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## A View On Regionally Conditioned Sprawling Developments Set Against the Theoretical Model

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### Abstract

Following on the footsteps of the term *sprawl* through the efforts of delimitation and clarifying undertaken in literature, while also looking at some of the various regional evidences of disperse urban growth across Europe, the article underlines the often regionally specific outcomes of this model of land development. These correlate with more than just the globally present set of conditions associated with *sprawling* developments, and in fact in spite of significant differences in the selection of these conditions, similar outcomes point to the importance of other regional peculiarities.

### Rezumat

Urmărind clarificările pe care literatura de specialitate le operează asupra termenului de *sprawl* și uitându-se în același timp la experiențele unor regiuni din Europa în ce privește dezvoltarea dispersă a teritoriului, articolul evidențiază diferențele regionale ale acestui fenomen. Corelate nu doar cu setul de condiții, prezent la nivel global, care însoțește și explică de obicei apariția *sprawl*-ului și de fapt în pofida unor diferențe semnificative în ce privește întrunirea acestor condiții, rezultatele similare ale dezvoltării teritoriale disperse în anumite regiuni indică importanța altor specificități regionale.

**Keywords:** sprawl, urban dispersion, regional landscape, Eastern Europe, Romania, Serbia

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## 1. Introduction

*Sprawl* is an elusive word. If most people could not define it, they would however recognise it when they saw it. For some *sprawl* means a type of suburban development based on automobile culture, for others small-density residential areas on the margins of metropolitan areas, and for many (a vision presented especially in the media), *sprawl* is a generic term covering any type of suburban growth, generated or not by population growth [1]. Sustained, mainly in the United States, by public options and the economic opportunities of developers and criticised out of aesthetic, environment and ecology, efficiency or equity reasons, the term has become a sort of preferred metaphor in talks about suburban shortages and the frustrations of city centres. It explains everything and, in fact, not much [2].

However, the term *sprawl* is still quite an imprecise one even in literature, where it gets lost in a semantic nebula [2], as it can define a host of circumstances: low-density urbanisations containing certain residential formulas or other types of land use, dispersed or decentralised urban territories, but also processes of urban area expansion, causes of land use practices, and their consequences [3], [2]. Other authors see *sprawl* as a stage in city development, rather than a static condition. Thus, certain parts of an urban area go through a *sprawl* stage before consolidating, but the literature does not mention when it becomes something else than *sprawl* [2]. However, in many other definitions identified in the literature, *sprawl* defines a certain type of urban fabric or model, and less an urban transformation process [4]. The European Environment Agency, for example, describes *sprawl* as that model of low-density physical development of large urban areas, mainly on surrounding agricultural lands, brought about by market conditions, and as urban growth spike, manifesting itself outside consistent planning and subdivision and land use control. Such type of development takes place in a fragmented or dispersed manner or in a row, with a tendency to discontinuity. It jumps over other areas, usually leaving scraps of agricultural lands behind [5]. Moreover, the literature identifies different urbanisation typologies specific to extra-urban growth models or *sprawl*: expansion, completion, isolated, linear or branched growth, grouped or not grouped, happening along (linear) transport corridors, spreading from cities (grouped or not grouped) or completing neighbouring city areas (grouped, continuous developments), or punctual developments (isolated) [6]. In conjunction with these, the experience of low-density land developments in European contexts brings about a new and sometimes completely different set of circumstances to accompany the phenomena. Differences which occur regionally can be traced to more objective circumstances, as for instance patterns and timings of economical and political systems, geographical backdrops and demographical evolutions of certain urban hubs, as well as further cultural peculiarities, whose influences are generally less assessable. What this article is trying to point out is the role of cultural backdrops in producing regional variations of *sprawl*, referring to the contexts of Romania and Serbia.

## 2. The technical approach on the term

Many definitions of *sprawl* take into account one or several aspects associated to the phenomenon, such as density, land use, urban form, or different types of impact, that related to traffic congestion and transport, ecological, soil sealing or social segregation and polarisation, isolation impacts, etc. More precise definitions propose various more extensive or more synthetic sets of indices to delimit the phenomenon very precisely against similar forms of urban growth, or to mark out more accurately *sprawl* itself from associated phenomena. A lot of definitions in the literature focus on four aspects: urban form, land use, impact and density. As concerns urban form the assessment is conducted by

comparison to an ideal type of compact city, which makes any deviation from such compact form, be it suburban growth, linear, in a row, discontinuous or dispersed developments to be considered *sprawl*. As for land use, *sprawl* is associated to functional segregation and especially mono-functional areas designed for individual living, large commercial or industrial areas and business parks [4]. Anyway, there are many other definitions referring to car use preferences, continuity of urban fabric or territory connectivity [1]. And others circumscribing *sprawl* to attributes or nuances concerning the urbanisation process: extensive, inefficient land consumption, unvaried development lacking variation but also discontinuous development, typical of deteriorating cities etc.

One definition of *sprawl*, trying not to mix causes and consequences, as it happens many times in literature, can be found in the article *Suitability criteria for measures of urban sprawl* [7], along with a series of other definitions extracted from the German and English literature: *sprawl* is a phenomenon perceptible in landscape at visual level. The more a landscape is infused with constructions, or otherwise said constructions are more widespread in a given territory, the more *sprawl* exists in that landscape/territory. Therefore, *sprawl* expresses the extension of a built-up land and its scattering across the landscape. The larger the built-up area and the more dispersed the buildings present on such area, the higher the *sprawl* level. The term can describe both a status (*sprawl* level) and a process (its growth). The causes, consequences and evaluation thereof should be differentiated from the phenomenon itself, underline Bhatta et al., this is why a differentiation between urban growth as a characteristic (or model) and as a process should be made, the study of both instances, one static and the other one dynamic, being necessary [8].

Fulton, for example, defines *sprawl* just in terms of consumed land resources as related to a number of users or inhabitants. Thus if land consumption is faster than population growth then we can talk about *sprawl*, and if, in return, population grows faster than land consumption then densification takes place [1]. What differentiates urban growth from *sprawl* is that the first would, theoretically, maintain in a population growth of a city or town, a correlated territorial growth [4]. Pichler-Milanović, however, notes that in reality density decrease can also be associated to the topography of a city or (absent) networks, such as transport networks or the existence and position of activity nuclei in the urban territory, other than central ones. Beyond those there are, of course, considerable differences among cultural areas, so that, for example, Mediterranean cities differ a lot in terms of housing density and not only from those in the North-European or Anglo-American space [4]. It is still a technical definition that is proposed by Ewing et al., pursuant to which there are other three factors that should be measured and analysed in order to determine the amount of *sprawl* in an urban area, outside residential density. They are the mixing of functions inside districts, mainly the three ones: living, trade and services, the "strength" of centres and the accessibility offered by street network [9]. According to them, *sprawl* is therefore a small-density development of dwellings, commercial venues and offices, rigidly segregated, where there are no active centres and where transport options are limited.

Before proposing their own definition, Galster et al. identify, in turn, a few methods of defining *sprawl* by the literature: 1) based on an example containing the term characteristics, and the most frequent example is the city of Los Angeles; 2) an aesthetic label applied to a type of urban development; a consequence of an external factor, such as automobile dependency or isolating low-income people in cities (especially in advanced capitalistic societies, and mainly in the U.S., but gradually in other developing countries, too), territorial inconsistency between dwellings and workplaces or the loss of environmental qualities; 3) as either a consequence or a cause of independent variables, such as fragmented local administration, weak planning policies or excessive/exclusive zoning; 4) as one or several characteristics of development, among which the most frequent are low density, territorial

development leaps, large distances to the centre functions, scattered workplaces and dwellings or row development; and, finally 5) as a developmental process occurring periodically from the expansion of city areas [2]. However, what the authors propose is a systematic definition of the term, based upon a combination of eight variables, identifying an urban development as *sprawl* when low values of combinations thereof are recorded: density, continuity, concentration, grouping, centrality, nuclearity, functional mixing, and proximity [2]. Such an approach manages to identify several types of *sprawl*, but requires a very large amount of data [4], mainly where recent developments and many times ongoing ones do not offer a final or current set of data. Moreover, many of the variables proposed by Galster et al. in measuring *sprawl* do not consider the relative position of buildings [10], as other authors do [11], who introduce in the assessment process of the built space morphology criteria able to differentiate in detail the *sprawl* from other types of fabric. Besides, these criteria can be calibrated from one case to another, considering the variation of the built environment in various regional or cultural contexts, and can become flexible instruments of analysis for the built space even outside concepts such as *sprawl*.

However, what inevitably eludes these mappings usually based on bidimensional satellite images (*remote sensing*) is the formal variation or modulation, chromatics, etc. of the tridimensional and complex built environment, circumstance in which criterial delimitations resulting from such analyses, although relevant, can indicate results significantly different from human perception [12]<sup>2</sup>. 3D modelling technologies, photometry and laser scanning, which have been previously mostly reserved to monuments and singular built objects or the street view type, when started being used with the mapping of built fabrics at a larger scale (see for example article[13]) managed to introduce a degree of detail similar, to some extent, to that perceived by human observers.

### 3. Variations of the model inside and outside its circumscription

Traditionally, *sprawl* is a North-American phenomenon associated to the exponential growth of American cities in the territory, starting from the very first part of the 20<sup>th</sup> century, growth that was fed by the spreading of personally owned vehicles and the preference for individual homes with a garden [5]. The evolution of suburbanisation in the United States had a continuously ascending graphic [1]. Currently, most metropolitan areas of the United States consume land much more faster than population growth occurs, therefore in almost all these areas the dispersion phenomenon is much higher today than during the past decades. Residential developments on small- and medium-sized plots of land total the largest dispersed urbanisation areas in America, where in certain metropolitan areas the percentage of such type of developments represent 70% of the entire area urbanised over the past decades [14]. According to the same study, in the United States, residential areas, both in urban and rural environments, record the largest expansion among all land uses. Already in 2001 the area occupied by dwellings, only in the rural environment, exceeded all the remaining urban land uses together [14]. According to Clark et al. [6], the total surface of the territory occupied by extra-urban developments in the United States is nowadays roughly equal to that of the urban territory.

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<sup>2</sup> The author Nina Schwarz proposes a review of the clues used in analysing the shape of the built environment and a reduction to a narrow set of clues, as an unequivocal instrument in the urban policy industry. Based on the criteria of this narrow set, the author subsequently produces a classification of large urban centres in Europe, where cities such as Athens or Paris are included in the same category of urban form. For the human observer, however, the two cities reveal very different morphologies, both by streetwise perception and at a panoramic level.

Urban expansion in a dispersed form has always been related to the evolution of cities, and *sprawl* as a process inherent to the evolution and economic maturing of cities has been known in most urban areas in the West as a consequence of the spreading of population from the dense central nucleus to the periphery. This phenomenon is or was specific to many cities in Western Europe, considered “*paradigms of good planning*” [15]. The term has most of the times a negative connotation, being most often used to describe small-density – and by this inefficient – suburban developments around cities [4]. In general, urban growth arouses a lot of interest and not few times critical, as in many cases we are talking about a dispersed and uncontrolled growth (often identified as *sprawl*) that can obstruct a sustainable regional development. Usually associated to a rapid growth, the phenomenon is currently seen as a global issue, the more so in developing countries [16].

Regardless of the dwelling densities or densities of the built fabrics and of each and every city or area, dispersed growths exist today in most European cities; moreover, according to the same report by the European Environment Agency [5], no quantity differences thereof have been recorded as related to city densities. On the whole, European regions the most affected by *sprawl* are those with the highest population densities and an intensive economic activity such as Belgium, the Netherlands, South and West Germany, Northern Italy, the Paris Region, or those with an accelerated economic growth: Ireland, Portugal, East Germany, the Madrid Region. *Sprawl* is also very easy to highlight in those areas that have enjoyed structural policies of the European Union, but can also be noticed around smaller-size towns, and even in rural areas, along traffic corridors and in many coastal areas, mainly river mouth areas [5]. European cities monitored in the MOLAND [17] project have grown in surface by an average 78%, whereas the population has increased by 33%, which unequivocally reveals that they have become much less compact. In post-war urban evolution the compact quarters were replaced as a formula by isolated blocks of flats and coupled or individual houses, so that in half of the urban areas followed within this project, over 90% of the residential areas built after the mid-50s were of small density, less than 80% of their total area being occupied by buildings, roads or other arrangements. Only in 5 out of the 24 cities, all located in the south or the centre of the continent there were more than 50% large-density areas of the residential areas built during the same period. In terms of space consumption per inhabitant, there has been a growth recorded during the last 50 years in Europe, the urbanised area per inhabitant doubling during this interval. As an estimate, an annual growth of urban areas of 0.6%, would double the surface of Europe’s urban areas in a bit more than a century [5], whereas there are already a number of highly urbanised regions in Europe, such as Flanders, where cities are close enough to one another that their immediate areas of influence and growth interpose and overlap.

Currently the most exposed to urban dispersion among the European cities are those of the Southern, Central and Eastern Europe, according to the same European Environment Agency report [5]. In such cases urban structure has been traditionally more compact, but fast growth has been recorded during the past decades. The evolution of the urbanisation processes in Europe, at least after World War II, has had a more complex and more sinuous trajectory, passing through phases of concentration and dispersion, more precisely sequences of urbanisation, suburbanisation, de-urbanisation and, most recently, re-urbanisation, uneven in terms of time and unsynchronised in the various European cities [4]. In Pichler-Milanović’s opinion the theory is, even so, much too simple to show in all cases the evolution of European cities: talking about processes specific first of all to Northern Europe, as the one above, Southern and Eastern Europe are placed last as late regions, whereas in fact it’s about different processes and phenomena happening there [4].

A mapping of the evolution of the use of land in the Barcelona Metropolitan Area, one of the most populous regions in Southern Europe, indicates an urban territorial growth of the area between 1993 and 2000 six times higher than the population growth [15], and the greatest change (actually, decline) at territorial level being that of cultivated surfaces, confirming their role as urban growth reserve. An aspect where the type of urban growth has coincided with the American *sprawl* model was the proliferation of new industrial and commercial areas. Wide industrial parks and giant commercial areas, of the mall and outlet type have appeared on the metropolitan area map – which seems to show a disappearance of the tendency of placing commercial functions between residential ones, as it used to be typical of the Mediterranean area [15]. Nowadays, on the other hand, the Barcelona Metropolitan Area is identified as a good example of polycentric metropolitan development [15]. Comprised of a number of municipalities clustered around the city of Barcelona itself, the metropolitan area is a continuous urban area, that has developed in a geographic region presently narrow and occupied almost completely, located amidst three mountain chains, a few isolated massifs and the sea. To these are added over a hundred other municipalities and communes in the second metropolitan ring, out of which 7 sub-centres of 50,000 – 200,000 inhabitants each, self-sufficient in terms of labour and service market. The same as the greater part of the specialists in the Mediterranean area, Catalán et al. maintain that this polycentric type of organisation offers the best response in the context of urban dispersion and the centralisation and decentralisation processes that are present there as in other large cities. Decentralised urbanisation in its concentrated form (polycentric), is currently seen as a balanced hybrid between the compact models and the dispersed ones and, moreover, it is seen as a good response to the issue of (social) polarisation and energy and water supply systems – drinking water resources being scarce in the Mediterranean area.

The development of the Barcelona Metropolitan Area, throughout its history, as seen, has been far from being under control, more than the local topography has managed to. During the mid decades of the 20<sup>th</sup> century the population growth was extremely fast, when whole districts were built on the margins of traditional urban nuclei, in order to get an influx of population attracted from rural areas. This stage of growth caused disarticulated peripheries, most of the times very dense, with great deficiency in providing public space or even free space, infrastructure, services or public transport. Another type of development occurred at the same time, a dispersal one this time – "*a kind of very peculiar sprawl*", based on the building of secondary dwellings in marginal areas, on lands still cheap and, not infrequently, illegal. Towards the 1980s urban growth had stabilised, urbanisation aiming mainly at the occupation of interstitial territories generated by scattered development, so that many of the secondary dwellings had become main dwellings. The 1990s economic boom resumed the large-scale tendency of territory occupation and urbanisation. One of the control factors, even nowadays, remains the limited availability of the geographic territory of the city, which has generated high costs of land and pushed early the interest in lands located on the far periphery, much beyond the mentioned mountain chains. No less valid is the existence of other factors, too, maybe equally important: congestion and the other shortcomings of the compact city. The result is an urban landscape achieved in distinct stages, according to different models, where it remains to be discussed yet if certain stages should be seen as an alteration of the urban structure under the influence of an American model or just as an evolution towards an articulate metropolitan system, where the urban *sprawl* is relatively contained and controlled [15].

#### 4. Insights on sprawling developments in post-socialist Eastern Europe

As concerns Eastern Europe, some authors [18] believe that post-socialist cities meet the same fast development risks and *sprawl* and a whole series of structural changes as western cities and especially South-European ones, with which they otherwise share a larger range of specificities, such as land market liberalisation, change of preference in terms of dwelling and improving economic perspectives, which create pressures for (low density) urban development and less restrictive planning control. Increase of land consumption, *brownfields* proliferation inside cities, social and regional polarisation and demographic and structural changes of the society are parts of this scenario. There is consensus as to the similarity of the new urbanisation forms in post-socialist countries to those of western countries with a longer capitalist tradition, however the question persists on whether the processes, actors and institutions behind them are the same [19]. Despite that, in Eastern Europe the specificity of urban dynamics during the second half of the 20<sup>th</sup> century was created by the absence of market mechanisms, the collective property of the city and its infrastructure, the centralised planning and rationalisation of its resources and the existence of extended planning strategies of growing areas, as instruments of regional development. Anyway, privatisation of property and abandoning the planning principles practised in socialism and the entire planning and implementation system of the 1990s very soon came to trigger suburbanisation, conducted at smaller scale at first, by individual, unconcentrated forces. By an inevitable opposition to the previous urbanism model, this suburbanisation generates a sort of *sprawl* [4], [20]. The phenomenon is often compared to the similar Western experience, but nonetheless, sometimes the fact was underlined that many of the transition features, including labour market and social stratification changes, privatisation of dwelling fund, etc., have differently and specifically shaped the suburbanization processes in the region during the 90s [21]. Suburbanisation in those years was much more dispersed than the (sub)urbanisation of the socialist period, new residential areas starting to appear in a fragmented manner on former agricultural lands. The situation is the same in all transitional countries in the ex-Soviet Bloc, where the post-socialist urban development model looks quite a lot like the American *sprawl* model, especially after the mid-90s, when the building of individual houses took off [21].

It is still since the 1990s that talks started to involve a type of post-socialist city. Typologically it included a somewhat lower homogeneity, but its structure and especially changes and responses to change needed the reference of the Western city, but also the American one, in order to be understood [22]. Architect Andreea Matache [24], for example, notes the possibility of a background similarity between the Romanian suburbanisation processes and the post-war North American ones, in how they are triggered by the same type of real estate policy mechanism and the power of private capital, unbalanced versus the power of controlled growth and mediation policies. In the American context, the development of urbanised territories is often described by the concept of *growth machine*, an amalgamation of private and public coalition of interests that exploit the city as a means of speculative growth [24]. Despite the fact that this concept, too, has been developed for the urban framework, it can be even better applied to new suburbs, where there are the highest gain rates from the effortless transformation of lands outside the city area, maybe included in the agricultural circuit, into urban built-up lands, where, in addition, land tenure is more simplified than within the city [19]. In the context of urban entrepreneurial development in Europe this instance becomes suggestive [19], which leads to the question whether the urban change processes from here are closer to those of the United States rather than the Western Europe ones, where the role of the State is more consistent and, consequently, the private commercial interest diminished, and where participative policies exerted have managed to create better-rooted and longer-term strategies, even in urban periphery areas [19].

In spite of start conditions at least theoretically similar, the evolutions of post-socialist countries see the resumption of practices related to pre-socialist structures, modes of operation and contextual situations [25]. There are differences within this macro-region regarding the legality of the new developments (especially in the Balkan countries) [4], but there are significant differences in terms of traditional densities and pre-existing urban formulas, for example Romanian or Russian cities traditionally are much less dense than the Balkan or the Central European ones. There are also significant differences inside the countries of the region, where distribution of wealth has reached only certain social levels and areas of the country, usually concentrated in capital cities and other large cities that the other cities or towns cannot keep up with [26]. Another aspect, equally signalled by Natasha Pichler-Milanović [4] and Ștefan Ghenciulescu [27] is a type of suburban – urban – rural hybridity, most certainly unplanned and not specific to the Western environment: a combination of functions and densities that are specific rather to cities, not the periphery, and which prefigure a possible passage from mono-functional suburbia to a sort of "wild" and "aberrant" but "authentic" city, Ghenciulescu says.

Although the process is common to all post-socialist countries, the equivalence of its features, particularly as regards the social structure of the population involved, remains to be discussed, and so is the manner of its physical transposition into a physical, built backdrop. A historical evolution not aligned to and conditioned by fundamentally different political particularities could predict completely distinct results among the countries in the region. Frequently, suburbanisation forms and suburban landscapes in countries where transition conditions were, at least theoretically, similar from the start of the period, are nonetheless much more different than in the case of countries whose recent histories have recorded different evolutions. Today, suburban type developments in Romania, among all the neighbouring countries in the area, finds the closest equivalent to those of Serbia, in spite of an uneven start, both chronological and ideological, of the dismissed political regime, distinct social motivations and conditions of prolonged military conflict and embargo, which marked Serbia's post-socialist transition for almost a decade. Besides, even the start of suburbanisation in Serbia and, in fact, across the entire former Yugoslavia happened much earlier and in force than in Romania. If we were to look for a model of this landscape, the *diffuse city* proposed by Francesco Indovina gathers the most features we can also find on a general scale in case of land transformation scenarios in Romania. Among the neologisms arranged by geographer Joan Vicente Ruffi [28] and used in specialist literature to refer to various forms of post-urban territory structures encountered across the globe, the "diffuse city" notion is also the closest geographically/culturally, being formulated in relation to the North Italian space experience.

The *diffuse city* (*città diffusa*) describes, it's true, a few decades earlier than our own model, a minimal urban network, at a large scale, which starts functioning as a city. This can be the upcoming city, one with large interstitial spaces, agrarian or not, but in any case non-urban. It is not the American *sprawl* in its true sense, being on the one hand the result of an urban density loss, and on the other hand of a density growth of the non-urban agrarian territory, which nonetheless continues to remain non-urban. The passage of near-city areas from an agrarian economy to a different one, that keeps the population in the area, so that urbanisation of some degree happens by the building of new dwellings in the close vicinity of old native households, and a subsequent penetration of industry here, has led to a consolidation of rural areas on the old infrastructures. On the other hand, the exit of industries from inside cities outside them has created the complementary phenomenon of dispersal of cities. These relocations will attract a few transformations of the residential market as well, where new opportunities start to be seen in inhabiting a territory outside urban traditional spaces and within other cost ranges, all supported by permissive regulations. The result is a urbanity antagonistic to the old urban structures, a



converging and integrating urbanity, a city-less urbanity, which does not manage to convince, at least so far. But in fact its possibility to evolve into something less dysfunctional and more consistent is sometimes assumed in literature[4], [29] and to some extent confirmed by more recent evolutions. Areas which had sprawled earlier and whose proximity to active urban cores assured the subsequent conditions for more intensified land uses, had seen lately somewhat upgraded, more matured types of re-development, as a evolution towards a more coagulated metropolitan system. This tentative condition and their possibility to evolve is nevertheless limited, while still being reliant mostly on market mechanisms, rather than any strategical instruments. This in turn limits significantly the number of areas which can achieve the conditions necessary for their upgrade, while the mechanisms which enabled the initial spills will continue to make effect somewhere else, even very near. Finally, considering their present rate and the mostly on-going stage of this type of development, the diffusion, with all its local colour, is becoming an increasingly significant feature of the built / landscape in Romania, on a par with the extent of the global *sprawl* model.

## 5. Conclusions

In spite of differences and offsets, the process of urban dispersion is unavoidable in the recent evolution of societies and territories, which is revealed not only by the growth data but also by a vast literature focused on identifying contemporary socio-spatial evolutions, features and causes thereof, trying at the same time to note differences and similarities recorded by such evolutions in various areas. These differences and similarities, often based on political and economic synchronisms, correlate even more in detail with certain local specificities, culturally and geographically circumscribed, managing to mark differences in the global *sprawl* model, too often associated to the influence of the North American space. Acknowledging these specificities, altogether with the more objective circumstances that contribute to a certain type and pace of development, with all its potential means of further transformation and the estimation of the result of this process, might prove to be as necessary as the differentiation among the various concepts, causes and effects associated to the term of *sprawl*.

## 6. References:

1. Fulton, W., Pendall, R., Nguyen, M., Harrison, A., *Who Sprawls Most? How Growth Patterns Differ Across the U.S.*, 2001, a report of The Brookings Institution, Centre on Urban and Metropolitan Policy, Washington D.C.
2. Galster, G., Hanson, R., Wolman, H., Coleman, S., Freihage, J., *Wrestling Sprawl to the Ground: Defining and Measuring an Elusive Concept*, in *Housing Policy Debate*, vol. 12, 4/2001, Fannie Mae Foundation
3. Schneider, A., Woodcock, C., E., *Compact, Dispersed, Fragmented, Extensive? A Comparison of Urban Growth in Twenty-five Global Cities using Remotely Sensed Data, Pattern Metrics and Census Information*, in *Urban Studies Journal*, vol. 45, 3/2008
4. Pichler - Milnović, N., *European Urban Sprawl: Sustainability, Cultures of (Anti)Urbanism and "Hybrid Cityscapes"*, in *Dela*, 27/2007, pp. 101-133
5. *Urban sprawl in Europe. The ignored challenge*, report of the European Environment Agency,

10/2006, European Comission Joint Research Centre

6. Clark, J.K., McChesney, R., Munroe, D.K., Irwin, E.G., *Spatial characteristics of exurban settlement pattern in the United States*, in *Landscape and Urban Planning*, vol. 90, 3-4/2009, pp. 179/180

7. Jaeger, J., A., G., Bertiller, R., Schwick, C., Kienast, F., *Suitability criteria for measures of urban sprawl*, in *Ecological Indicators*, vol. 10, 2/2010, pp. 399/400

8. Bhatta, B., *Analysis of urban growth and sprawl from remote sensing data*, 2010, Springer, Berlin / Heidelberg

9. Ewing, R., Pendall, R., Chen, D., *Measuring Sprawl and its Impact*, 2002, Smart Growth America, pp. 7/8

10. Thomas, I., Frankhauser, P., Biernacki, P., *The morphology of built-up landscapes in Wallonia (Belgium): A classification using fractal indices*, in *Landscape and Urban Planning*, vol. 84, 2/2008

11. Colanino, N., Roca Cladera, J., Pfeffer, K., *An automatic classification of urban texture: form and compactness of morphological homogeneous structures in Barcelona*, Centre of Land Policy and Valuations (CPSV) Technical University of Catalonia (UPC), ERSA Congress 2011, Barcelona

12. Nina Schwarz, *Urban form revisited -Selecting indicators for characterising European cities*, in *Landscape and Urban Planning*, vol. 96, 1/2010

13. Ergun, B., Sahin, C., Baz, I., Ustuntas, T., *A case study on the historical peninsula of Istanbul based on three-dimensional modeling by using photogrammetry and terrestrial laser scanning*, in *Environmental Monitoring and Assessment*, vol. 165, 1-4/2010

14. Nassauer, J., I., Wang, Z., Dayrell, E., *What will the neighbors think? Cultural norms and ecological design*, in *Landscape and Urban Planning*, vol. 92, 3-4/2009, pp. 282-292, Elsevier

15. Catalán, B., Saurí, D., Serra, P., *Urban sprawl in the Mediterranean? Patterns of growth and change in the Barcelona Metropolitan Region 1993–2000*, in *Landscape and Urban Planning*, vol.26, 5/2009, pp. 233-244, Elsevier

16. Bhatta, B., Saraswati S., Bandyopadhyay, D., *Quantifying the degree-of-freedom, degree-of-sprawl, and degree-of-goodness of urban growth from remote sensing data*, in *Applied Geography*, vol. 30, 1/2010

17. MOLAND (Monitoring Land Use / Cover Dynamics), a project of the European Commission Join Research Centre and the Institute of Environment and Sustainability

18. Steinführer, A., Haase, A., *Demographic Change as a Future Challenge for Cities in East Central Europe*, 2007, articol in *Geografiska Annaler, Seria B, Human Geography*, vol. 89, 2/2007, pp. 183-195, Swedish Society for Anthropology and Geography

19. Golubchikov, O., Phelps, N., A., *The political economy of place at the post-socialist urban periphery: governing growth on the edge of Moscow*, in *Transactions of the Institute of British Geographers*, vol. 36, 3/ 2011

20. Palang, H., Peil, T., *Mapping future through the study of the past and present: Estonian suburbia*, in

Futures, vol. 42, 7/2010

21. Leetmaa, K., Tammaru, T., *Suburbanization in Countries in Transition: Destinations of Suburbanizers in the Tallinn Metropolitan Area*, în *Geografiska Annaler, Seria B*, vol. 89, 2/2007
22. Kotus, J., *Changes in the spatial structure of a large Polish city – The case of Poznan*, în *Cities*, vol. 23, 5/2006, Elsevier
23. Matache, A., *Locuirea în ansamblurile rezidențiale închise. Zona Pipera – Voluntari [Living in closed residential developments. Pipera – Voluntari neighbourhood]* PhD thesis, UAUIM, 2010, Bucharest
24. Hayden, D., *Urban Landscape History: The sense of Place and the Politics of Space*, în Groth, P., Bressi, T.W., Eds., *Understanding Ordinary Landscapes*, 1997, Yale University Press, New Haven
25. Munteanu, M., Servillo, L., *Romanian Spatial Planning System: Post-Communist Dynamics of Change and Europeanization Processes*, in *European Planning Studies*, 2013
26. *The State of European Cities in Transition 2013. Taking stock after 20 years of reform*, a report of the United Nations Human Settlements Programme (UN-Habitat), 2013, the Institute for Urban Development and Instytut Rozwoju Miast, Krakow
27. Ghenciulescu, Ș., *Suburbia 2.0*, in *Superbia, Quaderni della Casa Romena di Venezia*, 6, 2010, Romanian Cultural Institute Publishing House, Bucharest
28. Rufi, J., V., *¿Nuevas palabras, nuevas ciudades?*, in *Revista de geografía*, 2/2003
29. Planwerk (group), *Picnic City*, in *Superbia, Quaderni della Casa Romena di Venezia*, 6, 2010, București, Editura Institutului Cultural Român