

FORMATION OF THE CONTEMPORARY TOWNSCAPE: POSSIBILITIES AND METHODS

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Abstract. This article discusses a comparative methodology for the territorial identification and assessment of contemporary urban landscape formation. The methodology was developed and adapted by the author of this article based on similar studies applied at a different level of design and the multi-criteria analysis method. The methodology consists of two parts evaluation and selection each of which is further divided into steps. The selection stage is intended for identifying areas of contemporary urban landscape development and determining their physical boundaries. The evaluation stage is intended to determine the potential scale of change in the contemporary developing urban landscape relative to existing structures comparing the potential value of the existing and emerging urban landscapes. It is important to note that the study is conducted within the field of typomorphology. In this work, the cityscape is evaluated as a qualitative component of the urban structure, whose overall value overshadows the value of any single specific object. This method allows us to approach urban design as a continuous process and to assess urban complexity, and, based on clear results, to determine the course of further urban design actions.

Keywords: modern townscape, heritage, urban structure, panoramic views, Vilnius

Introduction

The formation of the contemporary townscape – in an era characterised by perpetual flux – has emerged as a critical challenge for urban design practitioners and theorists alike. The free-market economy, coupled with profound socio-spatial transformations and, in certain European contexts, the erosion of sustained strategic planning frameworks, has significantly constrained the capacity to generate new urban ensembles or even entire territorial units with a unified characteristic. In fact, until the 21st century, urban development followed the economic, social, and political trends prevalent during a given historical period, as well as the possibilities offered by engineering advances; thus, each stage of urban development was embedded in the city's fabric. Today, development is rather haphazard and no longer linked to directed urban growth. To understand the key aspects of changes in the townscape one must look for pivotal turning points in the city's urban structure, the main one being the modernist movement that emerged at the end of the 19th century, challenging the traditional ideology of urban planning. The ideology of modernism was based on monofunctional urban zoning aimed at separating polluted industrial areas from residential districts. During this period, the concepts of the garden city, the industrial city, the linear city, and the radial city emerged, along with the idea of strict functional zoning. In the mid-20th century, as a reaction against modernist ideas, the "townscape" movement began in the United Kingdom, giving rise to townscape studies. During this period, T. Sharp and Hubert de Cronin Hastings (De Wolfe) wrote articles on this topic. A little later, they were joined by G. Cullen, who is probably the best-known author in this field of research today, and who examined changes in the city's internal spaces [7]. According to the author, "the environment is perceived by moving through it and experiencing distinct stages of movement." In other words, the environment is perceived as a sequence of characteristic stages in which different senses are engaged and different views are seen [4]. In his work, the author identifies such principles of inner townscape formation as closed perspective, orientation, protrusion and inclusion, constrictions, etc. Although G. Cullen's works have a strong foundation, they are difficult to apply in practical work. The challenges posed by the Modernist movement in the second half of the 20th century were compounded by the need for high-rise construction. This was particularly relevant for large cities, where political power was growing, land prices

were rising rapidly, and there was a lack of large plots for construction. Unlike the modernist movement, which faced public condemnation in many countries, the construction of high-rise buildings became inevitable, as it was in the interest of both developers and city authorities. Supporters of the townscape movement, in assessing the processes taking place, acted not only as an opposition but also spurred the need for regulation of urban structures, a need that remains relevant to this day. Particularly in the United Kingdom, townscape assessment holds a significant place in the history of urban design, planning, and conservation, and remains a key aspect, especially in bridging the perspectives of professionals and the public regarding the existing and future environment [13]. Building on previous research, between 1999 and 2003, Alan Reeve, Brian Goodey, and Robert Shipley proposed a combined methodology for assessing the townscape, according to which the visual image of a city can be understood and evaluated at four levels: pedestrian (local); street-length (neighborhood); elevated views (districts and above); and panoramic views (city and above) [13]. The aim of the methodology is to evaluate established criteria, which are divided into three main categories overall emotional quality, detailed morphological elements, and dominant site content and to record changes related to clearly defined elements of the visual scene. In 2017, K. Kropf proposed the Viewcue method a computer tool for urban analysis to achieve an objective understanding of the characteristics of the townscape [8]. The primary objectives of the tool are to identify elements of the urban image, characteristics of the townscape, and visual sequences. Methods such as Viewcone, Viewshed, and Viewsphere, which operate on a similar principle, are also used. In addition to these methods, various tools, such as parametric design and virtual city twins, are employed for the study and formation of urban structures. Interestingly, since the early 21st century, townscape studies have not been developed as an independent theory, but remain relevant as a tool for urban analysis, visual assessment, and the preservation of historical structures [3]. Returning to current issues, as cities develop and the need to advance the field of townscape research grows, it is evident that a great deal of attention in the design process is devoted to reconciling the wishes of communities and investors; as a result, the final outcome is not necessarily of high quality, but is tentatively acceptable to all interested parties. We must not forget the creative ambitions of individual

architects (a characteristic of post-Soviet countries seen, as seen in practice), where the frequent goal is to outshine one's colleagues rather than to create a unified, new type of townscape that could serve as a reflection of the era for future generations. It can be concluded that shaping the townscape under today's conditions is complicated, but possible under certain conditions.

When assessing the contemporary townscape, it can be said that it lacks a unified character and is most often a blend of building typologies, specific locations, architectural expressions, developers' intentions, funding allocated to projects, and so on. Thus, it can be viewed as a composite entity. However, even within this diverse context, it is possible to identify new types of structures that have emerged in recent times and will be discussed further clusters of high-rise buildings and hall-type buildings, characterized by unique morphology, high floor area ratios, and, in most cases, similar architectural solutions. These clusters of high-rise buildings often function as new city centers or major business districts. Naturally, these new structures emerge in strategically convenient urban locations, near major transportation hubs and thoroughfares, often on former industrial sites, undeveloped areas, or areas of low architectural value suitable for conversion, and very frequently near historic city centers. As a result, a noticeable trend is emerging that the expansion and development potential of these areas in Europe is most heavily influenced by the protection of adjacent, neighboring historic heritage sites and the requirements imposed on them, rather than as a structure representing a new era that can be developed in line with contemporary trends.

This article presents a methodology that complements previous studies of the townscape; it has two main objectives: the first is to determine the potential territorial scope of the townscape's formation, and the second recognizing that the contemporary townscape is often shaped at the expense of other structures to compare the value of new and old structures using various criteria, answering the question: which urban structure should be further developed the old or the new?

Material and Methods

Various analytical methods and evaluation criteria can be used to identify townscapes ranging from "field research," analysis of literature and iconographic material, surveys, etc., to the use of geographic information systems depending on the specific criteria for evaluating the townscape (morphology; the content of the area, its history; emotional quality, etc.). In this article, the townscape and the principles of its formation are examined from the perspective of urban morphology studies, leaving sociological and cultural aspects aside.

The methodology presented in this article consists of two key components: selection and evaluation. The selection stage is intended to identify areas of contemporary townscape development and to define their physical boundaries. This stage is necessary because the townscape, as a subject of study, is not classified as a unit of urban morphology but is defined by the totality of elements that characterize it. Thus, the objective of this stage is to establish the specific boundaries of the potential for contemporary townscape development, within which the subsequent stages will allow for the identification of the specific values of the territory, the possible extent of change, and the principles of its formation.

The assessment phase is designed to determine the potential scale of change in the contemporary, evolving townscape

in relation to existing structures. The objective of this phase is to demonstrate whether the urban planning principles underlying the proposed new townscape are, in various respects, more valuable than the existing development. The assessment is conducted in two directions, simultaneously evaluating the value of each block within the defined territory according to established criteria, both individually and in terms of each block's interaction with every other block in the territory. A comprehensive assessment of the territory is conducted by analyzing the immovable cultural heritage, architectural and urban planning quality, and technical condition within it. Photographs, plans, historical materials, and other resources are used to perform this assessment.

The selection phase consists of a quantitative and qualitative assessment of the city and is carried out in four steps:

1. A multi-criteria analysis is conducted to identify opportunities for the development of the contemporary townscape;
2. Data comparison;
3. Selection of potential areas;
4. An inter-site evaluation of the selected areas is conducted to identify the area with the greatest potential for townscape development.

The first step involves a multi-criteria analysis. As a formalised methodological framework, multi-criteria decision analysis emerged in the mid-twentieth century, though its conceptual antecedents trace to classical antiquity. It is extensively utilised across diverse domains, including political science, business strategy, information systems, urban planning, and environmental management. Within urban planning and allied disciplines, Jacek Malczewski played a pivotal role in advancing the application of MCDA, not only cataloguing its methodological variants but also demonstrating their operational integration within geographic information systems (GIS). According to the author, the GIS-embedded decision-making process comprises three sequential stages: intelligence, design, and choice [11]. Subsequent scholars have extended this work, documenting both methodological refinements and domain-specific applications. In the field of typomorphological analysis, Meta Berghauser Pont and Per Haupt provide a comprehensive exposition of multi-criteria spatial clustering in their seminal work *Spacematrix*. Their research interrogates the relationship between urban density metrics and key urban performance indicators – notably liveability and environmental sustainability. For example, by grouping various indicators spatially, the authors purposefully determine the morphotypes of development in different parts of the city. M. B. Pont and P. Haupt contend that the spatial matrix – encoding both absolute and relative values for any given urban locus – functions as an analytical engine: enabling the evaluation and articulation of latent spatial properties, and facilitating inference regarding associated socio-economic and political dynamics of urban form [2]. Critically, this methodology is scalable, applicable across multiple spatial resolutions – from the plot and block to the district and neighbourhood. The synthesis of volumetric variables across these scales yields both absolute metrics and relational indices, thereby revealing latent potentials and structural deficiencies within the urban fabric.

In this step, to determine the potential scope of change, we evaluate the current indicators describing the city's spatial structure and the planned indicators for the city's structure, which are set forth in documents regulating the city's spatial development, such as master plans, general plans, and others. A comparison of current situation data with the data

Table 1. Criteria for evaluating the selection of territories [created by the author]

Points	De facto ongoing transformation process	Development opportunities	Envisaged change in spatial planning documents	Influence of cultural heritage territories	Investment viability	Natural environment
3	Transformation actively in progress; development	Extensive undeveloped or underutilised land available, potential for conversion of territory	Transformation formally projected across majority or entirety of territory	Absence of immovable cultural heritage assets within territorial boundary	High investment viability	Territory lies entirely outside designated natural zones
2	Passive transformation process	Minimal development potential, possible conversion	Partial transformation of individual structures envisaged	Heritage assets present but exert minimal regulatory or morphological constraint on development	Moderate investment viability	Territory partially overlaps with locally restricted natural areas (local restrictions)
1	No active transformation; development process concluded	No development capacity, only conversion possible	Negligible or no transformation envisaged	Heritage assets exert significant regulatory, volumetric, or design constraint on transformation	Low investment viability / territory effectively developed	Entire territory subject to environmental building restrictions (restriction on building density)

set forth in these documents was chosen because, to date, they are the sole source regulating the long-term direction of urban development and the changes envisaged therein. The number of indicators assessed may vary depending on the desired outcome and the amount of available data. Indicators such as building height, average building height in specific zones, building intensity, building density, and others may be used. It is important to ensure that the territorial scope of the assessed objects matches in both cases, i.e., data on functional zones, groups of blocks, blocks, or plots may be used. The assessment is performed using GIS software. As a result, after grouping the selected indicators, the number of "townscapes" described by these indicators is determined. It should be noted that determining the number of clusters is a rather subjective choice; too few clusters generalize and homogenize similar indicators but areas with different characteristics and development periods, while too many clusters fragment the data and fail to identify specific clusters. The second step involves comparing the obtained data with the results of the multi-criteria analysis. The purpose of this comparison is to assess the territorial scope of potential areas of continuity and change in the established townscapes. In the third step, after comparing the data, areas that indicate potential changes in spatial structure are identified. It should be noted that this step also involves a qualitative assessment of the areas, as not all areas identified as potential areas of change in the results of the multi-criteria analysis may, in reality, be subject to change processes. Based on the established criteria, additional areas may be excluded, such as sites of immovable cultural heritage, areas already designated for comprehensive development in other documents regulating the city's spatial development, individual blocks whose development will not affect changes in the townscape, locations where the contemporary (or other planned) townscape has already taken shape, and so on. The exclusion criteria may vary in each case. In the fourth step, after identifying the areas oriented toward continuity, those oriented toward change are identified. If there is only one such area, this step is not performed; however, if there are multiple such areas and only one is

needed for the specific townscape development, an additional selection of areas is conducted. For this selection, six criteria were established in the methodology: the ongoing process of change, development opportunities vacant, undeveloped areas and the potential for conversion, anticipated changes in documents regulating the city's spatial structure, the influence of immovable cultural heritage sites (physical constraints on new development), investment attractiveness, and the natural environment (physical constraints on new development). Each criterion can be scored a maximum of 3 points. The criteria system is presented in Table 1. Following the assessment, the area with the highest score is identified as having the greatest potential for transformation. However, it is important to understand that when working in already developed urban areas where private property is involved, even the transformation of the selected areas will face certain challenges. As a result, it is necessary to conduct a further internal qualitative assessment of the area. In the second stage, once the target area for the development of the contemporary townscape has been selected, an assessment of the potential for change is conducted. To identify possible principles for shaping the townscape, it is necessary to understand the current situation, the possibilities for change, and the needs. The area is analyzed both as a whole and by examining its individual elements, determining their architectural and urban value, their interaction with one another, their implementation, and their technical condition. The methodology for assessing the potential for change was developed based on the methodology for evaluating the historical environment of Lithuanian cities used by V. Jurkštas [10], which was designed to assess the architectural quality of historic buildings. In his work, the author identified five evaluation criteria: compositional idea and compositional unity, stylistic features, scale and proportions, color, and the technical condition of the buildings. When discussing the evaluation criteria, V. Jurkštas clearly stated that the evaluation criteria do not have equal impact on architectural quality, yet they are united by a common trait their role in creating artistic value [10]. However, the evaluation of urban structures is more complex and multifaceted compared to

Table 2. Sample Evaluation Table [created by the author]

Quarter	A1	A2	A3	A4	A5	B6	B7	B8	B9	B10
A1		3	0	2	0	3	0	1	1	0
A2	3		0	0	2	0	1	1	0	3
A3	0	0		1	0	0	3	2	0	1
A4	2	0	1		3	1	1	1	2	0
A5	0	2	0	3		2	2	3	0	1
B6	3	0	0	1	2		3	2	1	1
Result	7	5	1	7	7	6	10	10	4	6
Average	1.4	1.0	0.2	1.4	1.4	1.2	2.0	2.0	0.8	1.2

Table 3. Criteria for the Evaluation of Cultural Heritage [created by author]

Points	Historical value – immovable cultural heritage object	Historical context
3	Valuable as an object, complex, or area	Forms a distinct townscape
2	Valuable in the urban environment	Provides conditions for the formation of a townscape
1	Partially valuable in the urban environment	Limited potential for townscape formation
0	Lacks value	Lacks potential

the evaluation of individual objects, due to the abundance of objects being evaluated and the fact that, in this case, it is not a specific building but the characteristic urban structure of a city district that is the object of value. Three principal groups of evaluation criteria (aspects) were selected for the assessment of the potential for change in urban structures:

1. Assessment of immovable cultural heritage sites.
2. Assessment of architectural and urban composition.
3. Assessment of the technical condition of buildings.

In addition, since the assessment is conducted for a specific territorial unit, the block has been selected as the comparative unit in the methodology to ensure a clear analysis and comparison of urban structures (Table 2). This is a clearly defined smallest urban unit with established building principles (building morphology). Once the general direction of the assessment and the unit of assessment have been established, the targeted assessment is conducted by evaluating the interaction of the blocks within the planned area with other blocks in the same area according to the identified criteria for assessing architectural and urban quality. The quality of urban formations (townscapes, complexes) is often linked to the uniqueness and authentic character of the place, as a result of which the specific evaluation criteria are determined according to the needs of the specific area being evaluated. In this case, it should be noted that the goal is complexity; therefore, criteria such as function, internal building structures, and the significance of the place ("spirit") are not examined.

A separate qualitative assessment is conducted for each group of evaluation criteria, with all evaluation indicators ultimately summed up. The higher the total score, the more similar the development characteristics of the areas (neighborhoods) are, and the greater the potential for shaping a contemporary townscape. In all cases, a numerical system (0–3 points) is established for assessing the quality of urban structures, and the evaluation characteristics defining each point are described.

In the assessment of immovable cultural heritage, sites, complexes, and individual objects within the boundaries of the area under review are evaluated. The potential of objects to shape the townscape and their integration into the scope of the contemporary townscape are evaluated, resulting in the establishment of two evaluation criteria for assessing heritage objects. The first criterion is intended to evaluate heritage objects based on their valuable characteristics,

as defined in the acts of the Council for the Assessment of Immovable Cultural Heritage, and their relationship with the urban environment in which they are located. The second criterion evaluates the context in which the object currently exists, addressing the question of whether the existing historic development has value and potential for continuity as a distinct townscape (Table 3).

The assessment of architectural and urban quality identifies the following five criteria: compositional unity, scale and proportions, visibility/contextuality, stylistic features, and color/materiality (Table 4). When assessing compositional unity, it is determined whether the buildings in the block are constructed according to a specific composition and whether the block's composition is consistent with the compositional principles of other blocks in the area under consideration. The assessment of scale and proportion is carried out by evaluating the relationship between the buildings within the block and, subsequently, the relationship between the blocks themselves. The assessment of visibility and contextuality is carried out by analyzing the relationship between the panoramic views and the plan structure from selected external and internal vantage points of the townscape. When evaluating the views, objects are distinguished based on their morphological structure, historical significance, and period. The purpose of analyzing external and internal vantage points (panoramic views of the contemporary, evolving townscape) is to determine which buildings in the area are fully discernible from the identified vantage points, and which "gets lost" against the backdrop of existing development and is difficult to identify or completely imperceptible. When evaluating stylistic features, the unity of character of specific buildings and the urban structures they comprise is emphasized. Color and materiality play a significant role in urban composition; it is precisely these elements that ultimately ensure the unified character of the planned structures and their recognizability based on stylistic features. When evaluating this aspect, the compatibility of urban structures with one another in terms of color and materiality is analyzed.

Finally, an assessment of the technical condition of the buildings (and the blocks they comprise) is conducted. The technical condition of buildings is an important criterion for evaluating architectural expressiveness. Although this does not determine architectural quality, areas dominated by buildings in poor technical condition are often perceived as unsafe, are home to lower-income segments of the

Table 4. Criteria for the Evaluation of Architecture and Urban Design [created by the author]

Points	Compositional unity	Scale and proportions	Legibility / contextuality	Stylistic features	Colour / materiality	Technical condition of buildings
3	Expressive composition	Good relationship of scale and proportions	Clearly perceptible in all situations	Clear representative of a style	Unified image	Very good / good
2	Clear, of medium expressiveness (with shortcomings)	Minimal deficiencies in the relationship of scale and proportions	Overall contextuality predominates	Compatible with adjacent development	Larger part harmonised	Average
1	Insufficiently expressive composition	Partial deficiencies in the relationship of scale and proportions	Local contextuality more evident	Lacking clear stylistic features	Smaller part (fragmented) harmonised	Satisfactory
0	Absence of composition	Significant discrepancies of scale and proportions	Out of context	Lacking any stylistic features	Incompatibility	Poor

Table 5. Technical quality evaluation criteria [created by the author]

Points	Technical condition of buildings
3	Very good / good
2	Average
1	Satisfactory
0	Poor

population, and are unattractive to investors. To assess the technical condition of buildings, data on the year of construction, building materials, and information about modifications made are used (Table 5).

The results of the methodology show that the neighborhoods with the highest scores are the most harmonious and can be considered to have the potential to become part of a vibrant townscape. The neighborhoods with the lowest scores indicate that these areas need to be transformed in order to achieve maximum aesthetic quality.

Results and Discussions

The city of Vilnius the capital of Lithuania was chosen as the subject of this study. It is distinguished not only by its rapid development and the most striking influence of contemporary architecture on the city's skyline, but also by its concentration of political, cultural, and scientific potential. The capital is not only the pride of the country but also a symbol of revolutions, suffering, and convictions, whose architecture reflects its values, and whose culture is better known and respected than that of provincial cities [9]. Speaking of Vilnius, it is situated in a unique natural environment, having preserved a unique topographical heritage the central part of the city, located in a valley, and the surrounding hills form a multi-layered townscape. It is precisely the central part that is the most characteristic area of the city, encompassing the Old Town, the New Town, and the new city center. The central part is surrounded on the upper terrace by modernist residential districts built during the Soviet era, whose mandatory construction left an ambiguous mark on the structures of all Lithuanian cities, while in Europe this style was merely a mannered possibility [6]. Beyond these lie areas of low-rise development the "subtownscape." These can be described as areas of degraded natural elements, lacking the features characteristic of an townscape transportation, engineering

infrastructure, public spaces, a system of maintained green spaces, and public, commercial, service, and educational facilities (schools, kindergartens, shops, etc.) [1]. Essentially, the city of Vilnius can be divided into three zones central, middle, and peripheral.

Today, the high-rise and hall-type buildings that define the contemporary townscape are concentrated in the central part of the city, near the main entrances to the city. Their development is fragmented, failing to form continuous structures with a unified character, and their territorial scope is undefined; therefore, to determine the extent of the development of such types of townscapes, a selection process was first conducted (Stage I of the methodology). In the first step, to identify existing and planned townscapes are used to conduct a multi-criteria analysis.

The assessment is performed using ArcGIS Pro software. In accordance with the laws of the Republic of Lithuania, the aforementioned building density indicators are determined for a plot of land; however, to enable the comparison of equivalent data, subsequent data grouping, and the presentation of specific values for multi-criteria analysis, the layer of functional zones defined in the general plan of the Vilnius City Municipality [16] the primary document defining the city's spatial development was selected for the layer of designated functional zones. Functional zones, like the structure of townscapes, are not composed of specific morphological units or groups thereof; however, unlike a townscape, which describes the characteristics of a territory, functional zoning indicates only the maximum scope of the territory's development. Following a multi-criteria analysis of the existing and planned structures in Vilnius, 15 townscapes were identified and described (Figure 1). The existing townscape structure of Vilnius is complex and diverse, reflecting different stages of the city's development. In many places, it could be described as chaotic. Meanwhile,

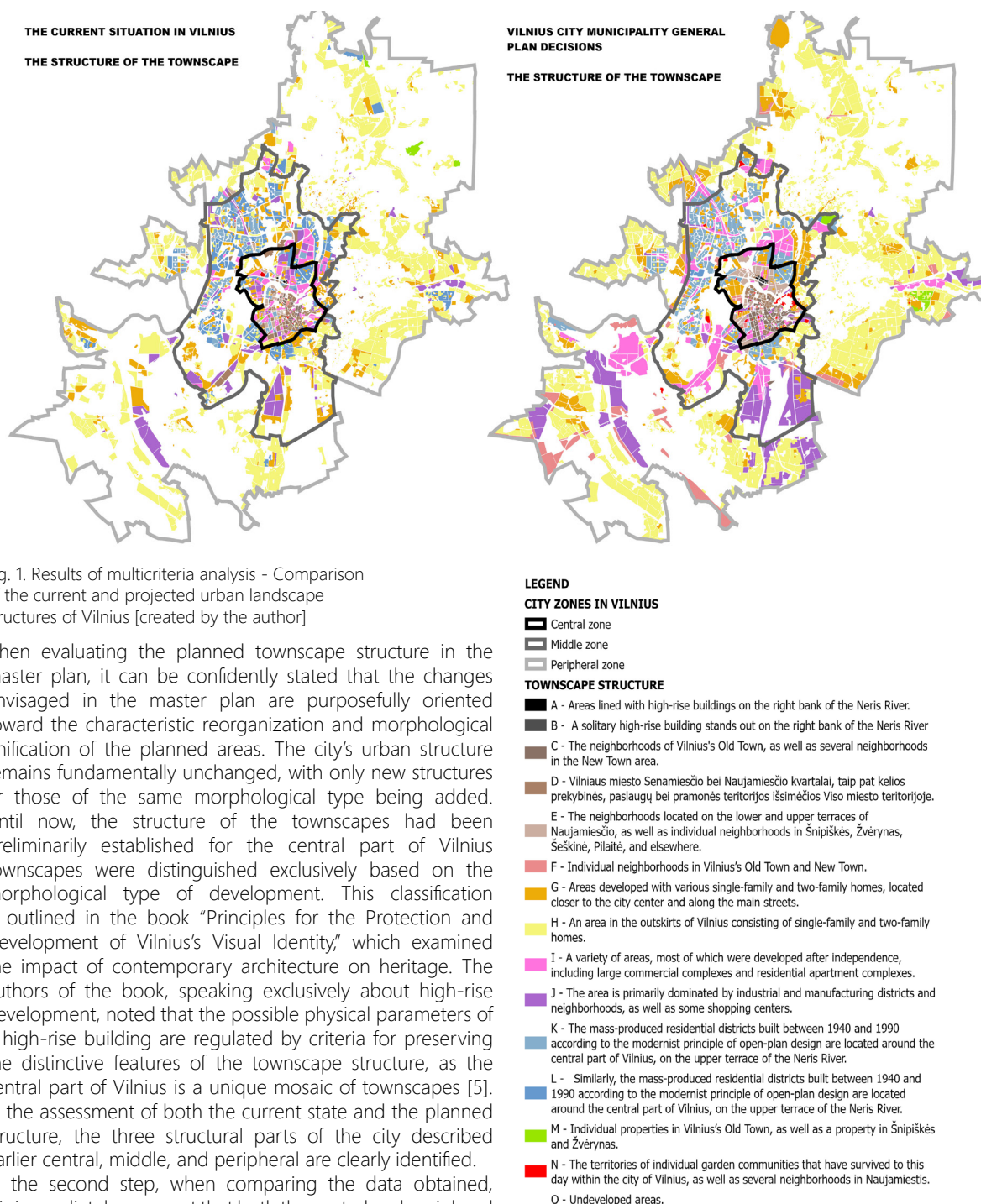


Fig. 1. Results of multicriteria analysis - Comparison of the current and projected urban landscape structures of Vilnius [created by the author]

when evaluating the planned townscape structure in the master plan, it can be confidently stated that the changes envisaged in the master plan are purposefully oriented toward the characteristic reorganization and morphological unification of the planned areas. The city's urban structure remains fundamentally unchanged, with only new structures or those of the same morphological type being added. Until now, the structure of the townscapes had been preliminarily established for the central part of Vilnius townscapes were distinguished exclusively based on the morphological type of development. This classification is outlined in the book "Principles for the Protection and Development of Vilnius's Visual Identity," which examined the impact of contemporary architecture on heritage. The authors of the book, speaking exclusively about high-rise development, noted that the possible physical parameters of a high-rise building are regulated by criteria for preserving the distinctive features of the townscape structure, as the central part of Vilnius is a unique mosaic of townscapes [5]. In the assessment of both the current state and the planned structure, the three structural parts of the city described earlier central, middle, and peripheral are clearly identified. In the second step, when comparing the data obtained, it is immediately apparent that both the central and peripheral urban zones are shaped by the principle of continuity through the densification or expansion of these areas. In the central zone, specifically in the existing Old Town and New Town areas, no major structural changes are anticipated, only the conversion or redevelopment of previously unused inner areas. The most significant change is visible on the right bank of the Neris River, in the new city center development area—a clear territorial structuring oriented toward a New Town-type building morphology mixed with high-rise and massive administrative buildings forming a perimeter-based central development. Structural changes are also visible in the northern part of the Žvėrynas district. By developing the city according to the principles established in the master plan, the indicators of average height, intensity, and density more than double. In the third selection step, areas oriented toward continuity

were rejected for further analysis. First, the city's central and peripheral zones were rejected, where development, as previously noted, is directed toward the continuity of existing townscapes. This leaves the central zone, where, however, not all areas are oriented toward potential processes of change; therefore, the following areas within this central zone are no longer considered (Figure 2):

- areas containing immovable cultural heritage sites that possess characteristics identifying the three-dimensional spatial structure of the townscape and valuable features describing them (in accordance with immovable cultural heritage legislation);
- areas in the central zone where, according to the results of a multi-criteria analysis, no change is anticipated, or where change is anticipated in individual blocks whose transformation will not affect the formation

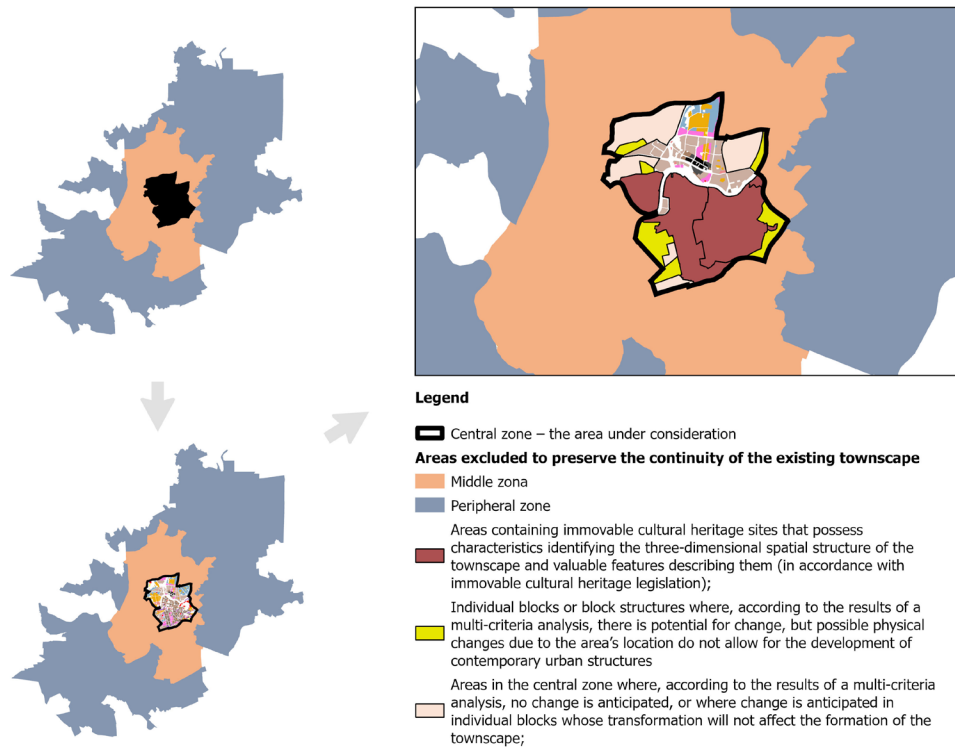


Fig. 2. Areas excluded to preserve the continuity of the existing townscape [created by the author]

of the townscape;

- individual blocks or block structures where, according to the results of a multi-criteria analysis, there is potential for change, but possible physical changes due to the area's location do not allow for the development of contemporary urban structures;
- townscapes formed before the 21st century modernist residential districts located in the central zone.

In the fourth step, after excluding all areas not under consideration, the area on the right bank of the Neris River and a small area on the left bank of the Neris, on the edge of the lower terrace of Naujamiesčio, remained for further evaluation. Although the area on the right bank of the Neris River is contiguous, its parts have different significance within the structure of the central area; therefore, for the final assessment of potential changes, it is divided into four smaller areas. To make the methodology easier and faster to apply in practice, in this specific case, the division is carried out taking into account the main arterial streets, the boundaries of Vilnius city districts, the nature of development envisaged in the Vilnius City Master Plan, and the comprehensive development potential of the area. The final assessment is conducted for 5 territories according to the criteria described in the previous section: the Business Triangle territory (A), the northern part of the Žvėrynas district (B), the southern part of the Šnipiškės district—the New City Center (C); the Northern Part of the Šnipiškės District (D), and the Southern Part of the Žirmūnai District along the Neris River (E) (Figure 3).

The territorial assessment reveals that the area exhibiting the highest potential for the formation of a coherent contemporary townscape is Territory C: the southern sector of Šnipiškės – designated as the New City Centre. Since circa 2000, this territory has undergone accelerated morphological restructuring (Table 6). Its southern quadrant is characterised by an emergent 'urban hill' – a concentrated cluster of high-rise towers and large-footprint administrative or commercial typologies. The northern quadrant accommodates a mix of institutional edifices and medium- to high-density residential blocks. Significant residual land remains

available for development, with parcels identified for adaptive reuse; municipal planning instruments project substantial revisions to building parameters. The principal constraint arises from the persistence of low-density, rural-derived fabric in the territory's central zone, certain features of which are classified as protected. In the book "Taking archaeology out of heritage" "heritage is defined as the negotiation of subjective and political identity, place and memory [17]. It is precisely when talking about Šnipiškės that the question arises whether heritage is real in this place or the result of political actions aimed at pleasing the public, since until 2024 only a few individual objects and the principle of building on one street were protected in this area. Once the potential territorial boundaries of the modern townscape have been identified, the process moves on to the second stage of the methodology: evaluation.

In the second stage, following a qualitative assessment of the area based on three key aspects immovable cultural heritage, architectural and urban quality, and technical condition the results addressed the question of which townscape is more valuable: the old or the new. The methodology specified that, to simplify the assessment, the entire area is divided into blocks; consequently, the area under study was divided into 60 blocks, and the qualitative indicators criteria describing these blocks are evaluated in relation to one another. The division into blocks is used to assess all three aspects.

A brief discussion of the results for each aspect reveals quite different outcomes. When evaluating immovable cultural heritage, it is evident that, from an urban planning perspective, the most valuable blocks are those with the highest number of heritage objects, complexes, or sites. After grouping the evaluation results, it became clear that the most valuable in this regard are the farmstead-style development areas in the central part of the study area (Figure 4). This is the historic part of the city known as Medinės Šnipiškės. For example, although the archaeological site of Vilnius's Old Town and suburbs covers a large area, it does not pose any obstacles to the development of new structures, apart from the need for additional research.

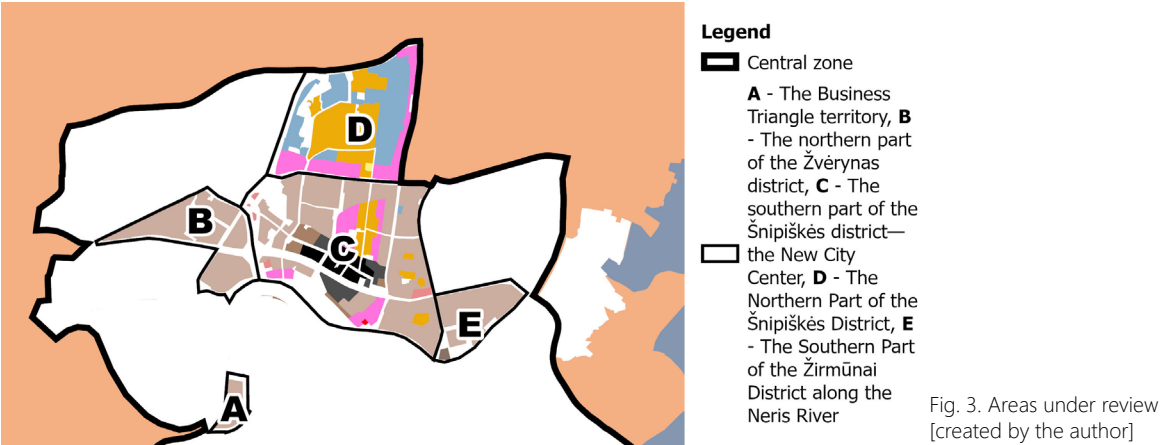


Table 6. Results of the territorial selection assessment [created by author]

Evaluation criteria	Territory A	Territory B	Territory C	Territory D	Territory E
1. Active transformation processes are underway, marked by the emergence of architectural interventions dating from the late 20th to early 21st centuries	1	2	3	1	2
2. Opportunities for territorial (external) expansion	1	1	3	3	2
3. Municipal master plans formally project significant morphological transformation across the territory.	1	3	3	2	3
4. The area intersects with designated immovable cultural heritage zones, introducing regulatory complexity.	3	2	1	3	2
5. Investment viability	1	2	3	2	2
6. Natural environment	1	2	2	3	1
	8	12	15	14	12

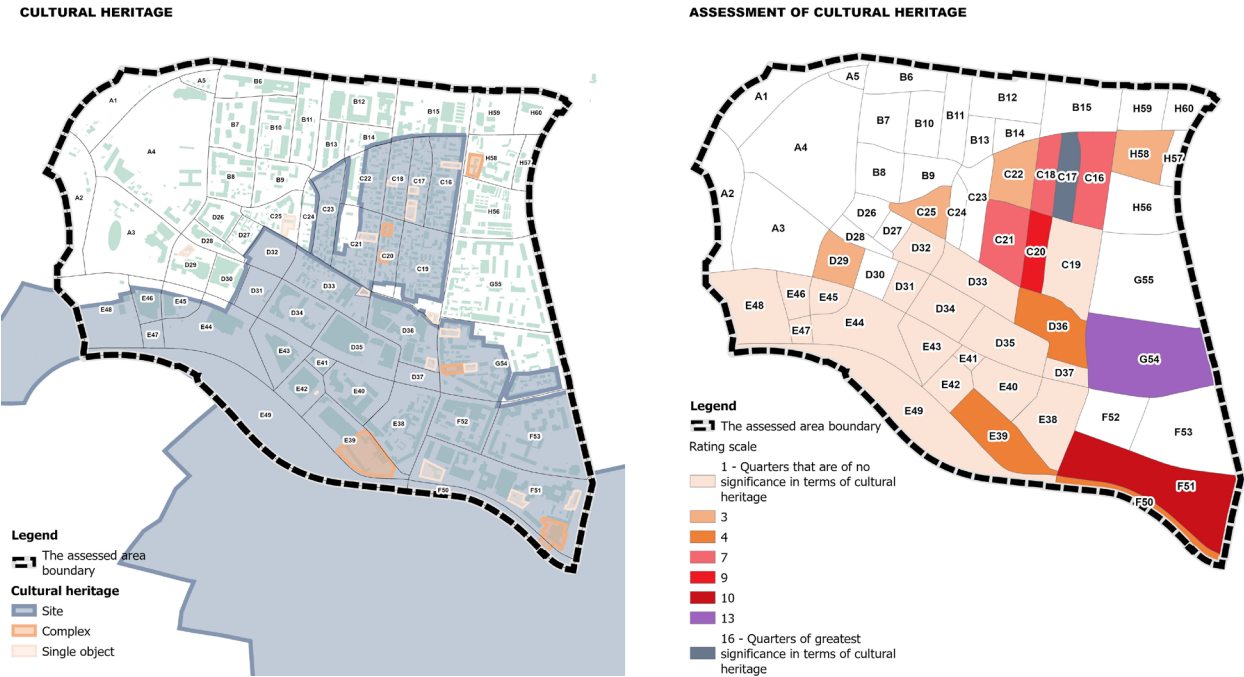


Fig. 4. Left: Cultural heritage sites within the study area; Right: Results of the assessment of immovable cultural heritage [created by the author]

In assessing architectural–urban quality, compositional unity – understood as the foundational principle of townscape coherence – derives from a consistent morphostructural logic, the hierarchical arrangement of vertical elements, the articulation of public space networks, and their proportional reciprocity with the surrounding urban context. Analysis of blocks within the study area indicates that compositional unity is confined to isolated, small-scale groupings; overall,

the territory lacks a unified compositional framework. Limited morphological affinity is discernible among clusters of high-rise development, and between administrative and multi-residential blocks in the northern sector. In contrast, the protected homestead fabric exhibits pronounced compositional fragmentation; only select street corridors manifest coherent formal expression. From the perspective of townscape formation, scalar and

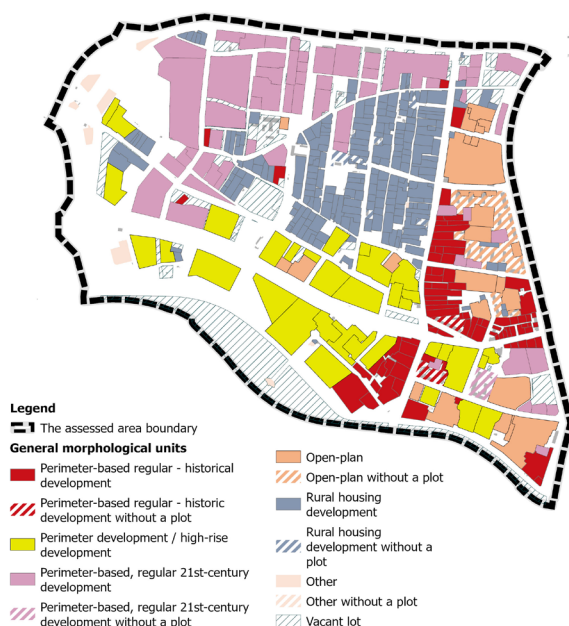
proportional relationships must be calibrated not merely between individual buildings, but across urban elements – blocks and their aggregations – to ensure volumetric, vertical, and spatial relationships remain perceptually intelligible and experientially coherent. The evaluation of scale and proportions showed that the interrelationship of blocks within the study area is poor. The volumetric ratio between high-rise enclaves and adjacent homestead zones approximates 1:10. There is no purposefully planned transition of heights between groups of blocks. Proportional inconsistency is further evident within individual blocks by multiple orders of magnitude. Nevertheless, strategic intervention – including targeted transformation zones and calibrated densification protocols – could facilitate scalar harmonisation across the majority of blocks.

The assessment of visibility and contextuality is important for determining the status of the townscape within the overall urban structure. As mentioned in the methodology section, the assessment was conducted by analyzing the relationship between the plan and the identified panoramic views and determining whether the objects in the selected neighborhoods are visible from both external and internal vantage points or are only visible locally from internal vantage points. The assessment is conducted from 4 external vantage points (Figure 5) and 30 internal vantage points. The structural elements depicted in the study are generalized, as the identification of specific objects is not possible due to the location and distance of the assessed territory within the panoramic view, since they are difficult to distinguish. In the case of Vilnius, the area under study is divided into 6 categories: areas of perimeter-based regular development prior to 1940; areas of perimeter-based central/high-rise development; new blocks of apartment buildings and administrative residential buildings with perimeter-based regular development on the northern side of the area under study; areas with farmstead-style development; neighborhoods or individual structures built according to the free-planning principle that clearly reflect Soviet-era architecture, as well as individual non-structural objects. The study results showed that in the analyzed panoramic views, high-rise buildings are clearly visible from all

4 external vantage points. Regarding the inner vantage points, these buildings are visible and dominant in all cases where they fall within the field of view. As background development and the general context, the areas of regular perimeter development on the northern side of the study area can be distinguished. The development in these blocks is also visible from all vantage points, but individual objects are difficult to distinguish due to the density of the buildings and their similar heights. From the inner vantage points, this development dominates over the farmstead-style development, but is not as prominent as the high-rise development. In some both external and internal panoramic views, individual buildings constructed according to the free-plan principle are identifiable, as well as several historic neighborhoods. Farmstead-style neighborhoods are identifiable only from internal vantage points, but are often obscured by adjacent development. When viewed from panoramic vantage points, the majority of the development on the eastern side of the study area is not visible, as these neighborhoods are obscured by other neighborhoods characterized by taller buildings and blend into the overall urban mass. Generally speaking, regarding the assessment of internal panoramic views, it can be stated that the panoramic views of no single street identify a single specific element of the urban structure; in other words, there is no clearly expressed internal townscape representing a specific era.

The requirements for the technical condition of buildings are defined by the laws of the Republic of Lithuania. These requirements are specifically tailored to Lithuania's climatic conditions; therefore, when conducting a similar assessment on another continent, they must be adapted to local conditions. The assessment of technical condition was conducted in accordance with STR 1.12.06:2002 "Intended Use and Service Life of a Building". The regulation specifies the service life of buildings based on construction materials. In terms of construction materials, brick and wooden buildings predominate in the area under consideration. On the right bank of the Neris River, in areas with high-rise buildings, monolithic concrete or reinforced concrete, reinforced concrete slabs, or blocks are primarily used. After assessing the technical condition of the buildings in the study

GENERAL MORPHOLOGICAL UNITS



ASSESSMENT FROM DESIGNATED VIEWPOINTS

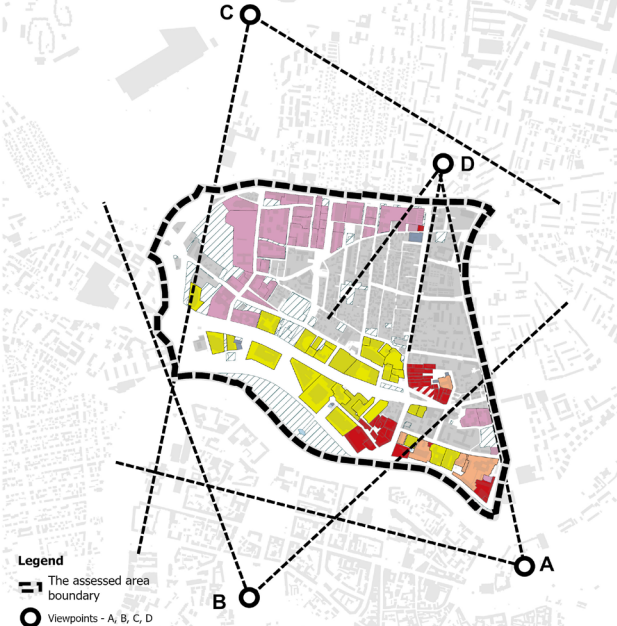


Fig. 5. Evaluation of visibility from external viewing points [created by the author]

ARCHITECTURAL AND URBAN DESIGN QUALITY

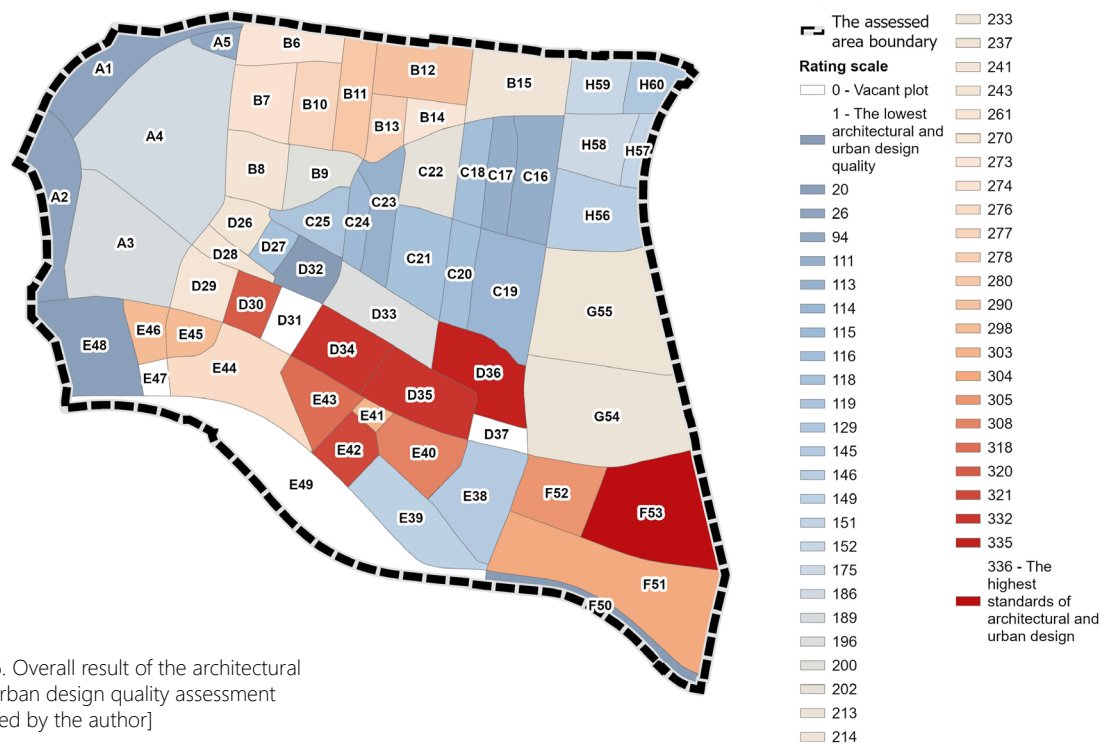


Fig. 6. Overall result of the architectural and urban design quality assessment [created by the author]

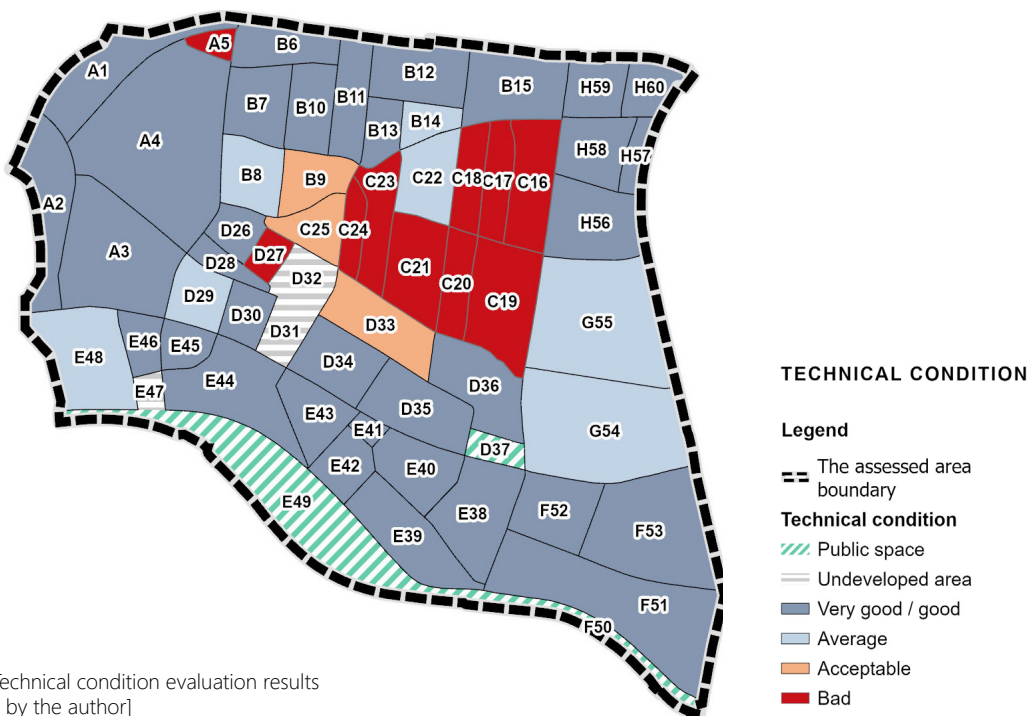


Fig. 7. Technical condition evaluation results [created by the author]

area based on the construction period and building materials, it became clear that the worst-conditioned areas are precisely the farmstead-style neighborhoods in the central part of the study area. The lifespan of wooden frame buildings is only 40 years, and the results show that the majority of the buildings were constructed before 1930, meaning the buildings have already exceeded their lifespan by as much as two times. Only a small portion of the buildings in the neighborhoods of this group have been renovated. A few isolated neighborhoods are in poor condition; the condition of the rest is average or good/very good. It is worth noting that the buildings in the poorest condition are single-family residential buildings owned by private individuals, while

those in the best condition are administrative, service, and commercial buildings that are regularly maintained, or new multi-family residential buildings (Figure 7).

After compiling the results, it became clear that the newly formed contemporary structures in the city center create significantly greater value compared to the existing areas of farmstead-style development. It is precisely the purposeful planning of these new structures that holds great potential for the emergence of a contemporary townscape, one that not only reflects current trends but also returns to the fundamental principles of urban planning. In subsequent planning stages, steps and measures such as specific zoning regulations or guidelines must be established to ensure the

smooth formation of a distinctive contemporary townscape. It should be noted that qualitative assessments can also be programmed into a GIS system, but this requires a sufficiently large amount of accurate data on each object, including all buildings in the area. In Lithuania, data is currently only just beginning to be made available for public use, so there is a possibility of systematizing this assessment in the future. Although townscape studies are a relatively new branch of urban morphology research, a considerable number of studies have already been conducted in this field. However, most studies focus on determining the spatial characteristics and visual quality of existing townscapes [3; 4; 8; 13; 14]. It is interesting to note that most of the reviewed studies focused on urban morphology, as suggested in the article, are comprehensive and quite complex. There are also other directions in townscape research that encompass the fields of geography and sociology. In Lithuania, a study on the assessment and modeling of townscape identity was conducted, in which the author defined townscape identity as a synthesis of subjective and objective identity, where the sense of place, the meaning of the place, individual elements, systems of elements, and the overall structure are distinguished as components of a holistic townscape identity [12]. Comparing the comprehensive method presented in the article with existing ones, it can be confidently stated that this method is oriented toward a significantly broader scope of townscape assessment, but provides less detail on specific site-oriented aspects, such as those presented in G. Cullen's study or in the street scene planning methodology by N. Nitavska, D. Skujāne, and M. Markova [14]. The study contributes to the field of townscape research by proposing a method for defining townscape boundaries, on the basis of which the townscape can be analyzed as a unit of urban morphology, as well as a rating system describing qualitative townscape criteria, with the aim of comparing the values of existing and emerging townscapes, on the basis of which further planning actions would be envisaged. The uniqueness of the study lies in the fact that the contemporary townscape is evaluated as a potential new type of townscape, rather than a threat to already established historical townscapes. The study proposes that a city's structure whether new or old, but distinctive is significantly more valuable than individual objects, even those designated for preservation.

Conclusions

1. Townscape formation is an ongoing, contingent process shaped by political, social, and economic dynamics, the cultural trajectory of the city, and the stringency of urban regulatory frameworks. In Vilnius, a relatively constant trajectory of townscape development – legible in the city's structural fabric – persisted until the end of the twentieth century. The twenty-first century ushered in an era of loosely regulated development, which precluded the emergence of typologically or stylistically coherent ensembles reflective of a unified historical period; concurrently, the proliferation of high-rise construction – while exhibiting certain shared formal and technical characteristics – triggered heritage-protection imperatives in adjacent zones, thereby constraining the permissible range of new structural typologies.
2. Analysis of the city's spatial characteristics reveals a critical flaw in current planning frameworks: they permit maximal development intensity and morphological diversity within singular territorial units, without prescribing compositional principles or requiring relational coherence between adjacent structures. To deliberately cultivate characteristic contemporary

urban structures, a robust methodological foundation must be established to guide their formation, alongside the precise delineation of target territories.

3. A methodology for assessing the potential for contemporary townscape development and continuity was developed and applied, using Vilnius as a case study, comprising two stages: defining townscape boundaries and evaluating the territory's transformation potential.
 - In the first stage, a multi-criteria comparative analysis was performed, and areas deemed unsuitable for coherent townscape formation were excluded according to predefined criteria; this identified the New City Centre – emerging on the right bank of the River Neris, with potential for physical expansion northwards towards Žalginio Street – as the most viable locus for contemporary townscape development.
 - In the second stage, a comparative assessment of existing and projected structures was undertaken; its findings further indicate that unified, continuous townscape formation in this area is feasible, and that a deliberately composed townscape would hold greater collective value than the preservation of isolated protected objects.
4. The uniqueness of this study lies in the fact that a segment of the contemporary townscape a combination of high-rise and hall-type buildings is viewed as a potential new type of townscape rather than a threat to already established historical townscapes
5. The study revealed that the current configuration of the New City Centre remains heterogeneous and lacks a coherent developmental trajectory, underscoring the necessity for townscape-specific design guidelines or, indeed, targeted regulatory instruments.
6. The methods presented in this paper can be successfully applied not only to the identification and qualitative assessment of contemporary townscapes but also to those of other types. Both methods and the proposed development models can be successfully applied in practical work.

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Metodoloģiju veido divas daļas: atlase un novērtēšana, kur katrā no tām pētījumā ir iedalīta vairākos attiecīgos pētījuma posmos.

Atlases posma mērķis ir identificēt mūsdienu pilsētvides ainavas attīstības teritorijas un noteikt to fiziskās robežas. Savukārt novērtēšanas posmā tiek noteikts iespējamo pārmaiņu mērogs mūsdienu pilsētvides ainavā attiecībā pret esošajām struktūrām, salīdzinot esošās un topošās pilsētvides ainavas potenciālo vērtību.

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