, economical, social, political and environmental as well as on public interest and public policy. Most of the problems can be recognized in almost every growing region in Europe. But, in this review we are going to focus on a group of problems that affect growth of Belgrade, and that are not so common. These problems are related both to general planning strategy and master planning, and also to the process of realization of such plans and their implementation. This paper deals with the urban growth which reaches urban sprawl in all its negative characteristics and effects and we are going to represent that this particular way of urban growth could be seen simply as *implosive sprawl*.

Some examples of unbalanced urban development in post-socialist transition in Belgrade will be presented in this paper. A number of consequences of chosen cases already have damaging effect on urban structure and its functioning, even though most of them are serious and well planned reconstructions. The point is that, as will be shown, outcome of carefully planned reconstructions of an area, or of efforts to amend some previously unplanned processes, might be *implosive sprawl* in higher level. Cities in transition from centralized to free market economy are being re-composed, and during this process there is constant and strong danger of remarkable abuse of achieved standards and qualities, and disturbance of future development. What seems like great reconstructive action in particular zone may cause serious instability in some other parts of the city, or in city as whole.

### ***Sprawling inside urban area***

Most common definition of sprawl describes it as “low- density, scattered, urban development without systematic large- scale or regional public land- use planning”. Sprawl is process of spreading out a city and its suburbs into rural land, outside of an urban area. New built areas – dominantly housing, are single - use zones, with reduced social urban utilities, and poor traffic connectivity, which are highly car – dependent. Consequences of such growth are negative both for environment and city itself. According to many theorists the creation manner of sprawl neighborhoods is equally important as its final spatial pattern. Some authors are not so hard on sprawling process, and consider it as a phase in urban development, which should be researched and managed with newly established theoretical and practical instruments. Finally, both groups of sprawl researchers, whether they understand it as negative, or just as a new urban phenomenon without qualitative indication, agree that it is dispersion of urban substance into unbuilt zones.

Term *implosive sprawl* as used in this paper represents the specific kind of use of urban and natural resources *inside* city area. As *implosive*, it is not directed to outside, peripheral rural land, but towards non – built land within boundaries of urbanized region. This conversion into built up pattern is mainly targeted to open spaces such as green areas, forests, riverbanks, and land kept for infrastructural objects and corridors.

However, *implosive sprawl* is neither a way towards *compact city*, which is usually taken as opposite to sprawling cities. *Compact city* is recommended model that optimizes

land use in cities, and prevents uncontrolled extension of city areas. And, even as such, this form of urban structure is not applicable on complete urban territory, but only on some of its fragments. City zones that require economical efficiency, like business and commercial districts are appropriate for realization of compact model, but its implementation into residential areas has to be very responsive and carefully balanced. Also, conversion to compact model should not embrace the system of city greenery or other objects of public interest. Opposite to this, the essence of *implosive sprawling* is not increasing density, but violation of achieved standards in domain of public interests and inhibition of further development and improvements in living standards.

Although it takes place inside city area, this process has significant similarities with sprawl as usually defined. Large zones of open spaces are transformed into built-up developed land, and converted to single-use districts, usually housing, but also commercial and sometimes industrial. Opposite to typical sprawling, implosive sprawling often characterizes rather high, sometimes inappropriate density. When exploitation of this unbuilt urban land that previously was or should have been public, is started, it tends to be maximal.

### **Belgrade urban growth trends**

Nonetheless sprawl is considered as deviant developing process or estimated next chapter in urban growth, it is manifested in many different forms all over the world, depending on specific circumstances and conditions.

Nowadays, Belgrade is experiencing very intensive increase of primarily economical, and also cultural, social and political indicators. GDP in Serbia was \$819 in 2000, and \$4220 in 2006. It is estimated to be \$5732 in 2010. But, Belgrade's real developing potential compared to other cities in region is not easy to define. Numerous analyses show Belgrade as city with great developing potential in the region and Europe as a whole; for example, Belgrade was proclaimed "City of the Future in Southern Europe" in the competition for European cities and regions of the future in 2006 and 2007, organized by the Financial Times magazine (awards also went to Paris, Brno, Baku and London for western, central, eastern and northern Europe).

On the other hand, a number of relevant international and regional analyses, position Belgrade rather low, in the group with cities like Zagreb, Timisoara or Bucharest, though its size and geographical position should imply its place in group with Vienna.

No matter which of these projections is more credible, General Master-plan for Belgrade till 2021 does not count with serious population growth of the city: in 2001. there were 1.320.000 inhabitants in Belgrade in 2001, and estimated population in 2021 is 1.400.000 (on the territory of the Master plan – metropolitan region of Belgrade has larger territory and about 1.625.000 inhabitants). These estimates seem to be accurate according to the present situation and tendencies for decentralization of Serbia. So, are we speaking about development, or growth? Main difference between these two is quality - development includes qualitative improvement of life in the city, growth means quantitative expansion of the city. Criteria of improvement are, of course, very complex, but measurable and matter very wide spectrum: economy, life standard, safety, social policy, education, public health, etc. With no estimating growth of population in Belgrade in the next 15 or so years, it should be facing urban development rather than growth and with its large number of undeveloped or badly developed areas, this development needs to be precisely calculated and perfectly balanced. Most specific, we are talking about decomposition and reorganization of land use pattern in urban matrix, with severe population redistribution on the territory of Belgrade.

## **Implosive sprawl – Belgrade parallel**

During the last decades of the 20<sup>th</sup> century, Belgrade has already experienced the period of intensive extending of urban territory. In the late 70's and the 80's great housing districts were created on rural land in city periphery, despite legitimate plans. In socialist period, housing development strategy was focused on building collective apartment structures through corporative financing rather than supporting households to build private houses. Situation in Yugoslavia was unique, as it was not as rigid as in other communist countries, but it was still mainly ideologically determined. Private houses, even not strictly prohibited, were treated as marginal option in planning system. Plans gave small opportunities for households to build their own houses, and most of housing areas were intended for multi-stories apartment buildings. But, since late seventies, as it became clear for urban population that it is not realistic to solve complete housing problem through existing mechanisms, and as economical power grew, need for private houses building increased rapidly.

That was the beginning of first phase of Belgrade sprawl. Sprawl was expansion of the built up area into rural land, with characteristics: large residential areas, low density, inadequate traffic and supply, insufficient social utilities. These outsized neighborhoods rose up without any plans, control or support by the local authorities, and era of mass informal building in Belgrade started.

This process was already in progress when authorities and planning experts reacted. But, they were too late. Sprawling continued through the 80's and in the 90's it culminated when hundreds of thousands of refugees came to Serbia, most of them to Belgrade.

In the last decade sprawling has stopped, and efforts to minimize damage made to environment, supply systems, and sprawling neighborhoods themselves are being made. But, transitional circumstances produced new type of sprawl which affects unbuilt areas inside urban territory, as described in the previous chapter.

In the case of Belgrade we could recognize three essential types of urban development that could be considered as implosive sprawl:

- Re-composition of urban pattern
- Usurpation of public land and goods
- Spontaneously developed settlements with low standards and living quality

### **A. Re-composition of urban pattern**

The development of vast un-urbanized areas within the city core of Belgrade started with the privatization of the big state-owned companies like shipyard, harbor and trade center. Initiatives for their transformation to residential/business areas followed. These complexes were the only ones which were fully formed, built, organized and working in the surroundings that were occupied with warehouses, gravel factories, dumps, junkyards and illegal or substandard housing, or were simply unbuilt, and which transformation to some mixed-used urban areas was much expected. And that's why these complexes were so attractive for investors and developers: it was easier and more payable to gain the land and already formed building lot through the process of privatization, demolish the existing structures and build new ones, than to negotiate with the number of land owners, leaseholders, illegal users and permanent residents trying to figure out the right origin of the land and usage of the lots.

These circumstances and initiatives led to the urban planning of these areas with the city more or less determined to strategically plan it as a system or a whole. Basically, the Town planning institute of Belgrade made the development estimate of these areas in the terms of optimal urban parameters and number of future inhabitants and employees

regarding the estimated urban growth of Belgrade. These estimates were given through Urban analyses or Programs that covered large areas of several hundreds of thousands hectares.

These tendencies lead to reconstruction of big, often ecologically and esthetically neglected city areas and this, of course, is a good perspective for the particular areas and city in a whole. But, certain problems occur on larger scale - on the city level and on the level of realization of plans for reconstruction.

Estimates on Belgrade population growth do not foresee significant increase of number of inhabitants. And, these radical reconstructions which involve hundreds of hectares of urban territory are dimensioned for dozens of thousands of inhabitants and employees. In essence, what is really going on could be described as redistribution of urban activities and population. Precisely, all those people that should live and work in these reconstructed areas are not expected to come from outside of Belgrade, but from other parts of the city. So, even at this point when the reconstruction plans are still in production, we can foresee some negative effects of planned reconstruction, although it brings numerous benefits at the same time. It is likely that final results of these large reconstructions could be very harmful for the city itself - depopulation of certain parts of the city, decrease of real estate value and life quality in these areas, break of social stability, obvious and unwanted social segregation...

On the other hand, tendencies in realization of the reconstruction plans themselves are ambiguous enough, as will be explained in next two exceptional cases:

### ***Case 1 – Ada Huja***

Ada Huja is the old industrial and port area of Belgrade which is located on the bank of Danube River, next to old center of the city. That is large area (about 480ha) along the Danube, that starts only 1,6 km from The Republic Square (central point in the city core). Belgrade port and the zone of very hazardous industry is situated there. Today, it is severely devastated, both in built and non-built parts, with polluted soil and air, and constant pollution of the Danube.

The initiative for the new urban plan for Ada Huja came after the privatization of a Belgrade's harbor which is situated there, but, unlike the previous case, city government has had very ambitious plans for whole Ada Huja: to reconstruct it for new exclusive mixed use area, with business, housing, commercial, cultural activities. Since this area is of large surface, planned capacities are also impressive: about 4 million square meters of objects, with 90 000 people living and working here.

Reconstruction of Ada Huja is closely connected with aspiration of city government to promote Belgrade development and working opportunities, since it should be very comfortable and attractive city zone that would catch the attention of many investors not only from region, but also from Europe..

City government began preparation for the making of the plan for the whole area of Ada Huja, and finalized it on the conceptual level with clear tendencies to regard the whole area as one huge interconnecting system, with rules and measures for its sustainable development. But, after this first planning phase, tendencies for cutting off some parts of the area which tend to be more likely to develop fast appeared, while the parts which are more demanding for realization, like the sanitation of the land beneath the existing toxic dump or the construction of the water canal which suppose to cross the whole area, are likely to remain undeveloped.



**Figure 1: The coverage of the Ada huja region, Concept of the urban plan for the Ada huja region**



**Figure 2: 3D visualization of Ada Huja reconstruction, Concept of the urban plan for the Ada huja region**

In this case, like the previous, most of the developed and built locations would remain isolated in the forgotten and unrealized surroundings, which would be planned for the recreational, green and public spaces that improve the quality of life, but are not profitable themselves.

### ***Case 2 – Belgrade’s shipyard***

Belgrade’s shipyard is placed on the left bank of Sava River, right on the outskirts of Belgrade central zone, between the major existing and planned bridges. The complex consists of 25 ha of built area and 5ha of water basin which is connected with Sava flow with a small armlet. Until the end of the 80’s, shipyard was very vital, producing ships for domestic needs as well as for export, but during the 90’s all production stopped and whole complex ran down.



**Figure 3: The coverage of the Belgrade shipyard environment, Urban analyses for the Belgrade shipyard impact area**



**Figure 4: The Belgrade shipyard complex as it is today, <http://www.shipyardbgd.co.yu>**

After the privatization of the shipyard several years ago, the production started again, but the new owners were not as interested in ship-making as they were in housing and commercial building. So, they made a deal that shipyard would be displaced to the new location sometimes in the future, and started the initiative for the new urban plan which would provide transformation of the complex to the new residential/business area. Because the investor finances the plan himself he wants it to be only for the part of the land that he owns and demands maximal urban parameters provided with the General master plan for Belgrade for the commercial and residential zones which are significantly larger than

the ones estimated for the whole surrounding area in previous analyses. Through making of this urban plan some kind of transfusion of FAR happens, placing the major potentials of the whole area covered with analyses to the location which is first to be realized, while the other parts of the area are left to be less economically abounding, burdened with this fact on the top of its already complex situation.

This leads to the final point – the location which is to be transformed is most likely to remain isolated and introvert due to the unpleasant neighborhood, lack of supplementary contents in its surroundings, without balanced development of the whole area and with small average density.

## **B. Usurpation of public land and goods**

This aspect of implosive sprawl is connected to mass informal building inside city area that took place during the 80's and particularly 90's. Since all land in the cities was state-owned, during the period of transition and war instability, authorities lost control over it. Green areas, riverbanks, planned infrastructural and traffic corridors that were not realized yet, were main target of such usurpation. Nowadays, these processes are being legalized through plans. But, as there was no rational foreseeing of consequences and implications before and during building procedure, there is no either adequate afterthought about it now. Planners and experts as well as authorities are aware of complexity of problems, but they are not ready to fight them. So, detected existing situation is only being legalized through regulatory plans.

Devastation of spatial resources is huge and reflects in various ways: abuse of greenery and space needed for other public interest, as supply, but also destruction of public goods as view in important see –sights, decreasing of ecological and esthetical capacities, and other.

### ***Case 3 – Zvezdara forest***

Zvezdara forest lies in the northeast part of the Belgrade, near the central city zone, inside the densely built urban structure and it covers the area of nearly 160ha. This area was wooded in the middle of 30'ies after the construction of the Observatory on the top of the Zvezdara hill and since then it represents one of the most valued green areas in the city. According to all documents and urban plans since 1923, Zvezdara forest was planned to be wooded and then later preserved as it was.

But during the last few decades, the wooded area has been significantly damaged primarily because of the inadequate use – direct effluence of disposal waters in the woodland from substandard houses, making of uncontrolled waste dumps of various kind and above all qualitative erosion of the whole area by informal building of private residential houses. To preserve the wood from the further neglecting, city government started the initiative for the urban plan which supposed to give the firm and clear instructions for the roll of the Zvezdara forest in the Belgrade city core – improvement of the environmental living conditions, optimization of the ecological conditions in the city and enable the potentials for tourism, education, recreation and scientific research which are to suppress existing conflicts that have prevailed.

The basic principle of the plan was to detect and isolate the areas which had been lost forever, while enforcing the areas which are still vital and undamaged. The legal framework for this kind of decision was the General master-plan for Belgrade till 2021 which accepted most of the existing conditions in the Zvezdara forest, unlike the previous plans.



**Figure 5:**  
**Zvezdara forest,**  
**General master-plan**  
**of Belgrade, 1923.**



**Figure 6:**  
**Zvezdara forest,**  
**General master-plan**  
**of Belgrade, 1950.**



**Figure 7:**  
**Zvezdara forest,**  
**General master-plan**  
**of Belgrade, 1972.**



**Figure 8:**  
**Zvezdara forest,**  
**General master-plan**  
**of Belgrade, 2003.**

Conducting this, most of the existing sprawling of the residential areas on the public green space were accepted and confirmed.

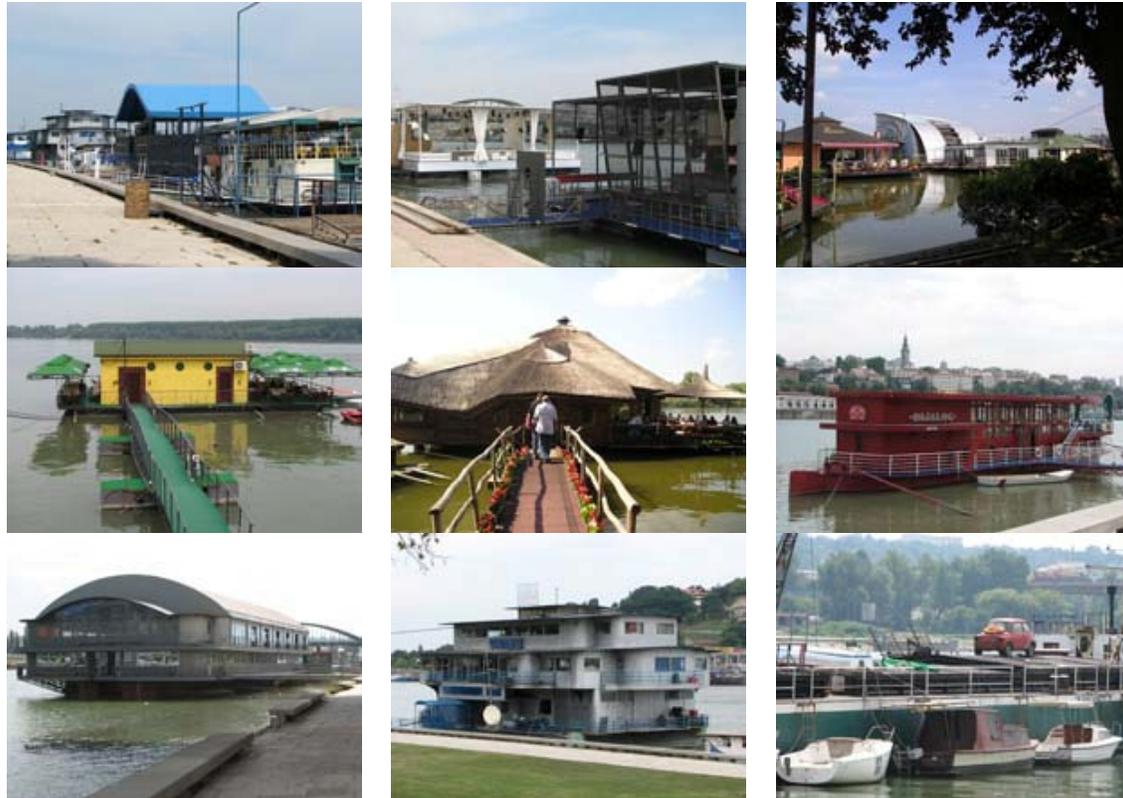
#### ***Case 4 – Riverbanks of Sava and Danube River***

Among eleven municipalities of which Belgrade consists of, even nine of them embank the two Belgrade rivers in overall length of 161 km. Danube River represents the major natural treasure and is of vital significance for the prosperity of all Danubian countries, especially for industry, traffic, trade of goods, recreation and tourism, while Sava River has rather tourist and recreational potentials.

Because of various historical, political, social, economic, natural and urban-planned reasons, great part of the riverbanks in the central and middle city area stayed unbuilt or simply left without the most attractive activities, as commercial, recreational and cultural are, the ones which intensify the social improvement of the city.

Nevertheless, as a result of the authentic need of Belgrade citizens for direct contact with their rivers, beside dozens of kilometers of river banks, about 200 artificial structures popularly called “splav” (“raft” on English, but there is no really adequate word) have grown and floated in the latest period of 15 to 20 years. Their size, aesthetics, materialization, hygienic conditions and level of keeping could be the result of extreme variations, but one thing is in common to them all - that is that they are made only for consummation and entertainment, whether they are restaurants, cafés, clubs or discos.

As the process of placement of the splavs wasn't legally supported, through some urban plan or set of rules, it could be characterized mildly as chaotic. It is therefore a logical conclusion that their owners' basic criteria for choosing the spot to place them have been withdrawn from attractiveness and accessibility of the location. The counting number of splavs which were placed without any order, appropriate infrastructure, access and aesthetic criteria drove to the necessity for their urban planned, hence legal, solution in their further placement and in 2007. The City Government enacted the Plan for placement of the floating structures on the part of the riverside in the city of Belgrade.



**Figure 9: Various types of “splavs” on the Danube and Sava riverbanks, author’s photos**

But the least regarded aspect of this phenomenon considers conscious and unconscious devastation of public wealth and the unwritten right of every citizen for physical and, above all, visual contact with rivers.

### **C. Spontaneously developed settlements with low standards and living quality**

Generator of this kind of implosive sprawl is informal building as well. But, unlike previously presented usurpation of public land and goods, these spontaneously developed settlements have arisen in zones that were of no particular public interest, so another kind of problem is imminent for them. That is problem of low urban quality and living standards of these neighborhoods. Although houses themselves are built from solid materials and are rather comfortable, total urban environment is poor: houses are extremely close to each other, streets are very narrow, there is no open space – parks, squares, even parking lots, there are insufficient social utilities, and so on. This affects not only living comfort, but also various aspects of safety: emergency vehicles cannot access most of houses; there is danger of potential fire spreading because of houses mutual nearness, etc. Legalization faces obstacles not with land use here, but with achieving elemental safety and living conditions. Implementation of regular safety and other parameters would require demolishing of a number of houses, and that is a hard step to take.

#### ***Case 5 – Altina and Padina settlements***

The Altina is mainly spontaneous built settlement, leant on the urbanized area on the outskirts of the city. It covers the area of 200 ha and in the period during the nineties, until 2003, more than 2000 objects arose on it, mostly individual residential houses, factories and warehouses, as a result of the refugees flow that hit Belgrade and Serbia and the bad social and economy conditions at the time.

When the process took place, city government started to prepare the urban plan which would provide the basic infrastructural and social conditions for the settlement. As the Altina case wasn't the desolate example (lots of sporadically cases of informal building or similar settlements, like Padina or Karaburma are, occurred at the time), City Government brought the document "The measurements for legalization and demolition of informally built structures" in the 2001. with the intention to readjust the existing situation by providing basic standard facilities for these kind of settlements like adequate infrastructure, roads and social utilities.

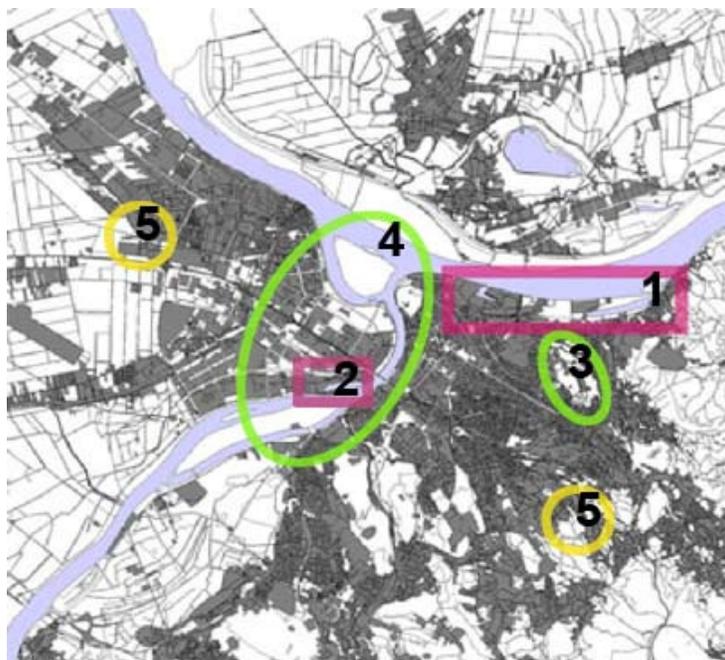


**Figure 10: The Altina settlement, General master-plan for Belgrade till 2021**



**Figure 11: Segment of the planned urban pattern, Detailed urban plan for Altina**

The making of plans took several years, and they were finally ratified in the 2003, adopting the fact that some of the standard criteria for living qualities were not necessary fulfilled – open public spaces were lacking, some streets were too narrow, buildings too close one to another, and social utilities were insufficient.



- Case 1 – Ada Huja
- Case 2 – Belgrade's shipyard
- Case 3 – Zvezdara forest
- Case 4 – Riverbanks of Sava and Danube River
- Case 5 – Altina and Padina settlements

**Figure 12: Distribution of case studies on the Belgrade territory, author's graphic**

## Implosive sprawl premises

Such devastating and inadequate (re)use of urban territory, which leads to decay of total urban standards, is product of specific conditions and ongoing transformation of social, economical and political surrounding in Belgrade / Serbia. Generally, all of these are components of post socialist transition of society towards free market economy and democracy. There had been three basic premises which led to the possibility of emerging of implosive sprawl as it has been in Belgrade

- Transformation of centralized economy to free market economy. Free market existed in socialist Yugoslavia in some form, but it was just an additional mechanism for real estate distribution. Dominantly, centralized planning system was replacing it.
- Replacement of socialist centralized planning system with democratic and transparent planning with many stakeholders and participants.
- large increase of population, mostly refugees and immigrants, during the Balkan wars in the '90-ies

Distribution of land in the city in socialist period was under control of the government, so it was possible to have dysfunctional and devastate large areas in the city fabric, even in very attractive city zones. New neighborhoods were built on empty areas - the territory of the city was enlarging. But, today developers are looking for good locations, inhabitants are more mobile, and tend to move from one part of the city to another due to their preferences and market of land did not develop as fast as it was necessary.

Except economy, planning system changed, too. Planning In socialism was centralized activity defined between authorities, whose guidelines were ideological, and planers who took care about professional aspect. Citizens, stakeholders, various groups had no real opportunity to participate in planning process.

So, suspension of socialist planning and economy, and introduction of democratic approach and free market started up new forces in urban development, and mechanisms for their control and successful implementation were not ready. That is why understanding post socialist transition is so important for recognizing accurate nature of current urban re-composition.

## Conclusion

The manner of spreading of city into rural territory is important aspect of sprawl. It is considered that unplanned, decentralized development domination is background where sprawl occurs. On the other hand, if growth is synchronized by strong urban policy perspectives, more compact forms of urban structure will be provided there. So, this puts us back on urban planning and wider developing policy. More accurate and flexible instruments and mechanisms are needed to preserve reached urban quality, and to enable future development. Planning policy in Belgrade is rather strict, procedures are very detailed, and whole method is transparent and participatory. And, despite of all, developing process still has numerous problems which could be defined as sprawl, whether regular or what we consider *implosive*.

All presented examples, which are mutually very diverse, have one thing in common: the problem how to protect public goods and interests. Analyzing one by one, we realize that in each of these different cases, public interest is jeopardized. That brings us to new and more precise description of *implosive sprawl*, which hints the role of planning in this process. Not only that urban quality and public interest are damaged, but this situation is result of weakness of planning policy which cannot protect them. The point is that these interventions

in urban structure that have bad consequences for local area or whole town, occurred due to inefficiency of planning procedures and lack of mechanisms for protecting public interest. Plans, whether regular or a posteriori legalization plans, do not implement valid standards that should keep and improve quality, but allow selective implementation of planning principles which degrades achieved and hinder further development.

Although procedures that should keep transparency and openness of planning now exist, as well as institutions and experts to adjust them, they are not satisfactory protector of public interest. The core of the problem lies with the fragility and inefficiency of the complete system. Developers willing to profit are stronger by far than the procedures, citizens unaware of their own rights, and experts who do not know essence of their role yet. And, as we believe, the main role of planners is to protect public interest.

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