Urban Sprawl of Major Cities in the Baltic States
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ABSTRACT. The debates on the negative consequences of extensive growth of cities increasingly occur all over the world. However, cities continue to sprawl. Baltic cities, as well as other cities in Central and Eastern Europe, are not the exception. This article seeks to establish better understanding of processes, which shape the current development of the Baltic cities and tries to develop explanations, which would be useful in distinguishing features of urban sprawl of the major cities in Lithuania, Latvia and Estonia.

KEYWORDS: urban sprawl, suburban development, post-Soviet city, Baltic States.

After a century of modern urban planning, debates on the negative consequences of extensive growth of our cities increasingly occur. However, cities continue to sprawl, and the Baltic cities are not the exception.

The growth of major Baltic cities has been severely limited in the second half of the 20th century. During that time, focus was placed on economic and socio-cultural benefits of polycentric urban systems [1]. Although the concept of polycentrism has not been denied and currently is one of the priorities of regional development in the EU [2], further theoretical and practical development of even distributed central cities in the Baltic States has become problematic in the context of market economy and globalisation processes [3].

Current growth of Baltic cities is highly affected by market forces and individual choices of residents. Therefore, their urban development inherits some features of Western cities. One of them – more and more people are choosing to live in suburbs and this results in diverse changes of peri-urban areas. These recent trends in urban development of Baltic cities require more attention and are described in this article.

The article seeks to establish better understanding of processes, which shape current development of the Baltic cities, and tries to develop explanations, which would be useful in distinguishing features of urban sprawl of the major cities in Lithuania, Latvia and Estonia. As causes and consequences of urban sprawl are discussed in the article and illustrated with facts about expansion on Lithuanian cities since 1990, the special emphasis is placed on the causal links between legal and methodological characteristics of urban planning and its impact on physical and functional structure of urban areas. Also similarities and differences between urban planning of Western cities and current development tendencies of major cities in post-Soviet countries are considered.

I. URBAN SPRAWL: CAUSES AND CONSEQUENCES

While debate about urban sprawl is mostly active in United Stated and some other countries of Anglo-Saxon urban planning tradition, recently it started to gain more attention in continental Europe [4, 5]. The main goal of these studies is to clarify the causes of extensive urban development and capture resulting effects of the phenomenon – formation of urbanised regions, which span cities and large rural areas around them. Although the suburban growth is as old as the city itself [6], it has never been so intense and causing so much damage. It is now recognised that modern suburbia is no longer just a complementary area, which highly depends on the city. It has become a self-sufficient territorial unit though closely connected with the city. Therefore, peri-urban areas now are comparable to traditional urban and rural environments and can be equally studied and planned [7, 8].

The main principle in the case of analysing an intermediate zone between urban and rural areas is a holistic approach, which allows explaining the phenomenon and looking for the organisational and functional logic in peripheral urban areas [9].

It is generally accepted that main contributors to extensive urban development throughout the 20th century were variety of economic (land speculation, tax policy, mono-functional land use planning) and technological (development of transport infrastructure, mass usage of cars) factors. However, according to R. Bruegmann, the history of urban sprawl suggests two factors that seem to be most closely linked with sprawl: increasing affluence of citizens and political democratisation [10]. This empowered people to take individual decisions on their place of residence, work, etc. These choices have led to the formation of extensive urban development patterns that we observe today all over the world. In actively developing and transitional countries, to which the Baltic States can be attributed, processes of urban change are particularly vivid. In some cases, urban development in these countries is not related to planning efforts and is generally led by private and commercial interests, active real estate market and directly or indirectly encouraged by public policy decisions [11].

The negative consequences of contemporary urban sprawl are usually divided into three groups: economic, environmental and social. Economic consequences are generally linked with the transformation of functional structure of a city and the surrounding region, e.g., a city can lose various activities, which determine its economic viability (industry, commerce, etc.). The dispersion of urban structure also increases public expenditures. The most significant environmental problems caused by urban sprawl are associated with substantial land use changes in the peri-urban areas: diminishing agricultural activity, changing suburban landscape and its ecological and aesthetic structure. Urban sprawl is also blamed for the amount of pollution generated by longer commuting distances. The most common social implications are changing social values of the society (consumerism) and potential social conflicts between the newcomers and other residents in the suburban settlements.

Overall, the urban expansion of cities is criticised for the inefficient use of energy and other resources and, especially in the context of Europe, is blamed for the erosion of culturally strong image of compact European city [4]. However, urban sprawl is a process of urban change that is not occurring only on the outskirts of the city. It equally affects the central city, suburban areas and distant exurbs. Therefore, in order to manage this process it is
necessary to address strategic planning efforts at the level of the city and its functional region or other higher-scale territorial formation [5, 10].

II. THE BALTIC CASE: SOME FACTS ABOUT THE SPRAWLING OF BALTIC METROPOLISES

Urban sprawl of major cities in the Baltic States is mostly analysed in the context of urban development trends in post-Soviet countries in Central and Eastern Europe [12, 13, 14]. Recently, local researchers (mainly urban geographers and city planners) have also expressed interest in this topic. Usually the studies focus on capital cities and their metropolitan regions, which experience major transformations: Vilnius [15, 16], Riga [17, 18] and Tallinn [19, 20, 21]. The amount of information on the current development of Baltic and other post-Soviet cities allows for further discussions about urban sprawl of major cities in the three Baltic States: distinguishing specific causes and consequences of the phenomenon.

Changing form of Baltic cities: urban development since 1990.

After political changes in 1990, the urban development of Baltic cities and towns have ceased the former course. Although the polycentric urban systems, which more or less have been developed during the Soviet period in the Baltic States, are identical to the decentralised concentration conception, which is escalated in the EU planning doctrine [22, 2], the further centrally governed development of networked regional urban centres has become impossible. The main reasons were identified as follows [3]:

- there was no more opportunity to accumulate vast resources for the rapid development of central cities;
- public and, particularly, private investment processes could not be directly controlled or accurately predicted;
- competition emerged between cities within the country and cities in much larger cross-border regions.

Thus, previously centrally planned Baltic cities, which inherited relatively compact urban structure, had to adapt to a completely different political and economic situation. Land privatisation, decentralisation of governance and competition at the local and global level were essential features of this new reality. The further development of physical structure of Baltic cities was also affected by economic restructuring, deindustrialisation, negative demographic trends, traffic problems and, of course, “planning vacuum” [23, 24], which could be explained as the lack of planning standards and incompetence of local government, which was responsible for controlling land-use development processes in the cities and around them. According to N. Pichler-Milanović [24], understanding that urban development, which has been quite strictly controlled in the socialist period, shall again be governed by the planners has been observed only since 2000. Until then, urban and regional planning has been neglected because of the priority being placed on economic reforms, economic regeneration and the connotations of such planning with the former Soviet regime. All this has led to the deregulation of urban development and the strengthening of private capital role in the urban development processes [25, 26, 27, 28]. The latter has been one of the driving forces behind urban dispersion processes of the major cities in the Baltic States.

Various political, economic and social factors have undoubtedly changed cities and their physical form. Although the above-mentioned external factors of urban development have been similar throughout the Central and Eastern Europe, local characteristics of countries and cities have resulted in some differences and this allow us to talk about the transformation characteristics of cities in the Baltic States [26, 29].

In recent decades, post-Soviet cities have been exposed to multiple transformations: institutional, social and physical-spatial [30]. The main processes currently affecting post-Soviet cities are intense commercialisation of city centre and suburbanisation of its periphery [15, 31, 32, 33, 34]. However, these processes did not occur immediately after the political changes in the 1990s, but emerged gradually. The past two decades of urban development in the Baltic States can be divided into two phases.

The first decade of independence of the Baltic States did not produce the intense external urban development. There were several reasons: uncompleted institutional reforms, unfinished land restitution, low income, etc. Even if the demand for good quality housing was great, at that time only some people, most of whom lived in flats with deteriorating physical conditions in large-scale housing estates, could afford to improve their quality of life. Some movement of lower socioeconomic status city dwellers to the suburbs emerged primarily due to economic circumstances or because the restitution policy enabled them to become property owners elsewhere [18, 35]. Urban development of the Baltic cities at this stage can be partly characterised by greater residential constructions close to the city administrative border or within it, and around peripheral rural settlements. Many of these houses were constructed at expenses of their own residents and sometimes remained incomplete for a long period of time [25]. In fact, the first decade of urban development of the Baltic cities was marked mainly by active commercial development as elsewhere in CEE, rather than residential boom on the city outskirts [23, 32]. Generally, commercial constructions took place on the edge of compactly built city centres as land ownership was clearer there. Similarly, this type of construction appeared near the main transport arteries and in voids left by former urban planning practice (large open areas between residential districts were typical feature of urban fabric in post-Soviet cities) [26].

Urban development of the Baltic cities during the second decade of independence was somewhat different. Completion of institutional reforms, adoption of laws regulating urban development, and nearly finished land restitution enabled residential constructions, which were restricted during Soviet period, to expand in administrative areas of cities (Figure 1) and in the areas adjacent to them. Therefore, single-family houses were started to be built rapidly with most noticeable changes taking place on the outskirts of the city and former areas of allotment gardens [26, 35, 36, 49]. Later, the state housing policies, availability of bank loans and other factors stimulated the construction of multi-family buildings and they began to dominate in housing market (Figure 2). Usually they were built as economy-class apartments near Soviet housing estates [26]. However, the majority of housing units in one or two apartment buildings were built in large cities and municipalities adjacent to them.
This trend highlights the growing and stagnating regions in the Baltic States, where growing municipalities are characterised as having the largest activity in real estate market, higher land prices, more intensive land use patterns and population, which is not primarily engaged in agricultural activities, but is dependent on labour market in the urban areas [15, 18]. This also demonstrates that functional regions of major cities are more vivid than expected by local politicians [2, 15]. New suburban housing types emerged in the 2000s as well. Although single-family houses were continued to be built randomly and in leapfrogging patterns, now this was done in larger groups, which sometimes assumed characteristics of gated communities [38, 39].

The second decade also showed a significant trend of agricultural areas massively being converted and divided into smaller residential plots. Therefore, the outskirts of the cities were dotted with billboards offering to buy small pieces of land in the vicinity of nature, which actually was yet another abandoned agricultural field. These processes raised concerns about loss of fertile land, which was speculatively devoted to suburban housing even if there was no real need to do so [40, 41]. However, some urban researchers noticed that the chaotic character of suburban areas was damaging spatial representativeness of Baltic cities [42].

As soon as unsustainable patterns of the sprawling of Baltic cities became visible and studies on motivations of suburbanites proved that the majority of them represented educated, middle- and higher-income residents, this encouraged some urban scholars to predict pessimistic scenarios of future development of cities in the Baltic States and other Central and Eastern European countries. They used typical deterministic rhetoric often applied by critics of North American cities [17, 43]. But this is just one of the post-Soviet urban development scenarios. The difference is quite significant [23, 34]. As some researchers observed, suburbanisation of post-Soviet cities was not such a massive phenomenon as in the Western countries [32], and resulting changes of suburban landscape were not severe. This is explained by the fact that rural population after political changes and economic turmoil in the 1990s had an alternative – they could immigrate to Western European countries instead of moving to larger cities [26]. As the total population of Central and Eastern European countries is stagnating or even rapidly declining, suburbanisation is characterised by redistribution of residents at the expense of the urban population [23, 32]. In some countries, it is understood as a threat to the viability of cities. Therefore, cities fight against this by enabling low density residential development in their administrative areas [27], or even encouraging suburban lifestyle as a feature of modern information society [34]. So, what is the current form of the post-Soviet city?

A post-Soviet city is often referred to as different from its western counterparts. The main difference mentioned is that in the last years of Soviet regime, these cities did not have low intensity built-up residential areas, which were specific to the Western cities. Also their urban structure was not dominated by urban commercial facilities. The Soviet city had a sharp edge, and its urban fabric was mainly characterised by two parts: the historic centre and large housing estates on the periphery. Current form of post-Soviet city is conceptualised as consisting of three up to four rings [31, 33, 34, 44]. This implies the compactly built-up centre, middle part and suburban periphery. The fourth ring is sometimes identified as the functional urban region [45].

Since, the Baltic cities had mostly expanded during the second half of the 20th century under the Soviet regime, they inherited features attributable to the post-Soviet city. Therefore, the Baltic city can be described as a structure consisting of three rings (Figure 3) [15, 26, 46]. In this case, the central part is a result of city’s organic growth till the middle of the 20th century. It spans the old town and other older neighbourhoods (historical suburbs), new town with rectangular street pattern, historical quarters of villas, etc. Recently this part of Baltic cities has been affected by the establishment of new commercial and administrative centre (CBD). It is often stated that the valuable fragments of pre-Soviet urban structure survived the period of Soviet urban development because they were partly neglected and forgotten [34, 46, 47]. The second half of the 20th century in the Soviet city was dominated by the construction of large housing estates on the periphery, which formed the foundation of the middle part of Baltic city.
This area is also characterised by large forest parks, situated between residential estates, isolated industrial areas, specialised complexes (hospitals, universities, etc.). The middle part is not static. There are also some new elements, which have been built in recent decades: commercial and entertainment centres, new apartment buildings, etc. Suburban periphery is often referred to as the most recent area of post-Soviet city [29]. Its physical fabric is framed by historical homesteads and villages, garden communities, newly built quarters of single-family houses, highways, modern warehouses and logistics centres, recreation complexes, etc. There are also many open spaces, which formerly dominated throughout suburbia: fragments of agrarian and natural landscapes. This multi-functionality is one of the unique features of the urban periphery [7, 48].

Current trends of urban development of major Baltic cities allow presuming the emergence of the fourth structural ring – the outer suburbs (exurbs). This area, which is located more distantly from the city centre, is still affected by suburban development processes, but they are concentrated close to the existing settlements and do not expose unsustainable dispersal patterns or at least they are not so extensive.

Some evidences of the sprawling of Lithuanian cities.

The major changes, affecting Baltic cities and their peripheral areas, can be shown by statistics of residential construction. The difference between granted permissions and actually built residential units (buildings or apartments) can convey actual commercial interest of private land owners and real estate developers at different municipalities (Figure 4). Intense residential construction in the Baltic States, as well as in other post-Soviet countries, for reasons already mentioned, has begun since 2000. Residential construction mostly took place in the urban areas. For example, during the 2000s, 67% (51200) of total new housing units were built in the 6 major cities. However, active residential construction was typical to suburban municipalities, located adjacent to 6 major cities, and in the resort municipalities (Druskinkinkai, Palanga, etc.).

According to the Statistics Lithuania, 6 major cities (Vilnius, Kaunas, Klaipėda, Šiauliai, Panevėžys, Alytus) occupy only 1.3% of the country’s area, but in 2000–2011 there were granted up to 30% (18950) permits for residential units in one or two apartment buildings and 87% (43660) permits for flats in multi-family buildings. During the same period, in these cities there were completed 35% (12290) of all residential units built in single-family buildings and more than 90% (38920) of units in multi-family buildings.

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and this leads to assumption that the negative effect of housing development, particularly, on visual-aesthetic quality of suburban landscape can be even higher.

Whether new construction of residential buildings appeared in the vicinity of existing settlements or as greenfield investment on former agricultural land, requires more data and has not been evaluated. However, both types of residential development are identified around Lithuanian cities [49]. As studies of urban development in countries of CEE have shown, urban sprawl of cities is even stronger related to commercial development [23, 32]. However, the scope of this article did not allow for such studies to be carried out based on Lithuanian cities.

Comparison of the scale of residential construction with current demographic trends produces an interesting image (Figure 5). As the major Lithuanian cities and their suburban municipalities show relatively higher activity of residential construction than the national average, it can be assumed that a greater or lesser expansion of urban fabric occurs [49, 50]. The difference between urban sprawl processes in cities and their regions can be identified by pointing out particular patterns of population migration within the urban regions. There are three main types (Figure 6):

- **Type 1**: Urban growth with suburban sprawl. The city sprawls rapidly into the suburban areas, while the central city and suburban municipalities experience population growth. This type is most appropriate for the capital city (Vilnius), which undergoes permanent inflows of people from all over the country. Population redistribution in the urban region takes place due to “spillover effect”, which can be described as a process, when due to the lack of quality housing in the city, part of the population chooses to move to suburbs and their residential units are occupied by newcomers. However, the economic dominance of the central city in the region retains suburbanities to be highly dependent on city services.

- **Type 2**: Urban decline with suburban sprawl. The city rapidly expands into the suburban areas; however, the city’s population is shrinking and population of the suburban municipalities is growing at the expense of urban core. This type characterises urban sprawl around other two Lithuanian major cities – Kaunas and Klaipėda. Sometimes this type of urban sprawl is referred to as a “doughnut effect”. Here also due to the lack of quality housing in the city, the population is moving to more attractive areas of suburban municipalities but remains dependent on city services.

- **Type 3**: Urban erosion with suburban sprawl. The city expands into the surrounding territory of the municipality, but both the urban core and the suburban municipalities suffer from population shrinkage. This type is characteristic of the rest of large Lithuanian cities and their environs – Šiauliai, Panevėžys and Alytus. Here the population decreased significantly due to emigration and migration to other cities, but cities still experience some degree of urban dispersion. Urban sprawl here is partly induced by the general economic downturn of the region (unemployment, low income, deteriorated living environment, etc.) that motivates people to move into suburbs or migrate to other major urban centres.

As shown, Lithuania is a relatively small country, but there were identified a few different types of urban sprawl. A variety of urban development cases are characteristic of CEE countries and the Baltic States are not an exception [5], and this emerges due to the specific context of particular countries. This implies the uniqueness of urban culture in these countries and differences in practice of urban planning, which is largely determined by government acts. In case of Lithuania, the urban expansion and resulting change of suburban landscape occur mainly because of the lack of proper planning tools, which could be used to coordinate the extensive growth of urban regions [50]. Municipal master plans disregard current demographic trends and still allocate large areas for residential use, even if there is no real demand for that, expect legal expectations of land owners. It is calculated that while applying population density, which is typical of the European cities (30 inhabitants per hectare), the city of Vilnius can settle twice as many people as it has now; the number of residents in Vilnius district can be quadruplicated, in the city of Kaunas it can be 1.4 times larger, and in Kaunas district – 2.5 times larger [49].

It can be argued that the approved master plans of suburban municipalities have legitimized the urban sprawl of major cities in Lithuania and even further are encouraging expansive urban development. These plans appointed large plots of former agricultural fields on the outskirts of cities, likewise areas adjacent to the existing suburban settlements and in scenic rural locations to low density residential constructions. This basically does not allow for the coordinated planning of the city and its peripheral areas (Figure 7). If the outer expansion of major cities continues to be a dominant trend (e.g., high demand for quality housing will encourage real estate developers to promote projects of suburban housing), there will be a need for urban planners to start widely address some important issues of this type of urban development. For example, what form of suburban residential areas is more sustainable and appropriate for Lithuanian cities? Thus, we need to prepare to deal with the consequences of uncoordinated urban development and try to improve the current negligent urban planning system.
CONCLUSIONS

The current extensive urban growth of major cities in the Baltic States is often discussed and analysed as the legacy of urban development of the Western cities [17, 43]. Due to globalisation effect, local urban differences are slowly disappearing and our cities and especially suburbs are becoming much alike.

However, urban sprawl processes of cities in Central and Eastern Europe, and in the Baltic States as well, are slightly different than in the rest of Europe [5]. The development of Baltic cities in recent decades can not be studied apart from their historical evolution and current demographic tendencies. As a result, we must talk about “the Baltic Case” of urban sprawl and study it as an exclusive process of the development of Baltic cities, which is, possibly, acquiring a distinctive spatial character.

The frequently mentioned factors responsible for the excessive urban growth of Baltic cities are increasing living standards, land restitution, the desire for home ownership, active real estate market and mortgage policies. This set of factors is yet complemented with a significant lack of coordination between authorities of major cities and suburban municipalities in urban planning processes [27, 37, 49, 50], causing severe economic, social and environmental problems [15].

Currently the most visible trend in the growth of major cities in the Baltic States is the fragmented development of peri-urban areas just outside the existing urban fabric. Usually these new developments are irrelative to essential topics of contemporary city development, such as planning of transport infrastructure and public services, protection of agricultural and natural landscapes. Expansion of low-density residential areas into suburban locations is highly criticised by urban scholars due to the lack of a special aesthetic expression and environmental quality [15, 17, 27, 37]. In addition, the extensive development of residential areas on the outskirts of Baltic cities is mostly driven by private and commercial interests and not based on any demographic presumptions [49]. Consequently, the urban development of major Baltic cities generally assumes the characteristics of a phenomenon called “sprawl without growth” [52], which defines the extensive urban sprawling in the context of rapid demographic and economic decline.

In most cases, the Baltic cities have inherited an urban structure, which is typical of cities in post-Soviet countries. Urban fabric of post-Soviet cities is characterised by the structure of three rings: a compact central part with the old town, an extensive middle part dominated by large housing estates and recently emerged suburban periphery [34, 44]. The current form of Baltic cities is mainly influenced by commercialisation of the central part and, in particular, intense suburban development [15], which, as attempted to be shown in the article, was enabled by local authorities or at least proceeded uncontrolled, because urban planning was understood as a simple survey of needs of land owners and real estate developers, and not as a process of multi-dimensional decision making with long-term consequences.

Just as the urban sprawl of the Baltic cities is planned, so it can also be controlled. Certainly, the negative demographic trend is one of the most important factors, which should be considered while defining urban development patterns of the Baltic States.
in the 21st century. The three types of urban sprawl, identified in the article, suggest some basic opportunities for sustainable development of the major Baltic cities in the future. For example, the sprawling of capital cities, which also experience the economic growth and stable or increasing population level, should be developed in close cooperation with neighbouring urban and suburban municipalities. The main purpose of this planning coordination is to stabilise the inflows and outflows of population and to establish measures of sustainable urban growth. In this case, more attention should be devoted to the interests of the dominant city and its role in the urban region. In the case of other major cities, which experience population losses and intense suburban growth, special attention should be addressed to stabilise the economic and demographic situation of declining urban core. This can be achieved by establishing specific measures to promote the attractiveness of the city’s image and improve the living conditions in the central city. Thus, the surplus of suburban growth should be guided to a few locations of suburban municipalities, mainly to the smaller towns or rural settlements, which could become the secondary centres of urban region. This could reduce the imbalance between the central city and its periphery. In the case of Baltic cities, which are affected by significant population decline both in the central city and suburban municipalities, there is a need to develop more radical planning tools, for example, to employ specific measures, which can enable the “smart shrinkage” of these urban regions and ensure that they will remain relatively robust in the context of negative economic and demographic trends.

There is a possibility that a variety of cases of urban sprawl in the Baltic States, as in other post-Soviet countries, will remain. Therefore, the conceptual modelling of urban sprawl processes in the Baltic cities can become meaningless. Major changes in the urban planning systems can make a difference. For example, the expansion of settlements can be severely restricted because of the negative demographic trends. However, such decisions may be useless, because this can interfere with development processes of major cities and countries, which are currently experiencing some economic difficulties. It is likely that the urban planning system in the Baltic States will continue to be liberal, and the patterns of urban development will sustain more or less spontaneous nature. However, more emphasis will be attributed to measures that should help to make development of the Baltic cities more sustainable in socio-economic, environmental and aesthetic sense. Therefore, the patterns of urbanisation in the metropolitan areas of major cities will become important objectives of urban and regional planning and policies that intend to sustain a more compact urban form of post-Soviet cities [32].

In conclusion, it can be surely stated that the current development of the Baltic cities is mainly influenced by private needs of property owners and commercial interests of real estate developers, rather than long-term priorities of the society. This has led to a great need to discuss the evolution of the Baltic cities, and especially the causes and consequences of the recent extensive growth. As shown in the article, urban scholars in the Baltic States are greatly concerned with priorities and principles of contemporary urban development, but these debates and their results so far do not induce practical actions.

**REFERENCES**


