

CAN PLANNING GUIDE THE URBAN MARKET PROCESSES TOWARDS SUSTAINABLE URBAN DEVELOPMENT?

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Abstract: Sofia, Bulgaria's capital, is a relevant example of the rapid development of contemporary cities. In fact, Sofia's rates of development have been high throughout the 20th century, as the population of the city increased four times during the period of socialism. Since the beginning of the 21st century the capital city has continued to grow, although the growth is now slower. This article focuses on the form of growth as determined by the urban development mechanisms. It can be said that while during the period of socialism the determining factor was central planning, after the first decade of the transition from a socialist to a democratic market society, the mechanisms of urban development in Sofia are those characteristic of the global capitalism – dominated by the market forces and to a lesser extent by the leverages of urban planning. Most urban planners believe that urban development mechanisms characteristic of the global capitalism lead cities to dispersed forms of development, known as urban sprawl. Urban sprawl is seen as an unsustainable form of urban growth as it is linked to over-consumption of resources such as land and infrastructure. This paper explores whether the new Master Development Plan (MDP) of Sofia is able to manage the form of growth of the urban structure by taking into account and regulating the action of market forces in the urban development of the metropolitan city.

Keywords: post-socialist development, forms of urban development, urban sprawl, sustainable development.

1. INTRODUCTION

In this article, we compare two trends of urban development and urban planning. Urban populations around the world are growing, and successful cities are growing

more and more rapidly. Cities in Southeast Europe are no exception, and Sofia is a good example of this - since the mid-twentieth century, the city has grown four times in four decades. Together with the change of the socio-economic system in the last decade of the twentieth century, Sofia's urban development mechanisms have also changed radically. The Master Development Plan (MDP) of Sofia, developed in 2000-2003 and adopted in 2007, was the first plan to be prepared following the Muesmann's plan of 1934 to operate under market conditions. Sofia MDP marks a new stage in the planning of Bulgarian cities after the period of central socialist planning and the consequent strong negative attitude of society towards all forms of planning (Hirt & Kovachev 2006; Hirt 2007; Kovachev et al. 2016, Nedović-Budić 2001; Slaev & Kovachev 2014; Slaev et al 2018, 2019; Vujosević et al. 2012, Zeković et al. 2015)

On the other hand, for three decades, sustainability has been a central theme in the theory of urban and spatial planning. Urban growth and its forms are key issues of sustainability as they determine the consumption of such natural resources as land, non-renewable energy sources, natural landscapes and biodiversity. The theory examines three forms of city growth: monocentric, dispersive and polycentric growth. Most researchers believe that monocentric development is a negative form of growth, but there are also prominent authors who point to its advantages (Bertaud 2003). Disperse expansion (commonly known as "urban sprawl") is seen by most researchers as a negative form of development that is contrary to environmental sustainability due to the excessive consumption of natural resources. Important features of dispersive development, such as low density and fragmented urban expansion, are generally considered to be a threat to sustainability: it is characterized by excessive land and natural resources consumption, inefficient modes of transport and mobility, excessive development of expensive infrastructure and dependence on cars . At the same time, this form of development is preferred by many urban residents in developed countries and by some researchers as well. (Holcombe 2013). It seems that the greatest agreement between urban planners and planning professionals is about the advantages of polycentric urban forms. Researchers believe that the negative aspects of urban expansion can be neutralized by promoting polycentric urban structures. Polycentric city cores are

compact, but separated or rather linked to large green areas and enclaves; thus, land resources are used economically and the urban and green environments are integrated. Polycentricity provides for economical land use and savings on investment and energy.

As in other European countries as well as in Southeast Europe, urban growth and expansion have always been among the main issues with which planning has been concerned with. However, the problems of suburbanization and the dispersed form of urban expansion are new to the region. This article looks at how the Sofia Master Development Plan developed during 2000-2003, examines key issues related to growth patterns - whether these forms should be monocentric or polycentric, compact or scattered. One of the main goals of the Master Development Plan is to promote polycentricity, but another goal is to stimulate urban expansion with low density. The plan also seeks to stimulate sustainable development. So, a logical question is whether the Master Development Plan encourages polycentricity to counteract the negative effects of urban spilling (ie, dispersion or urban sprout), or it actually uses the appropriate tools to achieve the desired urban form. To analyze the predictions of the MDP on the form of urban development and its impact on the sustainability of cities, this article sets out the following three questions:

1. What is the general position of the MDP on the form of urban development and how does this form relate to sustainable urban development? What form related goals does the plan put into place?

2. Are the projections and decisions of the MDP compatible with the objectives of the Urban Development Plan?

3. Does the MDP succeed in stimulating a sustainable form of urban development?

Based on the answers to these three questions, we discuss the findings and conclusions about planning practice. Thus, the article draws conclusions about the impact of urban forms on the sustainability of cities and the role of general planning (development of the MDP) in the management of urban development to the desired forms of growth. Our findings confirm the benefits of polycentricity. They also confirm that appropriate methods of zoning and the development of transport networks in urban

suburbs are indispensable for improving the sustainability of urban development through appropriate urban forms.

The narrative unfolds in the following order. First of all, we briefly look at the main theoretical issues related to growth patterns based on relevant scientific literature. We then study the Master Plan of Sofia to determine what kind of urban development the plan encourages, how stimulated forms of development relate to sustainability issues and what tools the plan uses to achieve its goals. After that follows the study of the results of the plan's implementation so far. Finally, we draw conclusions on the consistency between 1) the objectives, 2) the planning tools, 3) the results of the implementation of the plan and 4) its impact on the sustainability of urban development.

2. Theoretical framework

2.1. Planning, planning goals and development of urban forms

An important part of this study is related to the extent to which planning can direct urban development to the desired form of growth and, above all, the extent to which planning is able to achieve goals it has set itself. The effectiveness or efficiency of planning is assessed through performance-based benchmarks and compliance-based end-to-end ("conformance-based") (Faludi 1989). That is, in the first case of evaluation, the question is whether the end results have improved the urban system without having any interest in the objectives, and in the latter case we assess whether the end results are in line with the objectives without asking whether the objectives were correct and whether the end results are positive. According to Taylor (1998) planning and its application covers several phases: 1) situation analysis, 2) goal definition, 3) development of a tree system of objectives, sub-objectives, priorities, 4) development of a system of application tools, 5) application monitoring and feedback. According to Slaev and Nedović-Budić (2016), each subsequent phase in this planning cycle sets new requirements and therefore, in each subsequent phase, errors increase proportionally because they accumulate on top of the errors of the previous phase. Therefore, plans are generally weaker in their later and more difficult phases, but urban planners generally

do not take into account the increasing demands of these phases (above all the phases of developing a tree system of objectives, sub-objectives, priorities, system of application tools, application monitoring, and feedback).

For planning success, it is also critical whether it (planning) manages to balance the market or to "co-operate" with it. Holcombe (2013) points out that in order to work successfully with the market, planning must interfere minimally with the intentions and actions of market participants but should focus on public activities that primarily involve the development of infrastructure. In turn Bertaud (2003) defines the three most important components of planning that determine its attitude towards the market: 1) the construction of primary infrastructure, 2) zoning and urban rules and regulations, and 3) local taxes and fees. In this article, we focus on the first two components: Infrastructure and zoning, and related rules and norms.

There are two main phases in spatial planning: general planning and detailed planning. The first phase concerns the general development plans of the settlements and urban structures (Kovachev 2003a, 2003b), also called Master plans, master plans, master plans, general development plans and other names. The general spatial plans define the general structure and the predominant purpose of the territories as well as the organization of the technical infrastructure. These plans define spatial indicators and standards for the construction and organization of spaces in different types of residential areas, the structure of public centers and public services, including administration, trade, health and education (Kovachev & Rainovska 2012, Rainovska 2012, 2013a, 2013b) . The general spatial plans provide important guidelines for environmental protection (Nikolov 2007, Slaev & Collier, 2018) and the sites of cultural and historical heritage (Ilieva 2013, 2014, Vacheva & Ilieva 2018) and the most important measures for the development of the environment and the building (Nozharova & Nikolov 2018; Nozharova & Nikolov 2019) and the green systems of the cities and all other settlements (for example, the panel complexes (Kovachev & Petrov 2016; Petrov 2015) (Hirt & Kovachev 2006, Kovachev 2005). A very important feature of the new master plans is related to the implementation of information and digital technologies (Topchiev, 2014, 2016). A set of interrelated problems of the general spatial plans,

which in practice are of fundamental importance for the development of the urban structures are those related to the forms (Nedovć-Budić et al., 2016, Slaev et al., 2018, Kovachev et al., 2018, Slaev et al., 2019) and sustainable urban development (Nikolov 2014).

2.2. Urban sustainability and forms of urban growth

Perhaps the first scientific study of monocentric urban forms is that of Burgess (Park, Burgess and McKenzie 1925). According to him, the monocentric city is characterized above all by the central business district (CBD) and consecutive zones in the form of concentric circles around the center. After Burgess, Hoyt (1939) defined the sectoral model based on the role of transport corridors - rather as a modification of the monocentric city. The economic explanation of the monocentric city is formulated by Alonso (1964), based on the rental generating capacity of the urbanized territories, and thus lays the foundations of the urban economic market theory (known as the urban economics).

Davoudi (2003) found that until the 1970s, the monocentric model of the city was predominant, but the polycentric urban forms had their supporters since the beginning of the twentieth century. Such are the theories of Howard (1902) and Christaller (1933). Davoudi explains the polycentric development (p. 994) with "decentralization of economic activities, increased mobility, complex cross-traffic, and fragmented spatial distribution of activities." From a morphological point of view, polycentric systems include multiple urban centers / nodes (Hsu & Prosperi 2011). This seems to be the only characteristic on which (almost) all scholars agree. Hall (2003) found that "polycentricity can be formed on many levels or spatial scales, and [the form] that is monocentric at one level, may be polycentric at another - and vice versa." The ESPON 1.1.1 report (Dühr 2003: 18-26) defines three levels of European polycentric structures: micro (intra-regional), meso (interregional) and macro levels (European). Davoudi also highlights the differences in the meaning of the term in different contexts and on different scales. She distinguishes between intro-urban, inter-urban and inter-regional scales. In our research we are interested in the inner-city scale (urban structure within the city of Sofia) and the interurban scale (the urban region of Sofia

Municipality). However, our focus is on urban growth, that is, on a higher scale, which includes the relationship between the city and surrounding territories, towns and settlements.

An important factor in defining polycentric systems is the relationship between the power of the main center and the sub-centers. Whether a system with one dominant center and several sub-centers should be considered monocentric or polycentric depends on the ratio between the power of the main center and the weakness of the sub-centers. A system with one center and several or many sub-centers is considered monocentric if the sub-centers are significantly weaker than the main (dominant) center. In addition, as a result of various historical factors, cities around the world have evolved into compact or dispersive urban forms. Compact urban systems can be monocentric or polycentric, but they are always characterized by high density. Comparing the density of 52 metropolises, Bertaud (2003: 9-10) found that the density of the cities of the world varies considerably - by about 6 inhabitants/ha in some American cities (eg. Atlanta) to 360 -390 inhabitants/ha in Mumbai, Shanghai, Hong Kong and Seoul. In this connection, Bertaud notes that "density is strongly influenced by cultural factors". Similarly, due to cultural factors, the density varies considerably even across a continent, for example within Europe (Leontidou 1990). But, as Bertaud points out, all the cities studied in his article are definitely successful, although the density in some of them is many times higher than the density in others. Bertaud concludes that there is no density, which by definition or "by itself" is "right" or "optimal".

Notwithstanding the above considerations, many researchers believe that, in general, low density is ineffective and contradicts the tendencies for sustainable development of the housing and architectural environment (Petrov 2019) and urban structures. Urban spree (the spillover of cities) is a form of the suburbanization trend, which has spread over the last decades worldwide. As a result of this trend, there has been a decline in urban density and, most importantly, in peripheral urban areas in many parts of the world, including in Europe. As a form of urban form, dispersion and "scattering" are synonymous. Scattered urban forms are opposed to compact ones, they are "fragmented, scattered and strung together, with a tendency to interrupt," in lanes or

skipping (EEA 2006). But, although the sprawl is definitely the scattered urban form of low density, it is more than that - sprawl is a complex phenomenon and a process with significant consequences for the sustainability (Ewing et al., 2002, Nikolov 2013, 2016). With regard to the reasons for this, sprawl is a result of improved access to cars and higher standards of living and housing; this is the "flight" of the middle class from the city core to the suburbs. Other features of the sprawl are: inadequate combining of urban functions, lack of vital sub-centers, poor accessibility for pedestrians. Because of its characteristics, sprawl is considered to be a particularly inefficient and unsustainable form of urban development. The New Urbanism movement is most critical of the growing suburban patterns. Enlargement is criticized for high dependence on cars, poor access to jobs and services, lack of lively local centers and public spaces, high levels of social segregation and, above all, over-consumption of natural resources (Ewing et 2002, Slaev 2016b). From this point of view, growth is defined as "excessive spatial growth" and excessive growth consumes excessively natural resources and infrastructure (EEA 2006). Disperse development (growth, expansion) consumes land excessively, and density differences can provide 5-6 to 20-30 times more economical land use. Excessive use of other natural resources as raw materials for infrastructure development and site improvements, non-renewable energy sources for both road construction and longer transport distances, reduce natural green areas, forests, wetlands and biodiversity; there are a number of costs associated with climate change. So far, for the purposes of our analysis, we have drawn out two characteristics that define the urban form: spatial structure (monocentricity versus polycentricity) and compactness (compact versus disperse form) (Hirt, S. 2007; Kovachev et al., 2016; Daskalova & Slaev 2015; Budić et al., 2016). It is clear that four combinations are possible: monocentric-compact, monocentric-dispersive, polycentric-compact, and polycentric-dispersive (scattered). Distinguishing between monocentric-dispersive and polycentric-dispersion forms can be a problem when the system is organized around a dominant center. The polycentric-dispersion form is uniquely identified only if the system is dominated by two or more cores at the highest level that are commensurate with their strength (or attraction mass). But if the system dominates only one large center, which is

much stronger than the secondary centers, then this structure can be defined as monocentric-dispersive. Thus, in systems dominated by a center that is much stronger than the sub-centers at the lower level, the polycentric-dispersed type has little significance. For example, in the urban structure of Sofia and the surrounding settlement formations, the center is almost one hundred times stronger (with a larger gravitational mass) than the largest secondary center - Novi Iskar. Such secondary centers are rather dispersed nuclei ("beads") of scattered urban forms. That is why instead of four, three options can be distinguished with more success and clarity, : monocentric (when the lower layer nodes are too weak), polycentric-hierarchical (when lower level nodes form strong sub-centers) and dispersive. Finally, we must emphasize that our goal is not to decide which of the three forms of growth is "most correct" or "most sustainable". Our goal is to assess whether planning is using and, in principle, whether it is capable of using the theoretical achievements of the urban development practice to manage it, by stimulating the establishment of growth forms that are appropriate to achieve a high level of urban sustainability.

Of particular importance in terms of the development of appropriate forms of urban growth that stimulate sustainable development is the ability of planning to work in concert with the actions of the market. As many authors point out (Bertaud 2003, Slaev 2016a, 2017a, 2017b), when planning does not work in concert with the market, plans are doomed to fail. This is possible because, in a market-based society, the market is able to mobilize dozens of times more investments, than those, who can be mobilized by the planning (Slaev et al., 2018).

3. Estimates and measures in the Sofia MDP of 2007 aiming to achieve optimal forms of growth and high urban sustainability

3.1. Planned measures in the Sofia MDP of 2007 to achieve adequate forms of growth and urban sustainability

The development of the new Master Development Plan of Sofia started in 1998 and ended in 2003. During this period a number of changes were made in Bulgarian legislation to achieve harmonization with the European Planning System (Slaev et al.,

2015) . But the adoption of the plan under the new conditions was much more difficult than in a centralized socialist society, because now different social groups, strata and market participants have begun to follow their different and often contradictory socio-economic interests. Therefore, the adoption of the Master Plan by the National Assembly took four years - a longer period than the development of the plan - and the Master Plan came into force only in 2007. An important goal for the new MDP (which was the first citywide plan in Bulgaria after the period of socialism and, respectively, the first in free market conditions) was to take into account the action of the market. Therefore, the MDP has studied this action, the mechanisms of market processes and the role of market forces, although with varied success of the research in different aspects. In fact, the plan analyzes the impact of market forces on the development of the city's economy, the land and property market, and the importance of investment trends, depending on new technological opportunities (Topchiev 2017, 2018) in the central territories, traditional urban areas and panel complexes (Kovachev & Petrov 2016) and the development of transport infrastructure. However overall, the market research can be described as chaotic because it lacks a system and, above all, it lacks clarity which market trends have a crucial role to play in urban development and which have only a minor importance. However, despite this weakness, some important observations and conclusions have been made in the MDP. For example, an important observation of the balance between the development of central and suburban areas is that market trends maintain very high rates of development in the central and southern suburban areas, while they are low in the northern territories (Sofia Municipality, 2003, p. 2). The MDP (Figure 1) defined its main objectives for Sofia's peri-urban areas based on two key factors. The first factor is the forecast for the growth of the city's population. The plan envisages an increase of 140 000 inhabitants, which determines very high needs for new housing units (Sofia Municipality, 2003, p. 136). But at the same time, a forecast which correctly reflects the urban trends in the capital is that only 25% of the new housing will be outside the compact city (up to now even less than 25%). The second factor is the optimal balance between the development of the compact city and the suburban areas. One of the main objectives of the GDUP is to redistribute urban functions in order to

achieve a better balance of all urban activities and to end the "congestion" of the compact city. The initial GDUP (adopted in 2007) does not aim at limiting the increased tendencies of low-density urbanization (ie probable sprawl.) in the southern territories of Sofia Municipality, but underlines the threat posed by the urbanization trends for large green areas , ("green wedges"). However, the restriction of development in the southern territories is defined as an important goal in the 2009 amendment of the GDUP (SOFPROECT, 2009). With regard to the northern suburban areas, both the original plan and the amendment underline that these suburban territories are the main reserve for future development (Sofia Municipality, 2003, p. 136, SOFPROECT, 2009, p. 36).

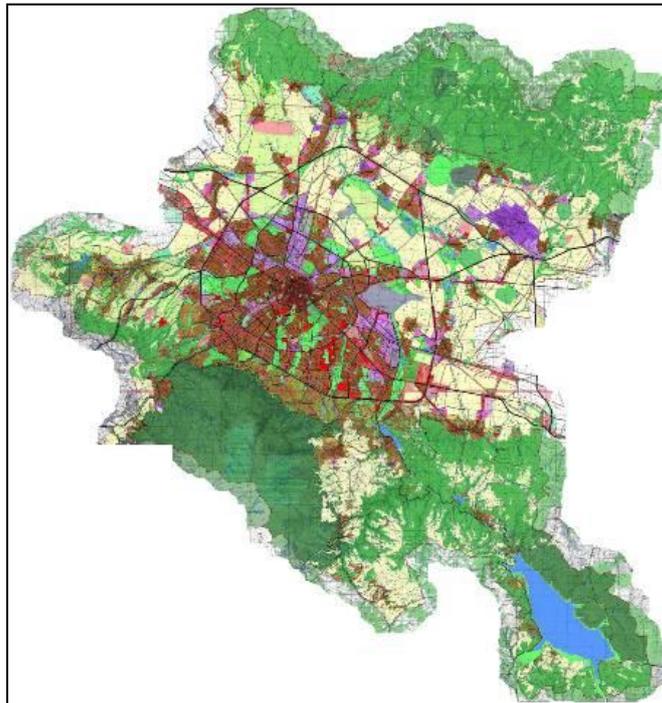


Fig. 1. GDUP of Sofia Municipality, 2003 г. (adopted 2007 г.)

The current study of the relationship between planning and the market has two main focuses:

- The first of the accents is on the use of zoning rules and norms in urban areas.
- The second focus is on the design solution for transport networks.

Concerning the zoning structure of urban areas, the MDP foresees a reduction of agricultural land from the initial 49,340 ha to 41,208 ha in the plan adopted in 2007 and to 36,112 ha in the 2009 amendment. This decrease is offset by the increase in urban areas (+ 8580 ha) and in the forest and green lands (+8170 ha). The largest increase was observed in residential areas (+1900 ha) and in mixed-use areas. The areas of the last mentioned type are intended for different types of habitat activities and service functions (+4920 ha). Extensive agricultural land reserved for residential purposes from the previous MDP, mainly in the southern suburban areas (Vitosha collar), remained allocated as residential use. Thus, in practice, despite the acknowledged need to keep green wedges, the largest increase in residential areas is planned in southern suburban areas - namely in the Vitosha collar. At the same time, in line with the purpose of the plan to channel urban development to the north, significant territories in the Sofia Plateau were identified as a "long-range reserve" for housing purposes, for long-term urbanization (for example, for 20 years) or earlier if significant investment interests arise.

In summary, the objectives of the Sofia MDP for Urban Growth and Urban Landscapes can be presented as the following:

- achieving a balance between the development of the compact city and the peripheral and suburban areas, this being understood as limiting the development in the central parts and promoting the development of the suburban area
 - Stimulation of polycentric development (ie development of secondary centers in the periphery and suburban area)
 - stimulating low density expansion, i. sprawl (the so-called "high-category" habitation in the suburban area)
 - Limitation of urbanization activity (mostly limiting the expansion of habitation) and preservation of green areas in the southern territories (mainly in the Vitosha collar),
 - stimulating the development of northern territories

Regarding the solution of the primary transport communications, it is critical to plan the forms of mass transport. The main focus of Sofia's transport network is on a metro system. In just five to six years, the development of this system dramatically improved access to many peripheral areas of the compact city, but did not affect access

to suburban areas as these territories are currently out of the metro network. In fact, the MDP does not envisage any significant improvement of the mass transit networks outside the compact city. Regarding the development of the road network in the suburban areas of Sofia, the Plan highlights the construction of the ring road. Before 2000, the ring was a two-lane road, with only a short four-section section in its eastern / northeastern part. The Master Plan sets the whole ring road to be reconstructed as a multi-band (four-band and six-way) road.

3.2. Implementation of Sofia's MDP

Our study finds that until now the MDP has failed to reach its goals in terms of achieving the desired urban form and the development of suburban areas, namely: to limit the development of the southern territories, to preserve the green areas and to encourage the development of the northern territories. To evaluate the results of the implementation of the plan within a decade, we use data from SOFPROECT and the Cadastre Agency. We study the changes in three suburban areas: one to the South - Vitosha and two Northern - Novi Iskar and Kremikovtzi. The data in Table 1 show that both in the period before the adoption of the MDP the development rates are highest in the southern suburbs. The expansion of the urbanized area in Vitosha Mountain for the period 2006-2013 is twice as high as that in Kremikovtzi and more than five times that of Novi Iskar. From now on, development trends have not changed. Moreover, the MDP failed to save the green edges in the southern regions. Nor do the northern suburban areas grow: NSI data (2012) show that between 2006 and 2011 the population of Novi Iskar and Kremikovtzi grew by only 650 residents.

Table 1. Changes in the urbanized zones in three suburban areas, Source: SOFPROECT, 2016, Study on the Project TURAS , Seventh Framework Program

Indicators	Vitosha	Novi Iskar	Kremikovci
Urbanized zones for 2006 [xa]	2514.43	2751.44	3405.68
Urbanized zones for 2013 [xa]	3131.27	2806.42	3707.55
Change in urbanized zones 2013/2006 [ha]	616.84	54.98	301.87
Change in urbanized zones 2013/2006 [%]	24.5%	2.00%	8,86%

With regard to suburban infrastructure, significant progress has been made in the construction of the ring road. The "ring" of the ring road consists of four sectors - Southern, Western, Northern and Eastern. The Southern and Northern sectors are of the greatest importance for the development of suburban areas. The Northern sector, however, consists of two routes. One of them, called the North Arch, passes through the more distant suburban territories, while another one - the Northern Tangent passes in close proximity to the compact city (see Figure 2). Accordingly, the Northern Arch will have a major impact on the development of the territories and settlements in the suburban area. By contrast, the Northern Tangent, since it crosses the territories on the periphery of the compact city, can not play a significant role in the development of extra-urban territories. The construction of the southern sector of the ring road, called the South Arch, began in 2007 and was completed in three years. The major part of the Western Arch was built in 2016 and the Northern Tangent in 2018. When the Eastern Tangent was completed (initially it had to be ready in 2018) and the ring was closed, construction of the Northern Arch would not be urgently needed. In view of the lack of funding and the need to build more urgent projects, the North Arch can be delayed for 2022-2025 or even longer, and this will be (and is already) crucial for the slow pace of development of the Northern suburban areas.

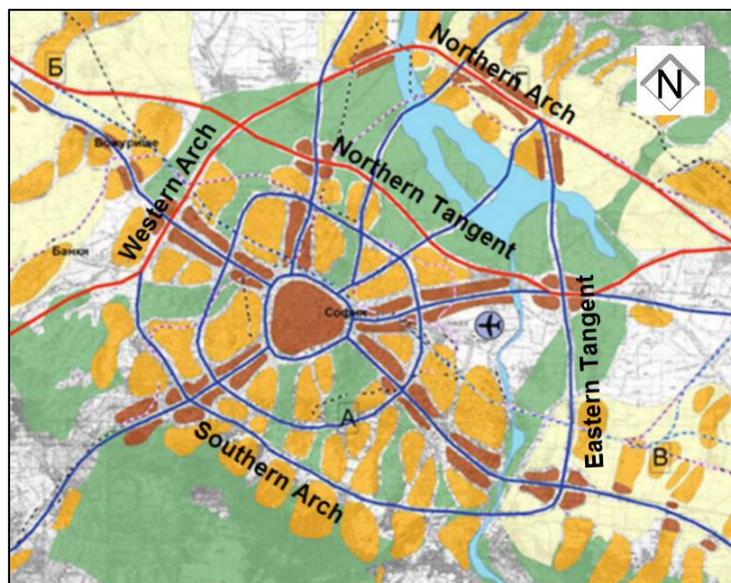


Figure 2. Transport loads on the main street routes in Sofia,
Source: Sofia Municipality – MDP of Sofia, adopted 2007

4. Discussion and conclusions

As for the first research issue, we conclude that the Sofia MDP has paid special attention to market action, yet the analysis of market processes is not well structured and in some ways even incorrect. In defining its objectives, the Plan does not consider how these are related to the interests of market participants - residents / households and businesses. The Plan states that the urban core should be "unloaded", that the growth in southern suburban areas should be curtailed, while growth in northern regions - stimulated, but the MDP does not take into account the fact (and the reasons leading to it) that residents prefer to move to the Southern rather than the Northern suburban areas. It is only in recent years that there is some development in the northern territories, but only in the most remote areas of Sofia - on the southern slopes of Stara Planina. The idea of developing secondary centers between the slopes of the Balkan Mountains and the city seems less feasible. The plan also provides for spatial solutions that are often opposed to its goals. For example, the growth of the Northern suburbs requires improvements in mass transport networks, but the development of the road network is delayed because there are always other development activities that urgently need financing. There is a growing awareness of the need to prioritize only urban mass transport, for example, rail - tram or metro lines. Obviously, building a dense road network around Sofia in the foreseeable future will not happen and this will severely restrict the development of "high-category" living. As a lucky coincidence for Sofia, the forecasts of the Plan for "high-category" occupation, that is, stimulated by the sprawl plan on vast territories, will fail. Logically, preserving the residential use of land in the Southern areas (Vitosha collar) stimulates urbanization and runs counter to the objective of limiting urban development in these territories, but it is obvious that during the past period of implementation of the plan there were no provisions for (because it was actually impossible to create) tools to protect the green wedges. Conversely: the priority construction of the Southern Arch was a powerful stimulus for urbanization of the Vitosha collar. Zoning for "future perspectives" needs in Northern territories has proven to be an ineffective means of stimulating urban growth. Overall, the MDP has so far failed to channel the development in peripheral and suburban areas in the desired

direction as it does not use the right tools to cooperate with the market - adequate rules and norms, financial levers and optimal infrastructure development. Indeed, the development of infrastructure stimulates urban expansion to the south, not to the north, ie. contrary to the objectives of the plan.

In conclusion, we will note that almost three decades have passed since the beginning of the transition from a centralized society dominated by a political power and a central planning economy to a democratic market society. This period was sufficient to establish the key role of the market in urban development in Southeastern Europe (Nedović-Budić 2001; Nedović-Budić et al., 2012; Slaev and Kovachev, 2014; Slaev and Nedović-Budić, 2017; Zeković et al. , 2015; Zeković and Vujošević 2018). The processes of growth and suburbanization in Sofia, which we have been observing for almost three decades, are apparently generated mainly by market forces, so it is critical that planning professionals study the market action and draw up plans that match this action. It can be said that, as early as the transition, this need was more or less taken into account and more or less clearly defined as a planning objective. But it turned out that achieving this goal was too complex and difficult to realize. The study in this article had the task of exploring to what extent the goal has been achieved and whether it leads to sustainable urban development. In response to the first research question, this article notes that Sofia's planning has made efforts to take into account the role of the market, but this is done in a very unsystematic way. As a rule, markets are being considered in the analysis phase, but market analysis is being used inadequately and, most importantly, incorrectly and unsuccessfully in defining planning measures and policies. In response to the second research question, this study concludes that planning in Sofia is still far from being able to effectively cooperate with the market to regulate the development of urban growth and development of peripheral and suburban areas. For this purpose, planning must meet three basic requirements. First, planning should explore and consider how market trends and the interests of all market participants are in line with the plan's objectives and conditions. Secondly, planning should be based on clear and relevant objectives and develop a concise, tight and internally agreed set of measures and instruments to achieve the objectives. There are serious inconsistencies

between many objectives, measures, spatial solutions and tools for its implementation in the MDP. Thirdly, in order to cooperate effectively with the market, planning should use appropriate instruments for such cooperation, namely, adequate regulations (rules, norms and standards) for zoning, adequate fees and taxes, and adequate patterns of primary infrastructure development (Bertaud, 2003). It is also necessary to develop appropriate forms of urban governance to ensure effective public participation. The poor use of these tools has so far been the basis of all planning failures in Sofia. The findings of this study confirm the fundamental role of planning alignment with the market and its importance for sustainable urban development. This is a key lesson for urban planners in Sofia and other cities in Bulgaria.

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