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Preservation of urban form: A critical analysis of modern development strategies and the importance of compositional integrity

Abstract. The relevance of the study stems from the need to analyse modern urban development strategies, with a special emphasis on the importance of preserving the urban form in the context of its unique visual characteristics and overcoming spatial chaos in densely populated residential areas. The purpose of the study was to identify specific features and properties that are manifested at the level of implementation of specific goals in relation to the development of the city at the macro level. The research methodology was based on historical and typological, structural and functional, and historical and comparative analysis of historically formed components of such cities as Lviv and Ivano-Frankivsk (Ukraine), Athens (Greece), Neuf-Brisach (France), Philadelphia (USA), and Berlin (Germany). The authors emphasised the importance of ensuring the compositional integrity and unity of urban space, especially in the relationship between its form and function. Focusing on such relationships, special attention was paid to the contextuality of historical cities and its material content through the prism of cultural potential. The main areas of development of formal structures are defined graphically, emphasising their connection with cultural function. It was noted that the cultural cluster as a component of many significant cities is not only a place for the preservation and development of spiritual values, but also a means of expressing originality and ensuring the integrity of its appearance. It was noted that the introduction of the latest concepts leads to the loss of uniqueness of historically formed structures and chaos in modernist areas of large cities. The reason for this is the emphasis on the deprivation of individuality through the introduction of typical aesthetic content with an emphasis on functional expression and economic feasibility. The conclusions of the study indicate the importance of integrating cultural potential into the urban development strategy, ensuring the viability and uniqueness of cities in a global context. Understanding these outcomes will help to focus on the needs and increase the effectiveness of measures aimed at supporting cultural diversity, social inclusion, and the overall well-being of residents and visitors

Keywords: historical city; theory of urban planning; growth; heritage

INTRODUCTION

Given the current problems and challenges facing Ukraine in 2024, and considering the significant efforts and scientific research aimed at preserving the identity of urban

space and recreating its tradition, there are several aspects that remain unresolved. These aspects require even more attention and scientifically based developments, in

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particular, within the framework of the theory and practice of urban planning.

As of 2024, in the context of a difficult socio-economic and political situation, in particular in Ukraine, issues of physical security of the residential environment, preservation of the identity of urban space or reproduction of its tradition based on the principles of neo-urbanism philosophy, have become relevant. F. Treffers (2023) suggests that the old development models and regulatory frameworks are not able to contribute to the optimal recovery of Ukraine. J. Bergmann & I. Romanyshyn (2022) note that the plans for the restoration of Ukraine are closely coordinated with the norms and standards of the European Union. European experience shows that the successful implementation of the reconstruction process is associated with the development and implementation of a comprehensive methodology based on regional features of urban areas in relation to the implementation of the concept of sustainable development. The paper by Yu. Idak (2022) evaluated such actions. It was noted that the implemented project proposal did not violate the integrity and imagery of either the city as a whole or its individual fragments.

Yu. Idak & R. Frankiv (2022) note that due to the active housing development in Ukraine at the beginning of the 21st century, a new form of organisation of the material and spatial environment of human life became widespread. It is aimed at creating a safe physical space. At the same time, this trend contradicted the concept of development of a modern city, which is based on the principles of openness and accessibility. Despite active discussions about environmental sustainability and scientific interest in urban society, the focus was mainly on current reality, current management, and future planning. This distracts the eye and limits understanding of the challenges of growing up and living in cities, focusing solely on current challenges. In this light, according to B.N. Vis (2018), many alternative models that indicate the versatility of urban opportunities are ignored. On the other hand, A. Fedak & S. Linda (2022) noted that at the beginning of the 20th century, a change in approaches to solving current problems of spreading the ideas of an ideal city, the rejection of the city as a desirable model of human settlement and an attempt to return to nature, and the introduction of environmental technologies, were the reason for the development of utopian ideas in urban planning.

With the growth of cities and their adaptation to new challenges, including those that actualise the problem of achieving sustainability, the issue of preserving the identity of the urban environment is quite important. O. Musyeyzdov & K. Maryniak (2020), based on empirical experience in Kharkiv and Lviv, suggested that urban identity exists in the context of an “imaginary community”. This is conditioned by the fact that residents of cities, depending on their social, economic, and cultural potential, create and defend their individual image. Consequently, the individual needs and views of city residents in developing strategies to preserve the urban form and ensure the viability

and harmony of the urban environment remain desirable.

In the light of these challenges, tasks related to the development of theoretical concepts and the implementation of practical ideas for urban development become topics of broad discussion. To a greater extent, they are aimed at achieving optimal functioning of the urban environment. Both practical solutions to these problems and theoretical approaches to developing effective urban development strategies are discussed and considered in various aspects. For example, the concept of the city of Poundbury (Poundbury – design and..., 2019) is widely discussed in scientific communities. Contrary to popular technological and innovative projects, it has implemented a traditional medieval urban structure of high-density and low-rise buildings. Similarly, the city of Coventry has become the subject of a thorough scientific analysis due to numerous changes in urban space under the influence of socio-economic globalisation challenges (Begley *et al.*, 2019).

Due to the significant variations in approaches to the study of the urban environment, it is proposed to consider such issues through the prism of the cultural potential of the city, the uniqueness of their formal structures and the contradictions that lead to the implementation of the latest development strategies. This approach will expand the understanding of the specifics of the city's functioning and the development of development strategies, in particular, considering the preservation of its unique form. The purpose of the study was to assess the current urban development strategies and to argue the hypothesis that in the process of implementing innovative solutions, it is necessary to consider the individual characteristics of the city, which take place at the level of expression of its formal structures. Particular emphasis is placed on those aspects that cause disorder in the urban environment, which is characterised by a rather high level of development. This is due to the lack of interaction between the form and function of the city, especially at the level of their cultural potential.

MATERIALS AND METHODS

The methodological basis of the study was a detailed analysis of the formal structures of cities, which are distinguished by unique features in the context of architecture and urban planning. They have a deep history and a diverse culture, which largely determines their economic potential and contributes to the development of the tourism industry. They are: 1) Lviv (Ukraine), where as of 2024 there are 2,422 monuments of architecture, urban planning, history, art, and archeology (Lviv City Council, 2023); 2) Neuf-Brisach (France), the last fortress designed and built by the military engineer Sebastien Le Prestre de Vauban and the only one where the author managed to implement the most complex “third system” of defensive fortifications (Balliet, 2008). It played a key role in protecting the country from foreign invasions, and all implemented objects have a continuum between form and function; 3) Philadelphia (USA) – one of the oldest



cities in America. The orthogonal planning grid (Historical Society of Pennsylvania, n.d.), has been preserved to this day and became the basis for further development. In the 21st century, next to the preserved planning structure, the border between the city and its surroundings is levelled; 4) Athens (Greece) in the past was the centre of ancient Greek culture. After the proclamation of the London Protocol of 1830, Greece gained political independence and became the legal successor of ancient Greek culture (International Human Rights Instruments..., 2018). All historically significant archaeological sites located in a 7 km² area (Dimopoulou *et al.*, 1999); the entire historical heritage of the city demonstrates a continuum of architectural and urban planning solutions and cultural achievements of various stages of development over 2,500 years. On the example of the planning structure of the city of Ivano-Frankivsk (Ukraine) in the 18th-19th and 20th-21st centuries, the change in the form and structural organisation of its territory was traced, and on the example of the Berlin Museum quarter (Germany), and many museums in Lviv (Ukraine) and Athens (Greece) located close to each other, it was noted that cultural heritage is an important factor for ensuring the functional and compositional integrity of the central part of the city.

The study was conducted in three stages. Due to the rapid pace of urbanisation, papers related to determining promising models of urban development have become widespread. At the first stage, the method of theoretical analysis was implemented and an analytical review of modern urban development strategies was conducted. Historical and typological analysis was applied to identify trends in the preservation of the city's form. The second stage of the study was implemented within the framework of a structural and functional approach and was devoted to the spatial analysis of the cities under consideration and their fragments. To visualise the obtained data, the method of graphical modelling of urban planning structures was used and implemented in the following sequence: conceptualisation – solving questions about the nature of the model and its main elements → determining contextual characteristics → development of the model. This became the basis for providing a qualitative assessment of the formal structures of the city in terms of their spatial organisation and functional content of such cities as Lviv (Ukraine), Neuf-Brisach (France), Philadelphia (USA), and Ivano-Frankivsk (Ukraine). There was also a spatial analysis of the context of historical cities and their material basis through the prism of cultural potential. At the third stage, a historical and comparative analysis was applied to identify general trends in the development of the city. Changes in urban planning practices and their impact on the development of urban space in areas of high-rise residential development were revealed. The analysis methodology was accompanied by the use of cartographic materials to investigate the organisation of cultural objects in the urban structure and other factors affecting the formal structure of the city and its functioning.

RESULTS

The material nature of the urban environment includes formal structures whose characteristic feature is borders (Vis, 2018). They affect visual perception, interaction opportunities, and the use or development of an urban area. The formal structures of the European city evolutionarily developed until the 18th century. This was followed by a time of imbalance in the urban environment and form (Fig. 1). This was conditioned by the general direction of thinking of the liberal economic order and logically led to the spread of the idea of “city without borders” (Sassen, 2001) or “city beyond borders” (Kenny & Madgin, 2017). T. Hall (2003) suggested that it is in the planning structure of the city that the origins of its current spatial condition should be sought.

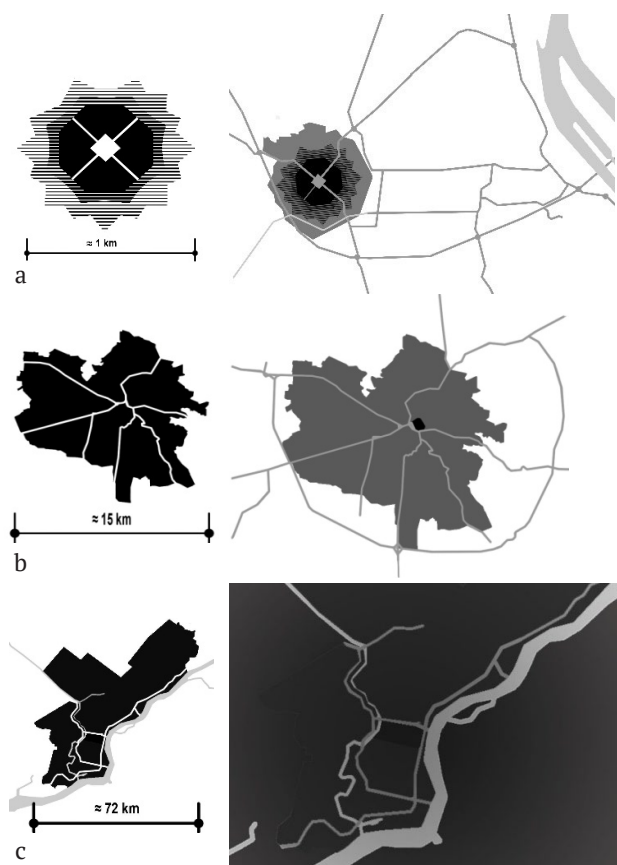


Figure 1. Shape of city

Notes: a – Neuf-Brisach, France (preserved city contour and planning structure); b – Lviv, Ukraine (transformed city contour); c – Philadelphia, USA (lost city contour)

Source: developed by the authors

In the concept of “city without borders”, the key idea is that the development process requires the city to constantly find a balance between the disturbed formal balance and determining how to develop in the absence of external restrictions. This problem remains unresolved, and the object of criticism may be the postulates of functionalism in the 1920s and 1950s regarding the functional delineation and zoning of urban territory (Mumford, 1992). In them, one of



the main specific reasons is considered to be the replacement of the traditional form of “city” with a non-traditional one – the form of “non-city”, due to the fragmentation of the urban body into separate parts (Böhme & Martin, 2019) and the loss of the integrity of the urban environment and form. The example of the city of Ivano-Frankivsk (Fig. 2) clearly demonstrates changes in the original form and loss of integrity and compositional expressiveness.

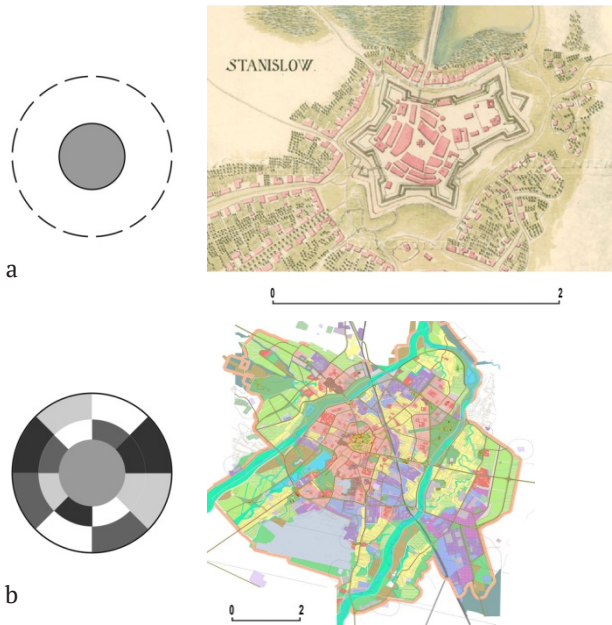


Figure 2. Ivano-Frankivsk

Notes: a – conceptual model of the formal structure of the city in the 18th-19th centuries; b – conceptual model of the formal structure of the city in the 20th-21st centuries
Source: developed by the authors based on Map of Stanislow in 1800 (n.d.) and General plan of Ivano-Frankivsk city (2001)

Discussions have become popular that modern cities should find their traditional spatial form, which would be created precisely through the organic combination and mutual complementation of various functions, mainly residential, administrative, industrial, commercial and cultural. This approach was the basis of urban planning in the 20th century. In the context of urban integration, especially in large metropolitan cities, special emphasis has been placed on the means of territorial unity, including overcoming differences in population density, distance, and social division (Medeiros, 2019). However, it can be assumed that the decisive element of this complex problem is the historical heritage of the city (Marmo *et al.*, 2018), which is concentrated in the central districts.

The complexity of the structure and cultural content of metropolitan areas reflect the diversity and complexity of the world as a whole. The example of the museum quarter in Berlin (Germany), the central part of Lviv (Ukraine) and Athens (Greece) suggests that the typical symbol of a modern European city is a museum, since the city can be

considered as an environment for the existence and storage of various aspects of human life in their diversity, integrity and unity (Fig. 3). The historic city, due to its long historical development, is the largest repository of various cultural artefacts compared to any other objects and institutions. Human life activity is concentrated in the urban environment, which is manifested in technological processes and in architectural and urban planning forms. It can be stated that a metropolitan city is the best instrument of memory created by man (Posatskyi, 2007).



Figure 3. Museums of the big city

Notes: a – map of museums in the central part of Lviv; b – Lviv Historical Museum (one of the oldest museums in Ukraine); c – map of museums in the central part of Athens (Greece)
Source: a – Google My Maps (2023); b – History of Lviv Historical Museum (n.d.); c – Main Museums in the centre of Athens (n.d.)

In the public consciousness and theory of urbanism, there are intentions to return to the traditional form of the city, which are described by the motto “faith in the city”





and “spirit of the place”. These concepts can define the unique features of each city (Nientied *et al.*, 2022), such as its natural conditions, its central part, and its overall functional planning organisation. It is considered important to pay attention not only to utilitarian items and solutions, but also to the “intangible qualities of the urban environment” (Siláči & Ebringerova, 2019). Among them: people’s understanding of the scale of architectural forms and urban planning objects, and the ability of residents to identify with the current and future image of the city (Fig. 4).

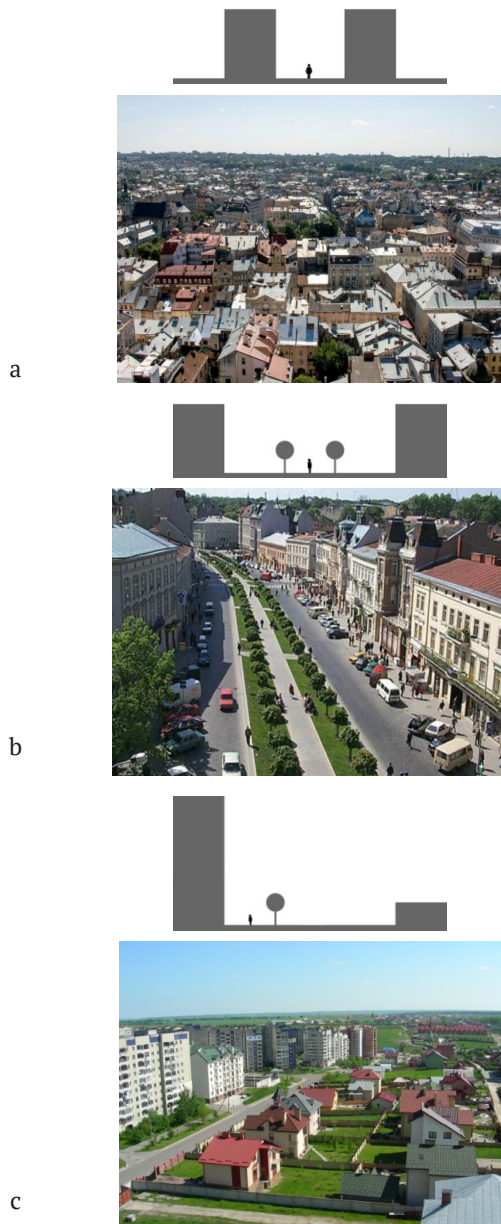


Figure 4. Street scale

(on the example of Lviv), diagrams and photos

Notes: a, b – street of the historical centre of the city (human scale); c – main street of the neighbourhood unit built in the 1980s (human unscale)

Source: diagrams – developed by the authors; photo: a – R. Metelsky (2015); b, c – Lviv City Council (n.d.)

This also applies to the combination of old and new urban forms, their coexistence, giving a clear structure to urban space and a variety of its elements. In modern cities, on the one hand, the functional and planning structure is growing and becoming more complex, and on the other hand, the practice of transmitting certain information to residents and guests from spatial representatives of the form is narrowing. This is due to the lack of imagery and stereotyping of mass architecture, and the similarity of new territorial objects in different cities, regions, and countries.

The characteristics and traits of urban space are determined by the process of its perception by residents and can facilitate or complicate it. Spatial characteristics of the environment are evidence of the general culture of society and demonstrate its level at one time or another, reflecting periods of development or stagnation, rise, or decline. An urban environment can become a social symbol when its spatial forms are perceived as an expression of public institutions (national, regional, local) and when its social significance becomes leading in comparison with other functions.

The historical urban environment in many developed countries as of the beginning of the 21st century is generally not of primary social importance. For example, the city of Oslo (Norway) has a rich history, replete with modern architectural and urban planning objects, devoid of historical continuity and aimed at finding the unique shape of individual objects. During the reconstruction of the Fjordbyen harbour, giving preference to the search for uniqueness, the authorities and city planners focused on innovative design and experiments with forms, trying to create a new image of the city. Historical architectural and urban planning objects are of interest mainly for aesthetic and religious reasons and for a sense of patriotism. However, it is these factors that have great weight in societies that have long been deprived of their own statehood and only relatively recently received it. A typical example of this is the situation in Ukraine.

The importance of the symbolic functions of architecture can be explained by the following. As of 2024, there is spatial chaos in the cities of Ukraine and its peripheral areas due to excessive compaction and the need for housing. In the context of competition in the real estate market, the emphasis is on promoting “modern” approaches to the creation of residential complexes, which are perceived as a response to the needs of buyers. Among the most common measures to overcome such chaos in Ukrainian cities is the construction of new sacred objects, which in their form convey symbols that are understandable to the general public and at the same time are traditionally designed to be compositional accents of urban space. The most popular such object in 2009 was the Greek Catholic Church of the Nativity of the Holy Virgin Mary in the Sykhiv residential area on the periphery of Lviv (Fig. 5), built in 1995-2001 according to the design of Radoslav Zhuk (Cherkes, 2009).

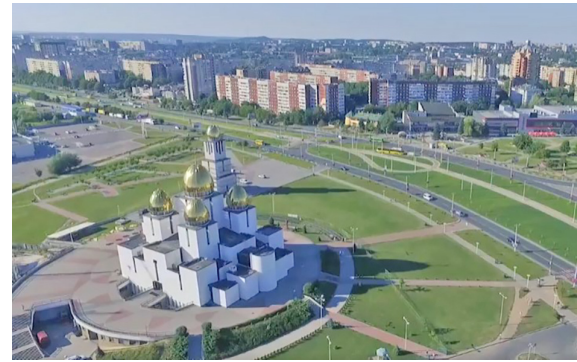
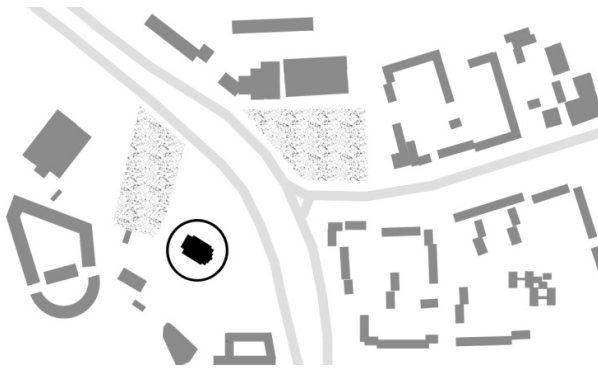


Figure 5. Compositional centre of urban space of a big city:
on the example of the Nativity of the Holy Virgin Church in Lviv

Notes: a – plan diagram; b – general view of the church

Source: a – developed by the authors; b – frame from “Blog 360” Youtube Channel (2017)

The example of Lviv illustrates the importance of understanding the city's space from the standpoint of art, which is once again becoming relevant. Back at the end of the 19th century, K. Zitte argued that the city space should be considered as a work of art with an important social function (Habel, 2021). The main idea in this concept is the thesis about the integrity of space and form, which the city itself creates in the course of its existence. However, in the modern city of the early 21st century, the integrity of the urban planning form is disintegrating mainly under the pressure of motorisation, for the same reason, the quality of the urban environment as a whole sharply deteriorates. For example, high-speed road transport increases the size of suburban areas, leading to increased paved areas, heat effects and urban air pollution, household consumption of goods, and loss of agricultural land, forests, and biodiversity (Tranter & Tolley, 2020). In 2018, global carbon dioxide (CO₂) emissions from transport totalled 8 billion tonnes, of which 74% came from road transport (Understanding traffic & air quality..., 2023). Even with significant improvements in efficiency, global energy demand is projected to grow markedly over the course of this century, as a result of which zero-emission energy system concepts are being developed (Davis *et al.*, 2018). New urban concepts such as smart growth, new urbanism, and transport-oriented development aim to create pedestrian and accessible areas that support non-motorised transport and connect different parts of the city to public transport (Piracha & Chaudhary, 2022).

During the 20th century, numerous theoretical and design concepts were developed to preserve the integrity of the urban organism by spatial differentiation of transport and pedestrians and the corresponding organisation of urban transport networks (Dittmar & Ohland, 2022). In this context, the significance and role of the city street – an important component of the urban environment and one of the main urban planning forms – was reviewed. The development of new (or reconstruction of existing) public spaces, the main elements of which are pedestrian-friendly streets and squares, is becoming widespread.

After more than half a century of providing benefits to private individual vehicles at the end of the 20th century, the concept of organising integrated public transport systems in large cities is being increasingly promoted and implemented (Spink *et al.*, 2022). These include the combined systems of the underground (metro) and surface (city railway, bus) transport network, which can free the central part of the city from the movement of individual vehicles. It is worth noting that freeing the central city centre from individual transport is more or less realistic in small cities, but in large cities (not to mention the most significant ones) it turns into a very complex set of problems. A characteristic feature of new technical capabilities in the organisation of urban transport networks is the mass use of helicopters in passenger transportation in the most significant cities of the world: New York (USA), Tokyo (Japan), São Paulo (Brazil).

At the beginning of the 21st century, when popular science publications became available to a wide audience, it became obvious that the city's environment is an object of interest for many areas of scientific research. Although different disciplines are involved in the analysis of the urban environment (Dastjerdi & Nasrabadi, 2022), architecture and urban planning remain the main ones. However, it is important to note that these areas were in a transitional state at the end of the 20th century, associated with a change in paradigms and approaches in urban planning practice. In the past, the practice of urban planning was aimed at simplifying their structure, which led to a decrease in their functional efficiency. In the late 20th and early 21st centuries, attention was focused on maintaining and creating functional complexity (Marshall, 2012), which is important for ensuring their effectiveness, meeting the needs of residents, and resilience to change. Reform in urban planning and architecture was influenced by the development of new technologies, changes in social values, and under the influence of globalisation and challenges of sustainable development.

Urban planning problems, by their very nature, are interdisciplinary, since their solution requires the interaction of various scientific and professional areas. Successful



solutions require not only technical knowledge of planning and engineering, but also an understanding of social needs and cultural aspects. In addition, urban planning activities have an important artistic component, which is revealed through various forms of visual expression of architectural objects in the urban environment. However, in the 20th century, urban planning practices began to focus mainly on technocratic and economic factors based on weighted average criteria and statistical data. In accordance with this, urban planning in general was subject to interdisciplinary compromises, which led to the predominance of economic planning for urban development. It is this understanding of the problem that leads to departmental limitations and does not allow organising the space and shape of the city as a whole in a satisfactory way.

Master plans of cities do not contain a generalised concept of the spatial form of the city in the sense of the basis for the development of its urban planning composition, the same applies to the rules of use and development of urban territories (so-called zoning). In fact, the indiscriminate application of the postulates of the American version of zoning in the environment of the historical European, and therefore Ukrainian city, can lead to further deformation of the urban environment in the artistic sense. Therefore, during the development of a new urban planning policy in Ukraine, it is necessary to rely on the postulates of planning and design.

The urban planning form is directly and concretely manifested in the projects and implementation of large territorial complexes. However, there is a tendency to solve, first of all, specific tasks related to individual buildings or structures, while the urban planning context remains ignored. During the 1960s and 1980s, urban planning forms that provide a high degree of concentration and integration of various urban functions, the so-called megastructures, became widespread in cities in the United States and Western Europe (Kantor & Savitch, 2010). A striking example of multifunctional structures is the Prater district in Vienna (Austria). As of 2024, a megastructure is organised on the territory of more than 200 hectares, where all possible functions of the European metropolis are concentrated: educational (Vienna University of Economics), entertainment (a large park with vintage attractions), cultural (Vienna Exhibition Congress Centre, museums), commercial (office centres), residential (houses for temporary and permanent residence of both guests and residents of the city), sports (track for racing and Ernst-Happel-Stadion), recreational (parks and green areas with reservoirs), engineering structures (parking lots and transport hubs), etc.

Modern megastructures play a key role in the structure of urban centres, combining various objects around large public spaces at different levels – underground and above-ground. They create favourable conditions for communication and various types of urban activity, reflecting the prevailing trends in the culture and civilisation of the new millennium. One of these trends is massification, which is manifested in unimpeded access to various items, including

those belonging to mass culture, due to developed forms of mass services that operate on the principle of “everything is available to everyone”.

The need for widespread distribution of certain items is associated with changes in the fashion world, as new styles attract consumers and generate demand for new products. This trend, supported by the demands of wealthy clients, permeated architecture in the late 20th century (Leach, 2010), with architectural forms becoming a fashionable phenomenon. It was based on short cycles, requiring the architect to constantly update. Consequently, a new technical culture is being developed, which considers the city as a “machine for making money” (Busà, 2017), that is, economic priorities dictate the forms of organisation of space according to the requirements for ensuring the greatest economic feasibility. The same megastructures are characterised by the similarity and uniformity of the main spatial characteristics, subordinated to commercial needs.

On the other hand, trends of universalisation cause resistance and negative reactions of those who defend the values of national or regional culture, seeing them as the basis of cultural sovereignty. At the turn of the millennium, opposition to universalisation and globalisation became a prominent phenomenon in European culture. At the forefront is the demand to form a humane, human-friendly urban environment in unity with the natural environment based on traditional urban forms. This trend is embodied in large-scale measures to preserve the cultural landscape and historical and architectural heritage in the countries of Western and Central Europe at the regional and local levels. Historical associations are designed to enrich the shape of the city, however, the literal transfer of historical forms to the environment of a modern city, as a rule, does not give the desired result. But the search continues for a modern equivalent of historical values in the sphere of the city's form. This task is difficult and time-consuming, as the modern city is characterised by extremely contradictory background contexts that did not exist in the historical city. It is suggested that “... the only perceivable visual organisation for the inhabitants of a modern metropolis is the metro plan and road signs”.

However, in the last decade of the 20th century, attempts to return to the historical urban planning context became noticeable. In England, the construction of the town of Poundbury with an area of 160 hectares and a planned number of 5 thousand inhabitants has begun. The programme thesis of the designers (urban planning concept by L. Krier and L. O'connor) was the construction of the city according to the English rural tradition. The project provided for the greatest variety of types of buildings (detached, blocked), alleys, playgrounds, and courtyards. Thus, it was planned to create a very attractive urban landscape (Knupfer *et al.*, 2018). The planning structure of the already implemented town consisted of several polygonal blocks separated by broken streets, and the built-up area was surrounded by meadows and fields. The initial principle in the construction of the town was to observe the traditional



spatial scale and architectural forms for English small towns and the use of regional construction technologies.

DISCUSSION

Due to the significant immersion in the problems of the development of the urban environment, the papers by S. Kostof (2005) and G. Curdes (1996) remain relevant in the modern urban planning discourse. This is conditioned by the fact that they have generalised characteristics of the urban form. If the study by S. Kostof (2005) is a theoretical generalisation and definition of the maximum set of characteristics of a formal city expression with an emphasis on historical continuity, then the study by G. Curdes (1996) has a methodological focus. It substantiates the importance of observing the laws of development and change of an urban structure, in accordance with the logic of spatial orders.

In 2024, the relevant practical recommendations for the organisation of the urban environment set out in the book by Duany *et al.* (2010). The researchers' ideas were based on the principles of neo-urbanism and focused on the importance of compact development, creating accessible spaces that promote pedestrians and cyclists, preserving natural resources and reducing car addiction. But it is important to keep in mind that excessive emphasis on compact buildings leads to some negative consequences. For example, too dense development changes the traditional silhouette of the city, violates the compositional integrity of already formed urban structures, and leads to an increase in traffic load and deterioration of air quality. In addition, it is important to consider the diversity of needs and wishes of residents, and not just to be limited to efficiently addressing construction requests. A more correct approach to the organisation of urban space seems to consider the need to introduce not only effective development methods, but also those aimed at comprehensive preservation of individuality and sustainability.

At the end of the 20th century, the form of the so-called "ecological city" was discussed quite intensively. Two concepts were compared in this discussion. Proponents of a compact, that is, intensively built-up city put forward arguments about lower energy costs for heating and transport needs, while emphasising that transportation can be reduced by replacing them with bicycle and pedestrian movements, which allows preserving the cleanliness of the environment and reduce fuel consumption. However, the compact city has certain drawbacks (Bibri *et al.*, 2020). In such a city, there are not enough open green areas, which are necessary for organising various forms of recreation and enriching the urban landscape. This suggests that the optimal from an ecological standpoint may be the linear shape of the city, which is formed from intensively built-up "island" territories that alternate with green areas or along massive natural components. An example of the first option is the city of Örebro in Sweden, which acquired "island"-type linear development in the second half of the 20th century. Acceptable for the second is Copenhagen

(Denmark). This city is actively developing a strategy to create a living environment surrounded by water bodies and green spaces.

In the early 2000s, formal characteristics were the subject of considerable interest. Scientific research concerning the urban form has become particularly relevant. It was based on the studies of numerous geographer researchers who worked within the framework of three morphological schools proposed at the end of the 20th century by A.V. Mouidon (1997). At the beginning of the 21st century, the border between the specifics of each of the morphological schools was levelled. Research related to sustainable urban development and within the competence of various fields of scientific activity, including architecture and urban planning, has gained popularity (Kropf, 2017; Idak, 2020). S. Kristjánsdóttir (2019) noted that urban morphology is in the field of interdisciplinary research and is used to describe the physical form or urban landscape of complex modern cities. For example, S. Vanderhaegen & F. Canters (2017) use form to determine the potential of urban metrics. They describe the availability and configuration of built-up and open urban areas to map different types of urban form and function at the city block level.

Along with the morphological discourse at the beginning of the 20th century, the one that concerns the introduction of effective models of city development was also developed. They were accompanied by conclusions on the optimisation of the urban form and its effective use (Oliveira, 2016). They were based on the problems of urban sprawl, with a particular focus on growing urbanisation, reduced area and accessibility to green areas, inefficient use of urban space, and general congestion of urban infrastructure. Researchers claim that the expansion of the city has led to inefficient use of land, loss of aesthetic qualities of space and the creation of too long routes. J.K. Brueckner (2000) touched upon one aspect of this problem in the early 20th century. Using the example of US cities, the researcher noted that urban expansion is not socially desirable and is mainly the result of three powerful factors: population growth, income growth, and falling travel costs. The Ukrainian experience is based on diametrically different problems related not to territorial expansion, but to the oversaturation of urban infrastructure (Liubytskyi, 2017), which leads to drastic changes, to a greater extent, in the traditional historical formal structures for Ukraine.

In 2016, the European Commission has updated the problem of uncontrolled urban development by presenting a joint report by the European Environment Agency (2016), which noted that urban sprawl develops through diverse and independent environmental impacts such as individual citizen actions, urban planning, production, land market, mobility, accessibility, and lifestyle changes. The definition of various types of stable models was substantiated, among which the most common was the compact city model (Jabareen, 2006), and later the slow city model (Pink, 2009). K. Mouratidis (2018) studied the Oslo metropolitan area (Norway), which covers both compact and extensive areas.





The result of the study was the conclusion that in compact cities, the standard of living is significantly higher than in sprawling cities. On the other hand, M. Neuman (2005) expressed doubts about the sustainability of a compact city, arguing that two key aspects are opposed in this context: process and form.

Given the interdisciplinary nature of the scientific discourse on cities, there are a significant number of studies. However, it is heterogeneous, since most research focuses on social and environmental aspects, in particular, on the problems of optimal density and grouping, thereby avoiding the analysis of the effective use of physical resources of the city in order to achieve strategic goals for their development. In these aspects of the development of cities, the urban planning of Ukraine faces complex theoretical and practical problems that require a revision of stereotypes and a new understanding in the light of new realities. New challenges and rethinking the usual urban planning practices should not be limited to those aspects that are aimed at solving problems of efficiency and optimality. Most of them are situational and can solve problems for a short period of time. The experience of Ivano-Frankivsk shows that the loss of form and compositional integrity leads to a violation of historical continuity, which is a critical aspect of urban development. In turn, the experience of Lviv (Ukraine) and Athens (Greece) is an example of how the cultural potential of the city and its formal representatives become an effective tool in enriching urban space.

The lack of preservation and proper management of historical heritage can lead to the loss of the city's cultural identity, reduced attractiveness for tourists, and the extinction of the urban environment. Therefore, the preservation of historical heritage and the restoration of its compositional integrity play a key role in the sustainable development of cities. Special attention should be paid to those ideas that are aimed at preserving the uniqueness of the urban environment, which is reflected in such formal characteristics as location, configuration, variability of forms and structures, etc. Consideration of these things requires a broad dialogue between researchers, professionals from various fields, investors, local authorities and the public, and various ideas that can ensure the sustainability of the urban environment and, at the same time, preserve the uniqueness and originality of each of the existing ones.

CONCLUSIONS

The study was aimed at analysing and exploring various aspects of urban form. Often its historical continuity was not consistent with modern trends, which lead to the loss of individuality of the urban environment and the acquisition of stereotypical features. Such features are manifested both at the level of the physical form of the city, expressed within its borders, and in the planning structure at the level of geometric characteristics of urban elements.

The state of formal structures of unique cities in the world was traced, and their distinctive and unique characteristics were emphasised. Special attention was paid to the variety of forms of cities, which is a key element of their identity. For example, in Neuf-Brisach (France), the traditional form characteristic of the city's founding period has been preserved. In Lviv (Ukraine), the evolution of the city's shape from geometrically correct simple to heterogeneous complex was traced. In the case of Philadelphia (USA), while the historically formed planning structure was preserved, socio-economic factors led to a complete loss of the traditional boundaries of European cities.

As part of the study, a hypothesis was put forward about the relationship between the form of a historical city and its potential. In particular, graphic comparisons were made between two cultural centres – Lviv (Ukraine) and Athens (Greece), where the inventory of the city's tangible assets was considered, a key element ensuring the integrity of the historically established urban organism. In addition to the historical, comparative, and spatial characteristics of cities, concepts were synthesised to improve living conditions and level the functional and compositional capabilities of the city to preserve the identity expressed in the form. Concepts related to the qualitative improvement of urban space and sustainable development were analysed in the context of preserving cultural values and maintaining compositional integrity. This approach expanded the understanding of factors affecting urban development and identified optimal strategies for their further improvement.

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CONFLICT OF INTEREST

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Збереження міської форми: критичний аналіз сучасних стратегій розвитку та важливість композиційної цілісності

Анотація. Актуальність дослідження впливає з потреби аналізу сучасних стратегій міського розвитку, з особливим акцентом на необхідності збереження форми міста в контексті його унікальних візуальних характеристик та подолання просторового хаосу у густонаселених житлових районах. Мета статті полягала у виявленні специфічних ознак та властивостей, які проявляються на рівні впровадження конкретних цілей у відношенні до розвитку міста на макрорівні. Методика дослідження ґрунтується на історико-типологічному, структурно-функціональному та історико-порівняльному аналізах історично сформованих складових таких міст як Львів та Івано-Франківськ (Україна), Афіни (Греція), Неф-Бризак (Франція), Філадельфія (США) та Берлін (Німеччина). Авторами підкреслено важливість забезпечення композиційної цілісності та єдності міського простору, особливо у взаємозв'язку між його формою та функцією. Зосереджуючись на таких взаємозв'язках, особливу увагу звернуто на контекстуальність історичних міст та матеріальне його наповнення через призму культурного потенціалу. У графічний спосіб визначено основні напрямки розвитку формальних структур, наголошуючи на їхньому зв'язку із культурною функцією. Зазначено, що культурний кластер як складова багатьох значущих міст є не тільки місцем збереження та розвитку духовних цінностей, але і засобом вираження своєрідності та забезпечення цілісності його зовнішнього вигляду. Зауважено, що впровадження новітніх концепцій призводить до втрати унікальності історично-сформованих структур та хаосу в модерністських районах великих міст. Зазначено, що причиною цього є акцент на позбавленні індивідуальності через впровадження типових естетичних контентів із акцентом на функціональній вираженості та економічній доцільності. Висновки статті вказують на значимість інтеграції культурного потенціалу в стратегію міського розвитку, забезпечуючи життєздатність та унікальність міст в глобальному контексті. Розуміння цих результатів допоможе зорієнтуватися в потребах та підвищити ефективність заходів, спрямованих на підтримку культурної різноманітності, соціальної інклюзії та загального благополуччя мешканців та гостей міста

Ключові слова: історичне місто; теорія містобудування; зростання; спадщина

