

THE ARCHITECTURE OF DYNAMIC PLANNING REGULATIONS

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Abstract: This paper stems from our work on the new Master Plan for Bucharest. It describes our efforts to construct a three-tiered planning regulation system aimed at governing development occurring within the city. Essentially, the three levels of regulations exhibit the following characteristics:

Firm regulations are destined for consolidated or representative areas where they imply fixed samples of amenities and flexible urban and qualitative indicators. Specific values are allocated to different ranges, which are later used for various purposes;

Flexible or adaptable regulations apply to urban areas containing mixed uses. They work with classes of amenities that receive different weights, as well as a minimum value. Within this type of regulations, urban indicators are flexible;

Strategic guidelines apply to deeply disorganised areas, which undergo a process of development. They work with pre-set amenities, determined by the specific characteristics of each area. In contrast to the previous types of regulations, strategic guidelines use global indicators.

The architecture of the entire planning regulation system becomes operational through the analysis of current and alternative development scenarios, which are, in turn, governed by an overarching framework. Thus, this paper describes the architecture of the planning regulation system, the indicators employed, as well as the proposed municipal co-operation mechanism.

The theoretical framework underpinning this exercise rests on three different metropolitan functions; the incipient theory of demand oriented urban life cycle; and the insights related to network approaches in tackling matters related to urban complexity.

Keywords: Planning Culture, Dynamic Master Plan, Planning Regulation System.

1. Introduction

This paper stems from our work on the new Master Plan for Bucharest. It chronicles our efforts to construct a three-tiered planning regulation system aimed at governing development occurring within the city. We have written it with the explicit intention of submitting it to the AESOP Conference in Prague. Therefore, it is more of a conceptual paper than a technical one. As our work progresses, we intend to expand it into detailed account, charting the evolution of the system.

For the time being however, we restrict ourselves to revealing the intended arch regulations, which will govern the new Master Plan.

Almost two years ago, we have started devising the Master Plan for what can be complex city in Romania. For the purpose of this paper, two main dimensions complexity are of interest to us, namely its morphological complexity and its in Both take centre stage within the architecture of our proposed model.

1.1 The Morphological Perspective

First, let us summarise the major development phases that shaped the current mo of Bucharest (Filipeanu et al., 1997, pp. 35f.):

During its medieval times, Bucharest lacked any sort of defensive walls could expand into its direct hinterland, by incorporating existing vil settlements that clustered around the roads connecting it to the rest principality. Hence, the city developed policentrically from an early expansion implied that there were never any clear limits between diffe areas, thus keeping the city in a constant state of flux;

When examining the architectural fabric of the city during medieval times, we host of fragile building materials, prone to destruction by fires, ear deterioration over time. Against this background, the city became a fert. recycling. The only building types that were spared by this process monasteries and the princely palace;

The last important factor that impacted heavily on the urban form was p Over a period of about a century and a half, Bucharest experienced population numbers:

The first period was confined to the th century, when the Kingdom of Romania was slowly opening towards European, viz. mostly French influences. This period of rapid population growth was accompanied b interventions, as Bucharest gained in importance as the new capita formed Kingdom of Romania (cf. Lascu, 2011, pp. 73ff.; P noiu, 20 They required a supporting set of urban regulations, which had to be 1997);

The second period, which spanned the interwar period, correspond overhaul of the Romanian economy, which, in turn, triggered a n immigration. From a morphological perspective, this period correspon rise in density and building heights. Functionally, most new ho displayed a high degree of differentiation, which was geared towards a wider array of social classes. This newly gained interest in hig functional specialisation was supported by a scientific turn in urban p was later formally embodied in the Urban (Systematisation) Plan of 1 2013);

The third period started immediately after the Second World War. A industrialisation produced a sustained population influx, both f hinterland of the city and from other cities in the country. Conco properties were nationalised. Both processes paved the way for the t regulatory planning system to a decisional planning system (Filipeanu e pp. 35f.). It is during these times that all the major housing pro

gained momentum. As the production of new housing units increased, a gradual shift from the quantitative to a more qualitative perspective in urban prescriptions (Derer, 1985, pp. 137ff.). Thus, as private property was abolished, the new architecture aligned itself fully to modernist principles. However, this period of Europeanization did not last later than the 1930s. Afterwards, as socialist aesthetics gained prominence, this tradition became somewhat old-fashioned, and probably too Western European in taste. Repeated densifications ensued, as the built-up perimeter was frozen in time. As a result, the end of the socialist regime witnessed exaggerated and undersized public amenities.

Hence, the urban structure of Bucharest exhibits the results of a wide variety of planning operations. As time has passed, most of them have become the hallmark of the city. However, we lack a comprehensive comparative perspective, in order to grasp the full impact of these changes from a wider Central European perspective (cf. Lenger, 2014).

1.2 The Institutional Perspective

The above chronology is sketchy at best. However, it is nearly impossible to achieve a synthesis in institutional terms. The research upon this topic is currently limited. More material has become more available, but a comprehensive synthesis is nowhere in sight at the time being.

Thus, we can only make three general observations:

First, that the pre-war period experienced a slow accumulation of overlapping regulations stemming from a wide array of different laws and codes. This process contributed to a complex relation to the growing complexity of Bucharest (cf. Lascu, 1997);

Second, that planners working during the interwar period were the first to draft building and zoning ordinances from a scientific perspective, although they were working in a regulatory planning system centred upon private property (cf. Lenger, 2014);

And third, that planners working under the socialist regime had to deal with significant political pressure (cf. Olteanu, 2013). They responded by drafting dogmatic methodologies, while at the same time dispensing with much of the traditional interests that blossomed during the interwar period.

This fragmentary evolution brings us to the present day, which is characterised by a crisis in the field of urban and spatial planning, as well as by an increased number of competing interests, across which municipalities find it increasingly hard to manoeuvre. This institutional insufficiency is further complicated by a fragmented, and sometimes conflicting, set of planning laws.

1.3 Conceptual and Theoretical Framework

Our conceptual framework is shown in Figure 1. Thus, the new Master Plan lies at the intersection of four fields: the field of urban planning, containing regulations and management; the structural field, encompassing the link between planning and its associated infrastructure; the functional field, which connects actors to opportunities by permanent assets; and the municipality, and, finally the GIS interface, which is merely a tool in support of the municipality.

It is plain to see that such a complicated figure is difficult to frame in the the perusal of the dedicated literature, we have settled upon three theoretical metropolitan functions, as developed by Blotevogel (Blotevogel and Schulze, 2010) (Bege, 2010); the incipient theory of demand oriented urban life cycle management (2010), as well as some insights stemming from the science of networks (Thompson, al., 2006; Newman, 2010). The theory of metropolitan functions links the urban scale, while the theory of demand oriented urban life cycle management links the level. However, both theories lack a clear operational character. Hence, the provided by the science of networks.

Nonetheless, reframing the conceptual framework in theoretical terms proved a for two main reasons: first, because all three theories are in their infancy, a one hand, we still ¹lack data, the other, because available datasets display insuffi

Take for example the theory of metropolitan functions: Bege (2010) uses two s measure the three metropolitan functions, i.e. the decision and control functi competitiveness function and the gateway function. The difference between the t a question of size: while reduced set uses 90 indicators, the extended set use option surpasses the information we currently have. Hence, we shall have to insights gained from each theory as we continue constructing the architecture of

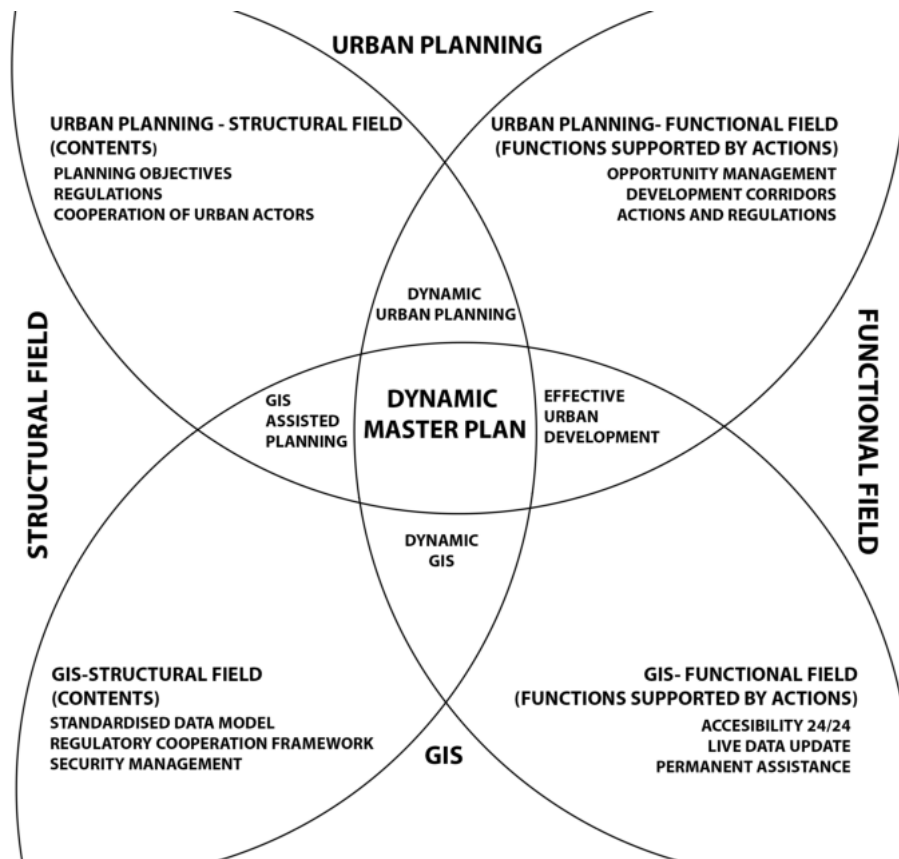


Figure 1. The Concept of the New Dynamic Master Plan
Source: The Authors.

¹ Cf. section 2.2.

2. Methodology

As this is still work in progress, this section contains a set of ideas, which will be in support of our model. As the research matures, a full account of our progress will contain an extensive methodological section.

2.1 Research Strategy

Compliant with current planning legislation, the new Master Plan has to evolve through three stages: first, there is a background study phase, aimed at rendering the current situation as well as its future prospects. This is then followed by a second stage, in which a set of regulations is constructed, in order to provide a consistent and coherent coverage for future situations. In its third stage, the Master Plan undergoes administrative review by the ministries concerned with spatial development and environmental matters.

We now find ourselves in the midst of the first phase, in which a series of background studies have been produced. However, the deadline for this first phase is well beyond the schedule. Against this background, the research supporting the architecture of the new Master Plan is necessarily limited, both in scope and in depth.

Nonetheless, we have managed to construct a system of problems that will require special attention within the model (cf. Lehnerer, 2009/2013):

1. The problem of clearly delineating public and private interests. In the current situation, this problem translates into the difficulty of creating building and zoning regulations that will have widespread acceptance. This issue is fundamental to any urban intervention because, while the right to property is a fundamental right, stipulated by the Romanian Constitution, on the other hand, there is currently no Urban Planning Code to moderate this right.
2. The problem of mediation, which stems directly from the problem stated above. In pragmatic terms, the model should allow for constructing a negotiation mechanism between public and private interests. This is a stringent requirement, as the Bucharest situation is subject to increasing pressure from private interest groups. Hence, in the model presented in this paper, we have started work on an additional mediation operation mechanism to aid future mediation efforts;
3. The problem of over-regulation and arbitrariness. We have tried to guard against these risks within the model, by focusing on indicators that tolerate mediation and the private interest². However, we feel that there is still much work ahead in this area.
4. The problem of relevant thresholds. This problem is mainly economic in nature. It is usually a very fine line between efficiently enforcing public interest and private interests. Hence, the three tiered-structure of our planning regulation system is of great interest.

All four problems are of a great operational interest. If we manage to succeed in converting the current haphazard development path, which has characterised the city of Bucharest over the last century, towards a more resilient trajectory (cf. Birkmann, 2004; Dro, 2004).

² Cf. section 3.

2.2 Data Quality and Collection

At present, the process of collecting data is incomplete, as about 70% of the data is missing. More specifically, we have received a few dozen datasets, over a period of half, and we are currently waiting for the rest. However, the real problem lies with data which is distinctly uneven.

First, there is the problem of an insufficient level of detail. To illustrate this, the National Institute of Statistics (NIS) generally works with datasets pertaining to the census tract level. Nonetheless, except for coarse-grained analyses, the census tract level is almost

Then there is the problem of accurately delineating private and public property boundaries. Although progress has been made under the INSPIRE Directive (EP and C, 2007), there is still a need for improvement in this field. Nonetheless, as the project progresses, we believe that the data will be bound to improve.

And finally, there are some important areas in which data is not even collected. The foremost example in this sense is commuting information. In such instances, we seek to supplement other studies, which were supported by fieldwork.

In spite of all these issues, even the data we have received thus far requires evaluation. Now, most background studies have managed to produce some workable images of the city of Bucharest. However, they do not have the accuracy needed to test the feasibility of the model currently working on this issue.

3. Results

The model we have constructed for monitoring and controlling planning regulations is shown in Figure 2. Upon closer inspection, the image reveals that the model works with four scales: namely the city, the district, the zone and the plot. Each scale has a distinct set of indicators to seek to operationalise with the help of indicators.

Thus, at the city level, we work with four related concepts: mobility, inhabitation, zoning and four concepts are related to the concept of zoning, in the sense that the model seeks to specialisation and the structure of the built environment. Practically, they seek to existing and possible concentrations, which need to be taken into account.

The ensuing level is the district level. Some of its characteristics overlap with the city level, i.e. characteristic densities, inhabitants and jobs. However, some additional characteristics such as the functional character of each district and its capacity for sustainability are expressed in the coverage and quality of the existing infrastructure of public utilities.

One level lower, the regulation zone is the working unit for the model, in the sense of a sort of density and distribution regulator (cf. Lehnerer, 2009/2013, p. 12). It regulates authorised and unauthorised functions, as well as general morphological indicators. Its characteristics include its building capacity, the building's position, its height and its area. Most of these indicators have minimum and maximum acceptable values, thereby touching upon the problem mentioned earlier.

³ Relevant indicators for this category include Lot Surface (LS), in relation to property lines, and Lot Depth (LD), and Curb Cut Spacing (CCS).

⁴ For this second category, the relevant indicators include Lot Coverage (LC), Floor Area Ratio (FAR), Rear Yard Depth (RYD), Side Yard Width (SYW), Building Distance (BD), and Driveway Width (DW).

⁵ Examples are Building Height (BH) and Street Wall Length (SWL).

The lowest operational level consists of the plot itself. It inherits most of regulation zone, and subsequently adds a few more to them, like the required spaces per lot and the amount of area that needs planting.

Essentially, the model has the following workings: from a top-down perspective, interplay of districts, thereby acting as a typological framework. The districts are regarded as classes within this typology, thus setting the general characteristics of the zones. At this level, however, another, bottom-up perspective steps in, which connects the regulation zone with the characteristics of the individual lot.

According to each zone's specific attributes, it then enters into one of the three types, namely, firm regulations, flexible regulations or strategic guidelines. However, each type of regulation is still a matter of debate within the team, as it has to be implemented through legislation, without sacrificing the innovative character of the entire system.

4. Conclusions and Open Questions

Conceptually, the model described above has the capability of providing partial solutions to the problems mentioned in the methodological section. Specifically, the first two problems, defining and mediating between the public and the private interest have two basic options. First, there is the option of direct public investment in properties and belonging to the public. Second, there is the option of negotiation, which is supported by allowing flexibility within each regulation type. Thus, if the plot structure allows it, an increase in public investment is traded off against the provision of targeted public amenities within the boundary of the regulation zone.

The latter two problems are more technical in nature, and we do not have an exact solution at least for the moment, because of the following two reasons: First, because the model is still under development, has not finished yet, and second, because not all the relevant background studies are available. Thus, for the time being, we still lack the morphological study, as well as the data on land mobility and economic development.

However, we do have a list of open questions, to which we shall return as our research progresses.

First, there is the question of whether we can connect our model to the existing metropolitan functions, incipient as it may be. A successful connection would enhance the efficiency of metropolitan planning, which is currently hindered by institutional frictions;

Second, we are still uncertain whether the model is clear enough for practical good use by the municipality (cf. Selle, 2005);

And third, we have not fully grasped the impact this approach will have on urban planning legislation. We do hope, however, that it will trigger a mutation in Romanian planning culture and planning practices.

⁶ Nonetheless, until we do not have a clear situation of the exact properties available to the municipality and location, we cannot form a clear picture of the scale of such public investments. Furthermore, there is no information about a land acquisition programme run by the municipality to date.

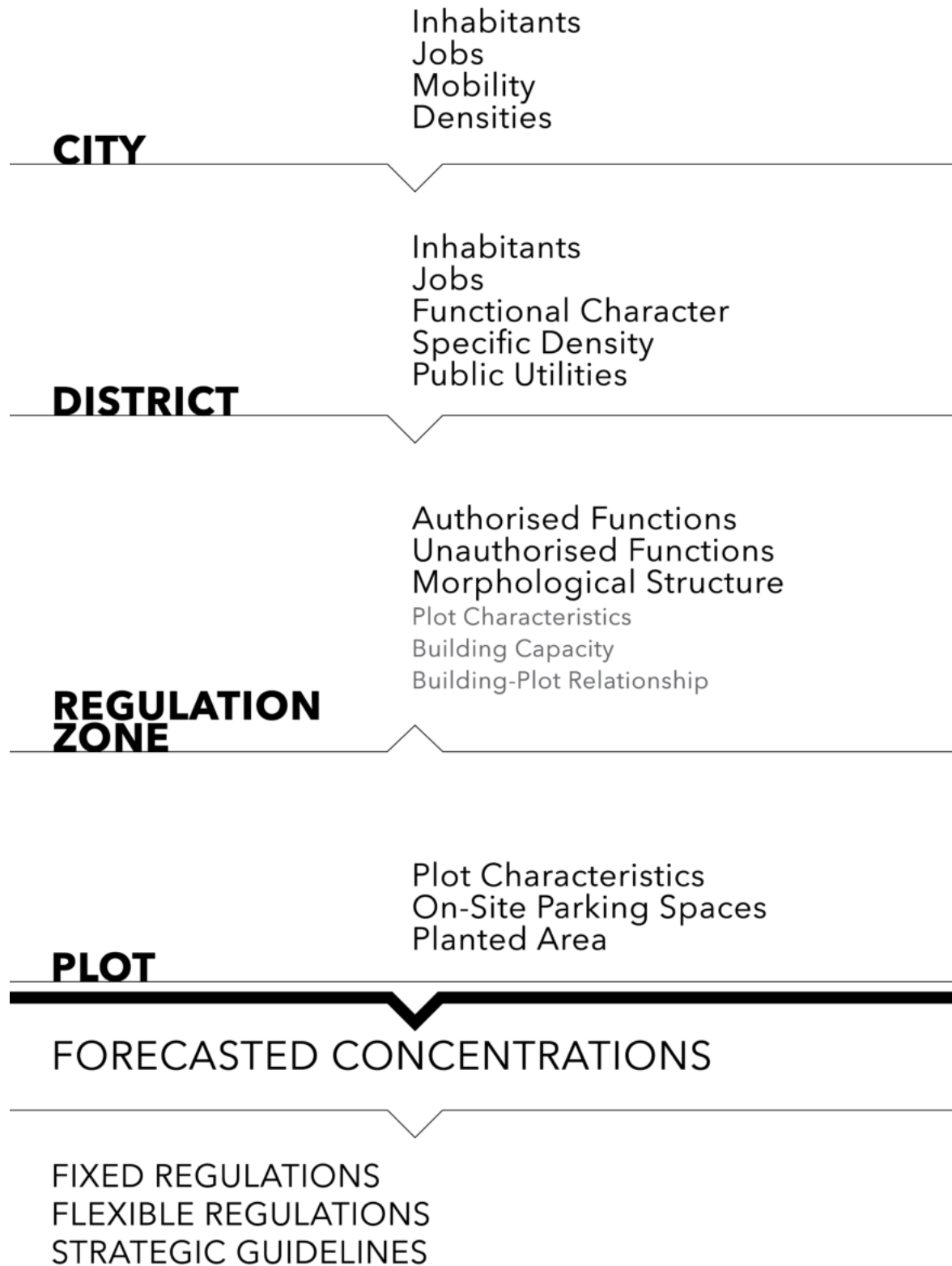


Figure 2. The Architecture of the New Planning Regulations
Source: The Authors.

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