

Contemporary Challenges in Planning for Shrinkage of Historic Places: A Review

Sarmīte Barvika¹, Edgars Bondars¹, Santa Bondare²

¹Riga Technical University, Riga, Latvia, ²BA School of Business and Finance, Riga, Latvia

Abstract – Urban shrinkage is among of the most dangerous current risks for the preservation of liveability (e.g. residential function) in formerly prosperous historical residential and industrial districts. The planning for shrinkage emerged only in the 21st century in order to manage and prevent growing urban decay, depopulation and housing crisis through the application of smart structural adjustment policies and planning instruments for formerly heavily industrialised North American and Asian cities. Both shrinkage and liveability planning are still very “fuzzy” concepts and have been applied in ways that are not always consistent (e.g. for measuring decline, migration, demographics). However, remains the question of what (methods or approaches) would prevent (control) this well-known but evidently “wicked” and still less explored phenomenon of “loss of liveability” in a historical built environment. This paper aims to review the urban shrinkage and liveability problematic and prevention solutions (methods) based on studies of theory and practice of urban planning.

Keywords – Liveability, smart shrinkage, sustainability, urban planning, wicked problems.

INTRODUCTION

In the last quarter of the 20th century, 25 % of cities worldwide and one-third of European cities with more than 0.2 million inhabitants experienced irregular habitation and notable population decline (more than 2–10 %) and tax base loss in a short or middle term period due to complex direct and indirect spatial, geopolitical, economic, technological, social and local reasons [1]–[3].

Despite the projecting for overall growth of global urban population and economics in upcoming years, worst case shrinkage scenarios (with more than a 5 % population decline) are forecasted in a large number of historical and industrial cities in North America (e.g. Rust Belt cities), Europe (e.g. Rome, Porto, Leipzig, Venice, Milano, Vilnius, Riga) and Asia (e.g. industrial regions of China, Osaka, Hyogo, Kyoto) [3]–[5].

Shrinkage in the context of liveability of historical urban places (e.g. vicinities, boroughs, and villages) came to the top of recent global urbanization problems mostly due to consequences of urban sprawl on the quality of urban life and the standard of living [6]–[8].

An overall dissatisfaction of the citizenry has been observed in regard to the following factors:

1. urban economics (access to jobs, basic services, health-care, education, transport, and affordable housing);
2. deterioration of living conditions in connection with the burden of living costs (assurance of essential amenities and the standard of living);

3. heavy dependence on automobiles in order to access essential things (e.g., work, school, medicine, services);
4. decline in the quality of life for individuals and households in connection with the loss of emotional comfort (stress, cultural discomfort, wasted time due to transport problems, urban pollution and segregation) [9]–[11].

There is then a high risk of environmental, social and cultural degradation in the historical built-up areas. The loss of liveability is the most common reason for the formation of environmental degradation – brownfields. Evidently, residential buildings in historical areas are occupied to a lesser degree than in new dense districts [10], [12], [13].

26 % of the residential building stock of the European Union (55 million buildings) were built before 1945 [10], [13]. Most of the old buildings are poorly maintained, have a low value and very often contribute to poor aesthetic quality of open spaces and decrease the value of adjacent properties. Value capture instruments (investments in public infrastructure and space) have promoted a steep rise in residential property prices and local tax levies [10], [13]–[15].

Since the global economic crisis, contrary to the allegation of higher living standards, international organizations (e.g. the UN, Europe Commission, World Bank) have emphasized the frightening current trend and high risk for social-economic sustainability in all countries. The spread of poverty is observed also in wealthy countries in dense urban areas among the middle class in connection with a growing financial burden on households in regard to residence acquisition and maintenance, which could “exacerbate a vicious circle of long-term social exclusion and segregation” (e.g. a risk of formation of a “liveability gap”) [10], [12], [15].

Housing districts of different status and price level reinforce the occurrence of social segregation and homelessness [13]. In turn, many local residents have been forced to leave traditional locations and to settle, usually in socially less-prestigious housing, due to the growing financial burden on their current residence (e.g. the case of Brooklyn, New York) [10], [12], [13], [16].

In 2015, almost 6 % of Europeans and North Americans suffered from housing deprivation, exposing themselves to the risk of social and economic exclusion. 18 % of the population lived in overcrowded or unfit accommodation. 10 % of European households (almost 100 million people) faced excess housing costs, at a level of more than 40 % of their available income (levels of rent and energy prices are rising steeply, but housing benefits have been cut due to a pressure of governments debts). 32 million Europeans live in social housing (e.g. in Denmark 15 %) [10], [17].

Demand for social housing continues to grow due to social budget cuts (since 2010) and global migration (e.g. current refugee crisis). 120 million Europeans (e.g. families with minor children, single parents, pensioners, disabled people) were poor or at risk of poverty in 2014 [10], [13].

Nevertheless, only in the 21st century a remarkable shift in planning paradigm, theory and practice takes place from pragmatic, “market-driven” approach to a more “realistic” and “friendly for ordinary urban residents” scenario of “smart” or “controlled” shrinkage (e.g. Youngstown in the USA plan, 2005–2009) putting liveability issues of localities on the top of planning paradigm [2], [14], [16], [18].

Increasing number of problems on the current global social-political scene (e.g. Brexit issues, refugee quotas, global and local social-cultural conflicts, riots and urban violence) have shown that local issues of liveability have a strong “uncertainty and expectation management” context and nature, which means that liveability problematic must be addressed to wicked problems of the planning. [3], [15], [18]–[21].

Economists, scholars, and practitioners of this field have turned their attention to the immediate need for action in order to respond to this “vicarious crisis” by reconceptualising “population decline” as “shrinkage” and exploring new creative and innovative ways for cities to successfully shrink and maintain liveability [5].

Both shrinkage and liveability planning are still very “fuzzy” concepts and have been applied in ways that are not always consistent [1], [6], [9]. On the global scene, there is still no common methodology (criteria) how to manage, monitor and understand the mobility of people and its consequences for the urban development [1], [6].

This paper aims to review the urban shrinkage and liveability problematics (challenges) and prevention solutions (methods) based on studies of theory and practice of urban planning.

I. THE CONTEXT OF URBAN PLANNING EVOLUTION

It has been argued that up to the early 20th century, urban planning has evolved only as certain (periodic) actions or people’s payback in regard to acute socio-political crises (e.g. hygiene-related epidemics, natural disasters, fires, wars and riots) [13].

However, the roots of two major planning theories from the post-war period (a physical or environmental deterministic approach and a social approach) come from the contribution of Victorian (rent theory, rational planning), American (social reform and garden cities movement, blueprint planning, zoning, mass valuation) and European (central place theory, modernism movement) planning theoreticians and practices [13], [14].

A critical milestone in urban planning history was the USA Supreme Court landmark case “Euclid vs. Ambler” (1926) that ruled that the power to control land use comes only from police power [14], [22]. This case substantially bolstered urban zoning ordinances (zoning maps and regulation), first in North America and then worldwide [14].

In post-war planning practices Western countries followed up highly centralized and pragmatic (“top-down”,

“command-and-control”, “rationally comprehensive”, “the highest and best use and market value driven” and “bureaucratic knowledge controlled”) models of urban land use planning [14], [22].

An impressive, commutative turn in planning theory took place in the 1960s when planning models had started to represent both a trend to corporatism and democracy (“bottom up”, collaborative planning).

The worldwide recession of the 1970s marked a shift in policy focus to the structural economic causes of deindustrialization-led decline (e.g. history of Rust Belt cities in the USA) [14], [15], [23].

However, until the 1980s the blueprint planning was the dominant trend (e.g. France’s “plan d’occupation des sols”, the Netherlands’s “bestemmingplans”) [17], [24].

Until the late 20th century, urban planning was not distinguished from architecture. Also in the pre-war and post-war period, the largest cities were planned by famous professionally trained architects (e.g. Le Corbusier, K. Tange, L. P. Abercrombie, H. P. Berlage), calling that time in urban planning “the architecture in large scale”.

Post-war practices and professional education were highly criticized for “high conceptualization”, a “physical and aesthetic and less human-oriented” approach, as well as for promoting “the dehumanization of urban space” and “social conflicts” [22].

In the latter half of the 20th and at the beginning of 21st century, many cities latched on to theories posed by economist C. M. Tiebout (“Theory of Local Expenditures”, 1956) and planner R. Florida (“Creative Class Theory”, 1999). C. M. Tiebout’s hypothesis and R. Florida’s theory was based on the location decisions of (certain) wealthy individuals [20], [25].

Both theories were highly criticized for promoting urban sprawl, “exclusionary zoning” or “legal localism”, as well as marginalization, offering a “better basket of public goods” only for the rich (C. M. Tiebaut) and for promoting city planning that intensifies class and racial inequality (R. Florida) [20], [25], [26].

Nevertheless, many local governments have adopted both theories in their practices, putting economics and technologies (e.g. in smart cities like Dubai) as a primary goal (only prosperous citizens can make a city richer) and separation and segregation as “an unspoken goal” for urban development [14], [20], [25].

II. THE THEORY OF WICKED PROBLEMS IN URBAN PLANNING

In the early 1980s, it became clear worldwide, that urban planning had become more and more inflexible and the global business and finance controlled “a market-driven” process, which in most cases did not respond to real-life situations and the primary needs of urban residents [27]–[29].

In 1973, planning and design theoreticians H. Rittel and M. Webber based on scrupulous post-war urban design and planning related system limitation analysis formally described the concept of wicked problems and their ten characteristics (properties) [30] in the context of social policy, contrasting “wicked” problems with the relatively “tame”, soluble problems of mathematics and intellectual games. J. Conklin later

conceptualized that concept to other fields “out of social planning” limiting the number of parameters to six, thereby influencing the design, engineering, science, entrepreneurship management, policy planning, and forecasting theory, as well as mass media [31]–[33].

In accordance with H. Rittel, M. Webber, and J. Conklin, wicked problems have the following features [31]–[34]:

1. they are novel problems (there are no definitive formulation);
2. have no way to move forward, lacking a prescribed way forward;
3. have no stopping rule;
4. have no solution (true or false, better or worse);
5. there is no immediate and no ultimate test of a solution;
6. have a solution as a “one-shot operation” [30], because there is no opportunity to learn by trial and error, every attempt counts significantly;
7. have no exhaustive set of well-described potential solutions;
8. essentially unique and a symptom of another problem;
9. can be explained in numerous ways due to the existence of a discrepancy representing a problem; the choice of explanation determines the nature of the problem’s resolution.
10. the planner has no moral right to be wrong (i.e. planners need to recognize the wickedness of problems and are liable for the consequences of the actions they generate).

Moreover, H. Rittel argued that traditional (probably top-down) planning methods are inadequate for solving wicked problems of urban design and planning because they can often [34] be characterized as follows:

1. poorly managed (incomplete or having fragmented information, lacking transparency in the process, with poor holistic);
2. have no standard (right, best, optimal, alternative or “known”) solution and have a little opportunity for trial-and-error learning;
3. involve too many stakeholders (e.g. numerous institutions, landlords, businesses, developers, the general public) with a different perspective and values;
4. demand creativity (contrary to “command-control” and “ordinance-based” planning culture of bureaucrats).

Wicked problems typically are problems, which makes it difficult (or impossible) to do the following [21], [31], [35], [36]:

1. to solve, stop or forecast because of incomplete, contradictory, and changing requirements and information (e.g. specific or absolutely new statistics);
2. to recognize statistically or quantitatively measure due to their uniqueness, novelty, urgency, symptomatic character or complex interdependencies (e.g. refugee crisis in Europe, Brexit referendum, Middle East conflicts and their consequences on other regions).

The effort to solve one aspect of wickedness may reveal or create another one (e.g. global migration issues, people behaviour and reaction on economic and political decisions) [35], [37], [38].

Classical current wicked problems (with “messy symptoms”) are economic, environmental, and social, or of political nature, e.g. the following ones [33], [39], [40]:

1. global climate change (the melting of glaciers, waste, emissions, energy), natural hazards (hurricanes, storms, wildfires);
2. cross-border and interdisciplinary issues (food safety, refugees, economic migration, global warming, and large-scale natural disasters);
3. healthcare (pandemics, epidemic illnesses – AIDS, flu);
4. international security (terrorism, international drug, human, animal and weapon trafficking, refugees, money laundering);
5. social injustice (gentrification, poverty);
6. problems related to culture and tradition, whose solutions require a change of mindset or behaviour by political power (regimes) or stakeholders with radically varying values involving a large number of people [18].

Formulating a wicked problem is a very challengeable task. In the current world complexity of the system can arise from many sources, one of which is the elusive and unknown nature of the problem (e.g. technological impact on social processes, economy and people lifestyle, demand in services and culture and habits, reaction of people on policies and ruling) [35], [37].

Most critical current wicked problems in social and environmental planning are as follows [21], [29], [30], [35], [36].

1. Technological and system thinking problems – inefficiency or a fragmented data infrastructure that “rules, creates barriers and confuses” stakeholders since “infrastructure complexity is an issue for planning transparency”. Digital governance issues also can be related to current and future wicked problems of social nature (e.g. due to aging, skills, accessibility, and affordability in contrast of business interests and expenses of services and good).
2. “Social class system problems” – urban social problems are usually ill-structured, conflicting and ill-argued, because “they are behind” the dominant planning theory, method, legislation, information and institutional culture [18].
3. Inherited wicked problems, e.g. international terrorism and its unpredictable consequences and global prevalence as a consequence of previous decisions and actions. Current refugee crisis, urban violence, and riots as a response to political decisions to cope with budget or social responsibility issues definitely have inherent wickedness features, which will impact future social and environmental planning [18].

Theoreticians and experts J. Conklin, P. Degrace, L. H. Stahl [33] in the areas of public policy, project design and software development have suggested to develop a powerful strategy in order to identify, understand and cope with wicked problems in entrepreneurship management. They also emphasized that the weakest (also wicked) point of that strategy is a missing or insufficient (or limited or exclusive in the number of involved parties) prior discussion and reaching of consensus

among involved parties. That problem of wackiness indeed can be addressed also to environmental (territorial) and social planning issues due to a very large and complex number of stakeholders and their interests. However, theoreticians say that the best solution is the simplest one [31], [32], [39].

Research of planning practice has shown that territorial (both urban and regional) shrinkage and depopulation has evidently wicked nature. Each case of shrinkage represents a unique, uncertain, complex and contested social structure and situation, which changes constantly due to many, multi-scalar factors [23], [26].

Successful cases (e.g. rural Cold Hawaii shrinkage case in Denmark, San Francisco local rent control policies in San Francisco to prevent gentrification and segregation) have shown, that management of shrinkage and livability prevention requires an adaptive, participative, place-based and project-oriented strategy and transdisciplinary approach at the municipal level between all stakeholders, where the role of planners (as the main manager) through the planning process has been “to shed light on” [36], [41].

The nature of the global problem of climate change is also very complex and rooted deeply in interactions among social, political, and natural systems at all levels. These also produce adverse and irreversible consequences, and are thereby transformed into another set of wicked problems [21], [39].

III. THE COSEQUENCES OF URBAN SPRAWL ON URBAN SYSTEMS

The fundamental issue of current urban systems management and planning is how to deal with the planning legacy of the 20th century “urban sprawl” and its consequences on the performance of urban systems [4]–[6], [14].

Urban sprawl is not new but a very complex and “high-context” phenomenon [4], [5].

The very essential question for current governors of urbanized areas is how “to quantify” (measure and pay) the cost of the sprawl regarding the maintenance of shrinking and low density uniformly built-up residential territories (e.g. land use “per capita”, the infrastructure of transportation and essential services) [6]–[8].

The sprawl increases the maintenance costs of particular territory (“per capita” or “per territorial unit”) tending to outweigh the tax benefits and putting under risk territorial sustainability and well-being of people (e.g. due to increase of local taxes and fees) [7], [8].

From the perspective of individuals, the sprawl also drives down well-being and health (physical and mental), commute time and increases energy consumption and costs [42].

Urban sprawl, alongside with urban shrinkage, are the most important risks for the following:

1. urban sustainability and resilience (the capacity of a particular territory to respond and recover from a significant multi-hazard, e.g. natural, social and political, threats with minimum impact on the well-being of the average citizen) [6], [42];

2. reduction in urban metabolism (e.g. interactions of local natural, economic and human systems in relation to the resource-intensive lifestyle of residents) [8], [43].

In accordance with the Report by LSE Cities and the Victoria Transport Policy Institute of 2015, the costs of sprawl (e.g. maintenance of infrastructure and resilience) in the U.S.A. were close to USD 1 trillion or USD 4000 per person in 2014 [8], [42].

IV. URBAN SHRINKAGE AND LIVEABILITY

On the global scene, there is still no common understanding (principles, methodology, and criteria to measure this impact) and collaboration in determining how to manage, monitor and understand the mobility of people and its impact on local, regional, national and global development [1], [14].

There is a direct relationship between urban shrinkage, irregular habitation and aspects of emotional comfort (e.g. growing urban stress, social and cultural discomfort, the preference to move from densely built and overcrowded mixed-use districts to uniform residential suburbs due to environmental causes) [1], [2], [15], [18].

Both shrinkage and liveability planning are still very “fuzzy” concepts and have been applied in ways that are not always consistent (e.g. for measuring decline, migration, demographics) [1], [2], [6], [15].

Since the smart growth framework and its “mantra of sustainability” has been “in vogue” from the 1990s, it arguably retains its impact on building environment – has it always been a framework for growth rather than shrinkage management? [24], [41].

Cities have existed much longer than the sustainability discourse. Current cities compete and award for both liveability and sustainability abound [1], [6], [15].

While it is estimated that globally almost 25 % of middle and large size cities have shrunk since the 1990s, there is no single definition or methodology that exists for identifying the risk of shrinkage and for measuring its impact.

The most often used are the following characteristics of population loss [1], [2], [18]:

1. from the peak of 25 % within 40 years or 5–10 % within 2–5 years for middle (large) size cities with a population of 0.1–0.2 million;
2. natural growth rates and aging;
3. abandoned properties (industrial, residential and infrastructure brownfields in former prosperous territories);
4. vacant properties (more than 2–5 % or housing foreclosure crisis) [24];
5. low-density developments.

Other broadly used characteristics (symptoms) are as follows [3], [9]:

1. economic decline, “which leads to job and tax base loss and associated population loss and ultimately a change in the character of the built environment”;
2. housing affordability issues (growing demand for social housing, the formation of trailer parks and “nano-housing” areas, land grabbing);

3. education system performance (number of pupils, scholastic achievement, college enrolments);
4. the culture (music, theatre, interest education) performance;
5. demographics (age, social, race and class structure).

Shrinkage can also be caused by geopolitical, economic and natural reasons (e.g. the collapse of former Soviet Union, urban crisis in geopolitical conflict zones as in the Balkans and the Middle East) [15]. Natural reasons (e.g. natural disaster Katarina in 2005, California mudslides and wildfires in 2018, the earth quake and tsunami in the Indian Ocean in 2015) may form mainly temporary shrinkage with short and middle term potential of recovery of all involved systems [41].

The Shrinking Cities International Research Network has turned its attention to possible worst shrinkage scenarios in small size (at least 10 thousand residents) urban places (e.g. satellites and suburbs of densely populated agglomerations or regional towns and villages), where some symptoms of shrinkage have been identified due to undergoing local (regional or national) economic transformation, structural crisis or local social conflicts [1], [7].

Although there is no uniform standard or method for liveability, liveability, alongside culture, is probably one of the most complex mandatory aspects of sustainable urban development [41].

Liveability problems are a complex phenomenon, which differs according to the locality [2], [8]. It varies from country to country, from city to city and place to place, from individual to individual [15].

Generally, liveability is defined as the sum of the factors that add up to a community's quality of life, including the built and natural environment, economic prosperity, social stability and equity, educational opportunity, and cultural, entertainment and recreation possibilities [3], [10], [44].

However, the challenge for contemporary urban planning and, probably, the main cause of the formation of the "liveability gap" is the growing complexity, conceptualization, and holism of planning function caused by the large variety of involved stakeholders, organizations and information. Liveability, in contrast, is about the "current", "real-time", "short-time", "immediate", "local", "place making" and is "intangible" [3], [15].

The highly complex nature of liveability can become clear only through a comprehensive analysis of local human activity in connection with the economic potential of the particular place, e.g. the following:

1. the highest and best use of land, performance of the property market, property ownership structure, local employment options, tax base [45];
2. the effect on the social and cultural sphere (e.g. social class structure, inequity degree, the variety of beliefs and cultures vs. traditions and commonly shared values, loss of landmarks and "living heritage");
3. the manner of consumption of greenfield (e.g. use of land as a commodity, promoting unlimited urban sprawl) [16].

The private housing market, financial sector, and local planning ordinances are responding ever less effectively to

the growing demand for affordable housing for the poorest households everywhere in the world.

There are different views about the dimensions that should be included to capture the concept of "liveability". Countries adjust their growing needs to maintain the liveability, pursuing the following distinctive national and local strategies in order to accommodate people and minimize social conflicts:

1. ensuring inclusionary and affordable housing policies within densely built historical districts (inclusionary ordinances, value recapture instruments, social design, place shaping, living heritage preservation, financial assistance for improving the energy efficiency of residential houses, etc.) [14], [15];
2. the use of densification and re-urbanization policies (mostly observed in wealthier countries) [1];
3. the use of deurbanizing projects (e.g. centralized approach of China and Vietnam) [4].

Still, mixed-use average density neighbourhoods with affordable homes is a common understanding of the issue regarding liveable habitation. Studies of European cities show the meaning of the perception of following factors: the quality of the building (wellness), the quality of the physical environment and the level of local services and facilities, the quality of social environment and the safety of the neighbourhood.

V. SMART SHRINKAGE STRATEGY

The planning of "smart" or "controlled" shrinkage first emerged in 2005, when one of the Rust Belt cities of the U.S.A., Youngstown, started the development of a city plan (adopted in 2009) that "demanded acceptance as a smaller city" [2], [4], [46].

Despite the criticism of "chaotic implementation", "poor management", as well as "continuing decay and shrinkage", that approach marked a remarkable shift in the global urban planning paradigm from "market-oriented unlimited growth" to more responsible "limited growth" or "shrinking smart" model of planning [46].

Smart shrinkage or smart growth, in contrast to unlimited growth, set goals to shrink in an organized way to reach "leaner, greener and keener urban land use planning" [4], [46].

Five following modes have been determined for the planning management of shrinking cities:

1. visioning;
2. forecasting and modelling;
3. preferred scenario selection;
4. plan making;
5. project design and construction management.

The smart shrinkage practical planning approach accepted the following features [18], [46]:

1. the compact urban model;
2. the current demographic structure and trends (a focus on shrinkage and decline);
3. the new role of economy and society in it (e.g. shared, talent-based economics and education, online jobs, volunteering);

4. new quality standard of urban living (liveable mixed classes, social groups, races and uses for neighbourhoods; green, safe and attractive public spaces; implementation of universal design; diversity of living; affordable housing);
5. priority for brownfield redevelopment and public transport;
6. focus on short and middle term planning – “collaborative (in decision making and share for the public good)”, “action-oriented” and “achievable plan”;
7. the use of baseline (indicators) “to measure success of implementation of the plan”.

European urban shrinkage and liveability research recommends the use of a social, economic, environmental, management and cultural (value-oriented) criteria-based indicator system (baseline) in order to measure implementation progress of smart shrinkage [1].

Deurbanization and deindustrialization tactics in China and Vietnam have shown that progress has been reached through public policies – state-sponsored (probably, centralized top-down) mega-shrinkage prevention projects [4], [23].

Scholars and sphere professionals recommend the use of a mixed approach for the management of shrinkage – in some critical spheres (e.g. innovations, investment attraction, ICT, urban system management, employment) concentrating also on “smart growth” management [23].

Studies of successful shrinkage prevention cases have shown that there is a strong link between urban and regional shrinkage scenarios requiring involving a multi-method approach to manage planning as a wicked problem. However, here is “a wicked planning culture” related risk. The culture and ethical preferences of people could be a better discriminator than “material” or “structural conditions”, giving reasonable ground to explain why some countries gain a competitive advantage and others do not [1], [16], [29].

CONCLUSIONS

The problematic (also challenges) of the spatial and social-economic transformation of the historical built-up environment shall be addressed mostly to the dominant urban planning theory and practice of 20th century.

Research of urban planning theory and practice has shown that shrinkage and subsequent depopulation tendency is evidently wicked in nature [29]. Each case represents a unique history, as well as uncertain, complex and contested social structure and situation, which changes constantly due to many, multi-scalar factors (e.g. new problems). This, probably, explains why there is still no common framework (methodology) for shrinkage and depopulation identification and management.

The continuing massive (large-scale) shrinkage may happen mainly on the geopolitical and technological ground. Natural reasons (e.g. disasters) can form mainly temporary (short and middle term) shrinkage (and depopulation) with the potential of recovery of all systems and community. Liveability, on the contrary, is defined as the sum of the specific local factors that add

up to a community’s (and every single person’s) life perspective in particular location, including housing, natural resources, economic prosperity, health, social stability and equity, education opportunity and culture. [21], [26], [34].

Affordability of housing is the key factor for liveability of historical downtowns due to the implementation of land value capture instruments and multi-functional zoning function.

One of the most negative consequences of the sprawl is increasing costs of the maintenance of sparsely populated territories tending to outweigh the tax benefits and putting under risk well-being of local people (e.g. due to needing rise local taxes and fees). Another problem (also challenge) is how to limit resource-intensive lifestyles of urban residents.

Successful shrinkage prevention scenarios have shown that there is a strong link between urban and regional shrinkage scenarios requiring involving a multi-method approach to manage planning as a wicked problem.

The management of shrinkage and liveability prevention requires an adaptive, participative, place-based and project-oriented short and middle term strategy (shrinkage in an organized way) at the local level involving all interested parties.

Successful shrinkage prevention cases have shown that the role of planners is very important through the entire planning process in regard to management of the process, information, and communication.

Social complexity (the structure of social groups and classes) and people behaviour may cause fragmentation in the system, that makes problem-solving difficult, worse or impossible (wicked).

REFERENCES

1. **Bontje, M.** Facing the challenge of shrinking cities in East Germany: The case of Leipzig. *GeoJournal*, Vol. 61, No. 1, 2004, pp. 13–21. <https://doi.org/10.1007/s10708-005-0843-2>
2. **Hollander, J. B., Pallagst, K., Schwarz, T., Popper, F. J.** Planning Shrinking Cities [online]. *SSRN Scholarly Paper* [cited 02.01.2019]. Rochester, NY: Social Science Research Network, 2009. <https://papers.ssrn.com/abstract=1616130>
3. **Pallagst, K.** Shrinking cities: planning challenges from an international perspective. *Cities Growing Smaller*. Kent State University’s Cleveland Urban Design Collaborative, 2008. pp. 6–16.
4. **Li, H., Mykhnenko, V.** Urban shrinkage with Chinese characteristics. *The Geographical Journal*, Vol. 184, No. 4, 2018, pp. 398–412. <https://doi.org/10.1111/geoj.12266>
5. **Mohdin, A.** The fastest shrinking countries on earth are in Eastern Europe [online]. *Quartz* [cited 15.11.2018.]. 24 January 2018. <https://qz.com/1187819/country-ranking-worlds-fastest-shrinking-countries-are-in-eastern-europe/>
6. **Biswas, A. K., Tortajada, C., Stavenhagen, M.** In an urbanizing world, shrinking cities are a forgotten problem [online]. *World Economic Forum* [cited 30.11.2018.]. <https://www.weforum.org/agenda/2018/03/managing-shrinking-cities-in-an-expanding-world/>
7. **Bliss, L.** How Much Does Sprawl Cost American Commuters? [online]. *CityLab* [cited 02.01.2019.]. 8 June 2016. <http://www.citylab.com/design/2016/06/cost-of-sprawl-us-commuters/486170/>
8. **Carruthers, J. I., Ulfarsson, G. F.** Urban Sprawl and the Cost of Public Services. *Environment and Planning B: Planning and Design*, Vol. 30, No. 4, 2018, p. 503–522. <https://doi.org/10.1068/b12847>
9. **Castells, M.** European Cities, the Informational Society, and the Global Economy. *Tijdschrift voor economische en sociale geografie*, Vol. 84, No. 4, 1993, pp. 247–257. <https://doi.org/10.1111/j.1467-9663.1993.tb01767.x>
10. **Delvac, W. F., Escherich, S., Hartman, B.** *Affordable housing through historic preservation: a case study guide to combining the tax credits*. Washington, D.C.: U.S. Department of the Interior, National Park Service, Cultural Resources, Preservation Assistance: National Trust for Historic Preservation, 1994, 74 p. ISBN 978-0-16-045258-1.
11. **Rhule, J.** Richard Florida, the Creative Class and Gentrification [online]. *The Shifting Human City: Essay Series on Current and Future Policy*

- Trends in Cities* [cited 02.01.2019.]. No. 1, 2017. <https://medium.com/project-human-city/richard-florida-the-creative-class-and-gentrification-527912a71583>
12. Housing policy in the EU member states [online]. *European Parliament* [cited 15.11.2018.]. Directorate General for Research, Working Document, Social Affairs Series, 1996. http://www.europarl.europa.eu/workingpapers/soci/w14/text1_en.htm
 13. **Robbins, J.** A Short History of Urban Planning. Drawn from: Richard LeGates and Frederic Stout, "Modernism and Early Urban Planning"; Paul Knox, "Urbanization"; Barry Cullingworth, "Planning in the USA." [online]. *SlidePlayer* [cited 02.01.2019.]. <https://slideplayer.com/slide/11249140/>
 14. **Haines, A., Walbrun, K., Kemp, S., Roffers, M.** *Land use resource guide: a guide to preparing the land use element of a local comprehensive plan*. University of Wisconsin-Stevens Point/ Extension, Center for Land Use Education, 2005, 124 p.
 15. **Beyer, S.** Inclusionary Zoning Is Rent Control 2.0, 2015 [online]. *Forbes* [cited 30.11.2018.]. <https://www.forbes.com/sites/scottbeyer/2015/05/27/inclusionary-zoning-is-rent-control-2-0/>
 16. **Boone, A.** The Overlooked Cities of the Rust Belt, 2017 [online]. *CityLab* [cited 15.11.2018.]. <https://www.citylab.com/life/2017/09/the-overlooked-cities-of-the-rust-belt/538479/>
 17. **Houghton, L., Tuffley, D.** Towards a Methodology of Wicked Problem Exploration through Concept Shifting and Tension Point Analysis. *Systems Research and Behavioral Science*, Vol. 32, No. 3, 2015, pp. 283–297. <https://doi.org/10.1002/sres.2223>
 18. **Hollander, J. B., Cahill, B.** Confronting Population Decline in the Buffalo, New York, Region: A Close Reading of the "Erie-Niagara Framework for Regional Growth." *Journal of Architectural and Planning Research*, Vol. 28, No. 3, 2011, pp. 252–267.
 19. **Blyth, R.** What does Brexit mean for Planning and Planners? 2016 [online]. *Royal Town Planning Institute* [cited 08.12.2018.]. <https://www.rtpi.org.uk/briefing-room/rtpi-blog/what-does-brexit-mean-for-planning-and-planners/>
 20. **Florida, R.** Cities and the Creative Class. *City & Community*, Vol. 2, No. 1, 2003, pp. 3–19. <https://doi.org/10.1111/1540-6040.00034>
 21. **Skaburskis, A.** The Origin of "Wicked Problems." *Planning Theory & Practice*, Vol. 9, No. 2, 2008, pp. 277–280. <https://doi.org/10.1080/14649350802041654>
 22. **Higgins, B.** (ed.). Annotated Sample Inclusionary Housing Ordinance [online]. *The California Inclusionary Housing Reader* [cited 02.01.2019.]. Sacramento, CA: Institute for Local Self Government, 2003. pp. 121–148. https://www.ca-ilg.org/sites/main/files/file-attachments/resources__California_Inclusionary_Housing_Reader.pdf
 23. **Martínez-Fernández, C., Weyman, T., Fol, S. et al.** Shrinking cities in Australia, Japan, Europe and the USA: From a global process to local policy responses. *Progress in Planning*, Vol. 105, 2016, pp. 1–48. <https://doi.org/10.1016/j.progress.2014.10.001>
 24. Three Most Influential Planning Cases of 2015: Affordable Housing, Historic Preservation and Limits to Local Government Decision-Making, 2015 [online]. *Oregon Chapter of the American Planning Association* [cited 30.11.2018.]. <http://www.oregonapa.org/three-most-influential-planning-cases-of-2015-affordable-housing-historic-preservation-and-limits-to-local-government-decision-making/>
 25. **Tiebout, C. M.** A Pure Theory of Local Expenditures. *Journal of Political Economy*, Vol. 64, No. 5, 1956, pp. 416–424. <http://dx.doi.org/10.1086/257839>
 26. **Smith, S.** Why I don't like Inclusionary Zoning, 2010 [online]. *Market Urbanism* [cited 30.11.2018.]. <http://marketurbanism.com/2010/12/28/why-i-dont-like-inclusionary-zoning/>
 27. **Metcalfe, G.** The Path to a Livable City, 2002 [online]. *Livable City* [cited 02.01.2019.]. <https://sfenuf.net/PDFs/path%20to%20a%20livable%20city.pdf>
 28. **Vicenzotti, V., Qviström, M.** Zwischenstadt as a travelling concept: towards a critical discussion of mobile ideas in transnational planning discourses on urban sprawl. *European Planning Studies*, Vol. 26, No. 1, 2018, pp. 115–132. <https://doi.org/10.1080/09654313.2017.1375082>
 29. **Zellner, M., Campbell, S. D.** Planning for deep-rooted problems: What can we learn from aligning complex systems and wicked problems? *Planning Theory & Practice*, Vol. 16, No. 4, 2015, pp. 457–478. <https://doi.org/10.1080/14649357.2015.1084360>
 30. **Camillus, J. C.** Strategy as a Wicked Problem, 2008 [online]. *Harvard Business Review* [cited 02.01.2019.]. <https://hbr.org/2008/05/strategy-as-a-wicked-problem>
 31. **Conklin, E. J.** *Dialogue mapping: building shared understanding of wicked problems*. Chichester, England; Hoboken, NJ: Wiley, 2006, 242 p. ISBN 978-0-470-01768-5.
 32. **Conklin, J.** Wicked Problems and Social Complexity [online]. *CogNexus Institute*, 2010. [cited 30.11.2018.]. <http://cognexus.org/wpf/wickedproblems.pdf>
 33. **Degrace, P., Stahl, L. H.** *Wicked problems, righteous solutions: a catalogue of modern software engineering paradigms*. Upper Saddle River, N.J.: Prentice-Hall, 1990. ISBN 978-0-13-590126-7.
 34. **Rittel, H.W.J., Webber, M.M.** Dilemmas in a general theory of planning. *Policy Sciences*, Vol. 4, No. 2, 1973, pp. 155–169. <https://doi.org/10.1007/BF01405730>
 35. **Hartmann, T.** Wicked problems and clumsy solutions: Planning as expectation management. *Planning Theory*, Vol. 11, No. 3, 2012, pp. 242–256. <https://doi.org/10.1177/1473095212440427>
 36. **Tietjen, A., Jørgensen, G.** Translating a wicked problem: A strategic planning approach to rural shrinkage in Denmark. *Landscape and Urban Planning*, Vol. 154, 2016, pp. 29–43. <https://doi.org/10.1016/j.landurbplan.2016.01.009>
 37. **Houghton, L., Tuffley, D.** Towards a Methodology of Wicked Problem Exploration through Concept Shifting and Tension Point Analysis: Concept Shifting and Tension Point Analysis. *Systems Research and Behavioral Science*, Vol. 32, No. 3, 2015, pp. 283–297. <https://doi.org/10.1002/sres.2223>
 38. **Wong, E.** Wicked Problems: 5 Steps to Help You Tackle Wicked Problems by Combining Systems Thinking with Agile Methodology, 2018 [online]. *The Interaction Design Foundation* [cited 02.01.2019.]. <https://www.interaction-design.org/literature/article/wicked-problems-5-steps-to-help-you-tackle-wicked-problems-by-combining-systems-thinking-with-agile-methodology>
 39. **Hooge, W.** Wicked problems, 2010 [online]. *Living on the Real World* [cited 08.12.2018.]. <https://www.livingontherealworld.org/wicked-problems/>
 40. **Zhang, J., Kim, Y.** Digital government and wicked problems: Solution or problem? *Information Polity*, Vol. 21, No. 3, 2016, pp. 215–221. <https://doi.org/10.3233/IP-160395>
 41. "Problem" populations, "problem" places [online]. *OpenLearn* [cited 02.01.2019.]. <https://www.open.edu/openlearn/people-politics-law/politics-policy-people/sociology/problem-populations-problem-places/content-section-0>
 42. **Nunns, P., Denne, T.** The costs and benefits of urban development: A theoretical and empirical synthesis, 2016 [online]. *New Zealand Association of Economists* [cited 02.01.2019.]. <https://www.nzae.org.nz/wp-content/uploads/2016/10/Nunns-and-Denne-urban-growth-costs-and-benefits-NZAE-v2.pdf>
 43. **Haase, D.** Shrinking Cities, Biodiversity and Ecosystem Services [online]. *Urbanization, Biodiversity and Ecosystem Services: Challenges and Opportunities* [cited 02.01.2019.]. Dordrecht : Springer Netherlands, 2013. pp. 253–274. ISBN 978-94-007-7087-4. http://link.springer.com/10.1007/978-94-007-7088-1_12
 44. **Colini, L.** EU Urban Agenda: The challenge of "affordable housing" in Europe, 2016 [online]. *URBACT* [cited 02.01.2019.]. <http://urbact.eu/eu-urban-agenda-challenge-affordable-housing-europe>
 45. **Kauko, T.** Sustainable Development of the Built Environment: The Role of the Residential/Housing Sector. *Sustainable Development - Education, Business and Management - Architecture and Building Construction - Agriculture and Food Security*, 2012, pp. 161–174. <https://doi.org/10.5772/27873>
 46. **Rhodes, J., Russo, J.** Shrinking 'Smart'? Urban Redevelopment and Shrinkage in Youngstown, Ohio. *Urban Geography*, Vol. 34, No. 3, 2013, pp. 305–326. <https://doi.org/10.1080/02723638.2013.778672>



Sarmīte Barvika, M.Arch, MBA, is a researcher with the Faculty of Architecture of RTU. She has competence and research experience in the sphere of spatial planning, GIS, real estate planning and appraisal, urban design, as well as in the EU related questions. She is the author of more than 10 publications, a regular speaker at international conferences, member and expert in a number of international studies and EU financed projects (IAAO, Plan4all, Hlandata, EulisPlus, fellowship of Lincoln Institute of Land Policy, TAIEX, Erasmus Plus at Kaunas Gediminas Technical University

and University at Buffalo). She is a guest lecturer at Aalto University and Kaunas University of Life Sciences.



Santa Bondare received the degree of Master of Business Management from the BA School of Business and Finance in 2010. She is currently a student of doctoral study programme "Business Administration" at the BA School of Business and Finance. Her research field is business management, total quality management. She is QA and Administration Adviser for BA School of Business and Finance.

CONTACT DATA

Sarmīte Barvika

Faculty of Architecture, Riga Technical University

Address: 6 Ķīpsalas St., Riga, LV-1048

E-mail: sarmite.barvika@gmail.com

Linkedin: <https://www.linkedin.com/in/sarm%C4%ABte-barvika-81374561/>

Edgars Bondars

Faculty of Architecture, Riga Technical University

Address: 6 Ķīpsalas St., Riga, LV-1048

E-mail: edgars.bondars@rtu.lv

Santa Bondare

BA School of Business and Finance

Address: 161 Kr. Valdemara St., Riga, LV-1013

E-mail: santa.bondare@ba.lv



Edgars Bondars is a lecturer and researcher with the Faculty of Architecture of Riga Technical University. He received the professional degree of Architect in 2008, the degree of Master of Architecture in 2009 and the degree of Doctor of Architecture in 2013. The theme of his Doctoral Thesis was "Design of Spatial Environment in the Context of Bioclimatic Factors". His research fields are bioclimatic design, energy efficiency strategies in architectural design. He is a co-founder and since 2006 has been a member of the Board of architectural office RR.ES Ltd. , which is dedicated to residential, public and industrial building design. Since 2014, he has been an Associate Member of the NGO

Latvian Sustainable Building Council (LSBC).