ARCHITECTURE CIVIL ENGINEERING ENVIRONMENT
The Silesian University of Technology
No. 1/2023

doi: 10.2478/ACEE-2023-0001

MULTI-COMFORTABLE URBAN ARCHITECTURAL ENVIRONMENT

Nellia LESHCHENKO [a]*, Alina HOLOVATIUK [b]

[a] Prof., Dr.; Kyiv National University of Construction and Architecture, Faculty of Architecture, 31 Povitroflotskyi Av., Kyiv – 37, 03037, Ukraine, ORCID 0000-0002-3198-4554
*E-mail address: *nellya_leshchenko@ukr.net*

[b] PhD; Kyiv National University of Construction and Architecture, Faculty of Architecture, 31 Povitroflotskyi Av., Kyiv – 37, 03037, Ukraine, ORCID 0000-0003-4705-1027

Received: 25.10.2021; Revised: 29.11.2022; Accepted: 25.03.2023

Abstract
The paper is aimed at defining a multi-comfortable urban architectural environment and strategies for achieving it during the restoration-reconstructive transformations of historical city centers. The definition of the "multi-comfortable urban architectural environment" is given. Its ten criteria are highlighted and recommendations are given for its achieverment. A model of a multi-comfortable historical urban environment has been developed, where its image (beauty) – function (interest) – infrastructure (convenience) – "urban performance" (activity), criteria for multi-comfort and key strategies suitable for improving each of the four components are interconnected. The developed model, the highlighted criteria for determining the multi-comfortable urban environment, and the proposed recommendations will be useful in the development of complex projects of restoration-reconstructive transformations of historical cities, as well as in the new design in them. It has been determined that a multi-comfortable urban architectural environment, where a person is in the main, should be the result of any restoration-reconstructive transformations of historical city centers.

Keywords: **Multi-comfortable urban environment; Restoration-reconstructive transformation.**

1. INTRODUCTION

Often walking in the city and observing what is happening, the question arises why there are some places in it, where there are always a lot of people, and life "boils" there, but there are absolutely empty territories where you can meet only two or three people in half an hour in the middle of the day. And they don't stop and don't stay here or, even worse, they pass by, despite the fact that it was possible to spend time in this place. It is absolutely inactive, or, conversely, is used only as a transit. And if we compare such "alive" and "inanimate" urban areas, then they are not necessarily located in different areas, for example, in the center, and on the outskirts. Of course, in this case, we can say that the central part of the city is more attractive for different people, both local residents, and its guests. And on the outskirts, you can often meet only locals, and they work during the day, and their place of work is in a completely different area. Partly true. But attractive and crowded, as well as deserted places can often be found in the very center of the city. Moreover, they can be very close. So, the question is not in their location but in something else. What is the reason for the attractiveness of some urban spaces and the nonpopularity of others? The reason is emotional comfort, which either arises or does not occur in a certain architectural urban environment, a certain place.

A person perceives and cognizes any environment through his specific sensations (visual, tactile, auditory, etc.) and impressions. Sensations are formed into certain emotions. Emotions are remembered and formed into impressions. The more pleasant the experience, the better a person feels in this environment. A

multi-comfortable environment is a place, where there is a state of comfort for different human sensations in the process of cognition (feeling, perception, representation). And if we proceed from the fact, that the architectural urban environment is a definitely organized set of buildings and open urban space, that unites them, then we can give a definition of a multi-comfortable urban architectural environment. The author's proposal for the determination of a multi-comfortable urban architectural environment is following – it is a definitely organized set of buildings and an open urban space that unites them, where there is a state of comfort for different human sensations in the process of its cognition [1].

2. THEORETICAL BASE

What should be the urban environment at the same time comfortable to live, work, spend free time, interesting to visit and invest, which will contribute to the "revival" and economic development of the city and improve the welfare of its inhabitants?

Various researchers from different countries were interested in this question at different times. They focused on the study of various aspects of this problem: architectural and urban planning, aesthetic, ecological, infrastructural, and socio-economic. The works in the field of theory of architecture and urban planning (K. Alexander [2], V. Glazychev [3], A. Gutnov [4], K. Lynch [5]), preservation of the architectural memory of a place (S. Dobson [6], V. Tovbych [7]), sociological studies of the urban environment (D. Harvey [8], J. Jacobs [9], A. Lefebvre [10], W. Whyte [11]), the definition of national and multicultural identity (B. Cherkes [12], S. Linda [13]), convenience and activity (J. Gehl [14]), aesthetic organization (A. Ikonnikov [15], H. Osychenko [16], Z. Yargina [17]), harmonization (N. Shebek [18]), emotional influences on a person (C. Day [19], S. Shubovich [20]), studies of the phenomenon of the sacred as a key one in the formation and development of a high-quality urban environment (Y. Krivoruchko [21]) are of great methodological importance for this research.

According to Jan Gehl, a comfortable city for life "should be alive, safe, sustainable, healthy" [14]. He defines that alive is when most residents have the opportunity to walk; safe when more people are in public places; sustainable with a sustainable environment, with ecologically clean, convenient, and safe public transport; healthy with healthy citizens who can comfortably move on foot and on bicycles [14]. According to Jane Jacobs, the urban environment should be safe for life. She notes that the continuous physical mixing of people who are on the street for different purposes is the only way to ensure street safety [9]. She also specifies that "happy areas" that attract more people are rarely adjacent to massive areas that are entirely dedicated to one use – monofunctional magnets [9]. According to the theory of Alexander and Lynch, the activity and attractiveness of urban spaces depend on the activity of their boundaries. Alexander says if the border doesn't work, "space never becomes lively" [2]. Lynch determines the border as the place where different urban spaces are stitched together into a coherent whole [5].

This study is also based on the current national legislative and regulatory documents in the field of architecture and urban planning, and cultural heritage protection, namely the Law of Ukraine: "On the Protection of Cultural Heritage", 2000, as amended in 2002-2018 [22], and state building codes of Ukraine – DBN B.2.2-12:2019 "Planning and development of territories" [23], and DSTU B B.2.2-10: 2016 "Composition and content of scientific and project documentation regarding the definition of limits and modes of use of zones of protection of architectural monuments and urban planning" [24]. These documents determine the possibility of certain architectural interventions in the historical urban environment to improve its quality and transform it into a multi-comfortable one.

This study proposes to determine what a multi-comfortable urban architectural environment is, what it should be, and what should be done for this when carrying out restoration-reconstructive transformations in the historical centers of cities? Wherein, the definition of "restoration-reconstructive transformation" (RRT) is given as a complex process of interconnected restoration and reconstruction changes in buildings, open urban spaces, and urban architectural environment as a whole to increase their value and integrity and move to a new qualitative level [1].

3. METHODOLOGY

The generalization method was used to identify and systematize the criteria for the multi-comfortable urban architectural environment and determine the strategies for achieving them. The method of complex attraction was applied to provide cognitive, adaptive, and utilitarian comfort, long-term stay, and comfortable movement of a person in the historical center of the city. It involves attracting attention and

organizing people's actions in places of attraction, highlighting the main, transforming them into "objects-performances" and activation of different types of "urban performance" – daily permanent, periodic long, and one-time short-term. "object-performance" is a place in a city (city square, street, block, courtyard, separate building) where actions and events take place and show a certain traditional city life ("urban performance") in real-time and create a positive emotional impact on a large number of people in the process of perception, comprehension, and experience [1]. "Urban performance" is an action that occurs in a certain place and time due to the alternation of the connection between the observer and the active performer, if it is interesting [1]. "objects-performances" and "urban performance" are the key to increasing the attractiveness of the historical center and thus its "revival". The method of step-by-step species disclosure of the historical center is recommended for its best representation. It is assumed the identification, amplification, and showing the most attractive, as well as the use of screens for unfavorable species at each point of a person's movement along certain routes, and the selection of a hierarchical structure of the places of attraction – indicative, directing, accent, and dominant.

With the help of modeling, a model of a multi-comfortable historical urban environment is created, taking into account the interests of different people (local residents, tourists, investors). It interconnects image – functions – infrastructure – "urban performance" and certain criteria of multi-comfort, as well as strategies to improve each of its four components. The proposed model of a multi-comfortable historic urban environment is human-centered. The complex transformation of the existing urban environment of the historical center into a multi-comfortable one is assumed by simultaneously increasing its convenience, aesthetic appeal, interestingness, and social activity, which, as a result, will contribute to the growth of its economic attractiveness and the welfare of local residents.

4. CRITERIA FOR A MULTI-COMFORTABLE URBAN ENVIRONMENT

So, what properties the architectural environment of the historic city center must have to be multi-comfortable?

The authors proposed to identify the following 10 criteria for a multi-comfortable urban architectural environment, namely: eco-comfort; energy comfort (energy efficiency); visual comfort; the comfort of stay; the comfort of movement (pedestrian accessibility); sanitary comfort (protection against overheating, precipitation, wind, noise); cognitive comfort (interest and convenience of cognition); adaptive comfort (for all); utilitarian comfort (functional filling); and emotional comfort as a total result. Strategies for achieving them are also proposed.

1) Eco-comfort. The urban architectural environment must be ecologically comfortable. For this purpose, the following strategies are recommended during the complex process of restoration-reconstructive transformations of the historic city center:

– removal of industrial and transport-intensive enterprises outside the historic center;
– removal of transit transport outside the historic center;
– development of bicycle transport and ecologically clean public transport;
– historic center – mostly pedestrian;
– historic city – "green city" – the creation of walking embankments, squares, parks in place of abandoned, degrading urban areas; riverside areas should be transformed into major urban recreations;
– using the "green facades", and "green roofs" techniques in the existing and new buildings' decoration, that clean air pollution, improve stormwater management and reduce the urban heat island effect.

2) energy comfort (energy efficiency). The urban architectural environment should be energy-efficient in use. For this, the following strategies are proposed:

– reducing the consumption of non-renewable energy sources and the use of energy-saving technologies for the operation of new buildings (energy-efficient, passive, and active new houses) and buildings and open spaces subject to RRT (the use of earth energy for heating and ventilation, solar energy for hot water and street lighting; collecting rainwater and using it to irrigate the territory) [25]; the energy infrastructure of significant historical buildings can be connected to nearby new buildings to share renewable solar energy;
– reduction of heat losses in the operation of existing buildings due to their thermal modernization and the creation of a continuous thermal shell (for buildings that are not historical valuable and architectural monuments).

3) Visual comfort. Together with ecological comfort, it is most connected with the first component of the main strategy of attractive disclosure of the historic city center – "to attract". To attract attention, the urban architectural environment should be visually appealing. This is facilitated by:

– the authenticity of the architectural and urban-planning context (preserved, restored, or designated existing and lost monuments);

– the harmoniously combining "old" and "new";

– the integrity of the architectural and urban context, the absence of destruction;

– various facades of new buildings, detailed at eye level (first, second floors), at the same time united by historical, traditional for a given context, scale, parceling, color, material, and subordinate to existing architectural monuments [26];

– high-quality materials for finishing facades, covering paths, landscaping elements;

– "green islands" and artificial water reservoirs in places for spending free time;

– light transmission and natural light in buildings; provide visual comfort in their interior spaces and a close visual connection between interior and exterior spaces.

4) The comfort of stay. The architectural environment of the historical center should be cozy and comfortable for a long stay. It means:

– pedestrian scale for buildings and open urban spaces;

– "soft", "flowing" and attractive boundaries between buildings and the open space in front of them due to the continuation of the buildings' functions into the territory of a street, square, or courtyard (creation of open outdoor cafes, shopping malls, exhibitions) or through the entry of squares' and streets' spaces into buildings (organization of passages, open ground floors for communication spaces);

– availability of small, equipped for various functions, open areas for spending free time;

– filling them with outdoor furniture;

– physical filling of existing open urban spaces with small architectural forms (awnings, arcades, covered galleries), which will provide coziness and comfort for people while waiting and will contribute to long-term spending of their free time outside buildings, in open urban spaces, under various weather conditions;

– filling the historical center with elements of landscape improvement (stationary flower beds, mobile tubs with multilevel plants; lamps; waste boxes), organizing parklets.

5) The comfort of movement. The urban architectural environment should be convenient and safe, comfortable for movement, where "everything is at your fingertips". It means:

– pedestrian accessibility to various city functions. A pedestrian space within comfortable accessibility (1000 m) should combine the places and functions of mandatory and optional social practices: places to live, study, work, shopping, leisure, communication, recreation, sports, entertainment, cultural space, and convenient space for movement;

– compact residential quarters with various public functions on the ground floor;

– small, cozy courtyards for locals with equipped areas for different recreation preferences;

– the historical center of the city should become predominantly pedestrian; traffic should be mixed (pedestrians, cycling, service, and public transport), but the priority for pedestrians;

– "open" ground floor of buildings of pedestrian streets and squares for easy movement in all weather conditions;

– evening lighting of building facades and open urban spaces, which will increase their attractiveness and protect a person from the darkness.

6) Sanitary comfort, which includes protection from overheating, wind, precipitation, and noise, is no less important for a person's long-term stay in the historical center. The following strategies are proposed:

– location of places for recreation and a long stay in open urban space in the "border zones" of squares and streets, closer to buildings; in pedestrian, "green" areas or courtyards, in a quieter area, away from traffic;

– achieving acoustic comfort by artificially lowering the power of traffic noise; separation of the places for rest and spending free time from the spaces for traffic using "green screens" of different-height plants;

– allocation of places for communication by creating artificial high flower beds;

– using artificial or natural canopies to protect places for seating and outdoor activities from overheating and precipitation.

7) Cognitive comfort. It is mostly connected with the second component of the main strategy of an attractive disclosure of the historical center of the city – "to impress". The architectural environment of the historical center should be interesting and easy to learn. This requires:

– interesting and convenient navigation for the easy perception of the necessary information through the amplification and display of attractive places and screening of unfavorable views at each point of a person's movement in the historical center along a certain route;

– short perspectives (intervals from one attractive place to another); the following accent points should be visible from the directing attractive places, while the "picture" and functions should change, the person should be interested; it also contributes to the functional filling of the urban environment;

– chamber open urban spaces filled with places and functions associated with optional social practices (this is necessary to activate "urban performance");

– "non-monotonous" facades (each with a different theme, mainly vertical division) – this is especially important when introducing compensatory new buildings and correcting the existing low-value ones;

– places for stops and impressions (for example, near a restored architectural monument), conveniently equipped with seating, filled with small architectural forms and various functions that cause activity in them;

– thematic scenarios of walking routes that will unite all the "objects-performances".

8) Adaptive comfort (for all). The architectural environment of the historical city center should be adapted to the different needs and capabilities of different people, regardless of their age, mobility, prosperity, and should be designed for different tastes. This requires:

– convenience for people with limited mobility; and this should be addressed first; (the historical center of Strasbourg, the Madrid-Rio public park in Madrid, the renovated Hafen City district in Hamburg, etc. can serve as confirmation examples);

– availability of creative platforms – places for communication and learning. The environment should be comfortable and interesting for both children, young people, and the elderly. Places for recreation and city games that are interesting for older people, for example, areas with tables for playing chess, should be organized near playgrounds. Elderly people should be able to comfortably spend time and watch the children play;

– places for active and relaxing rest. creative areas that can be used for various creative activities, including games and sports (skateboarding, parkour, dancing, chess), should be equipped with comfortable places for seating for those who want only watch active participants;

– the adaptability of open urban space for various types of "urban performance" (if we are talking about the space of a city square, then it can be used as a place for rest, communication, observation, as an active public stage, with places for various cultural events, festivals, celebrations, fairs, with an installation that transforms and adapts to the corresponding "urban performance");

– urban space – is an open art gallery, where there is an opportunity to demonstrate products of traditional crafts. All comers will be able not only to get acquainted with them but also to learn how to make them in masterclasses, as well as buy things that they like at permanent sales exhibitions.

– multifunctionality of the historical center, where everyone can find something interesting for themselves, express themselves, relax or just watch the city life.

9) Utilitarian comfort (from the Latin Utilitas – benefit, usefulness) is also ensured by maintaining the multifunctionality of the historical center architectural environment. It is connected with the second component of the main strategy of attractiveness – "to impress", and also, together with the comfort of stay, movement, and sanitary comfort affects its third component – "make to linger".

The utilitarian comfort of the urban architectural environment affects its social and commercial (economic) activity. Its economic benefit for the city and, accordingly, for its inhabitants depends on how it is adapted to the philosophy – to attract the attention of different people and to "detain" them longer in this place. A person comes to a certain place if he needs something, and "lingers" there if he is interested and comfortable. For this there should be:

– the equal functional content of the historical center; distribution and combination of functions and its structural elements (pedestrian street, square, courtyard, and buildings) vertically and horizontally;

– filling the historical center with comfortable places for a long stay. They should be located so that peo-

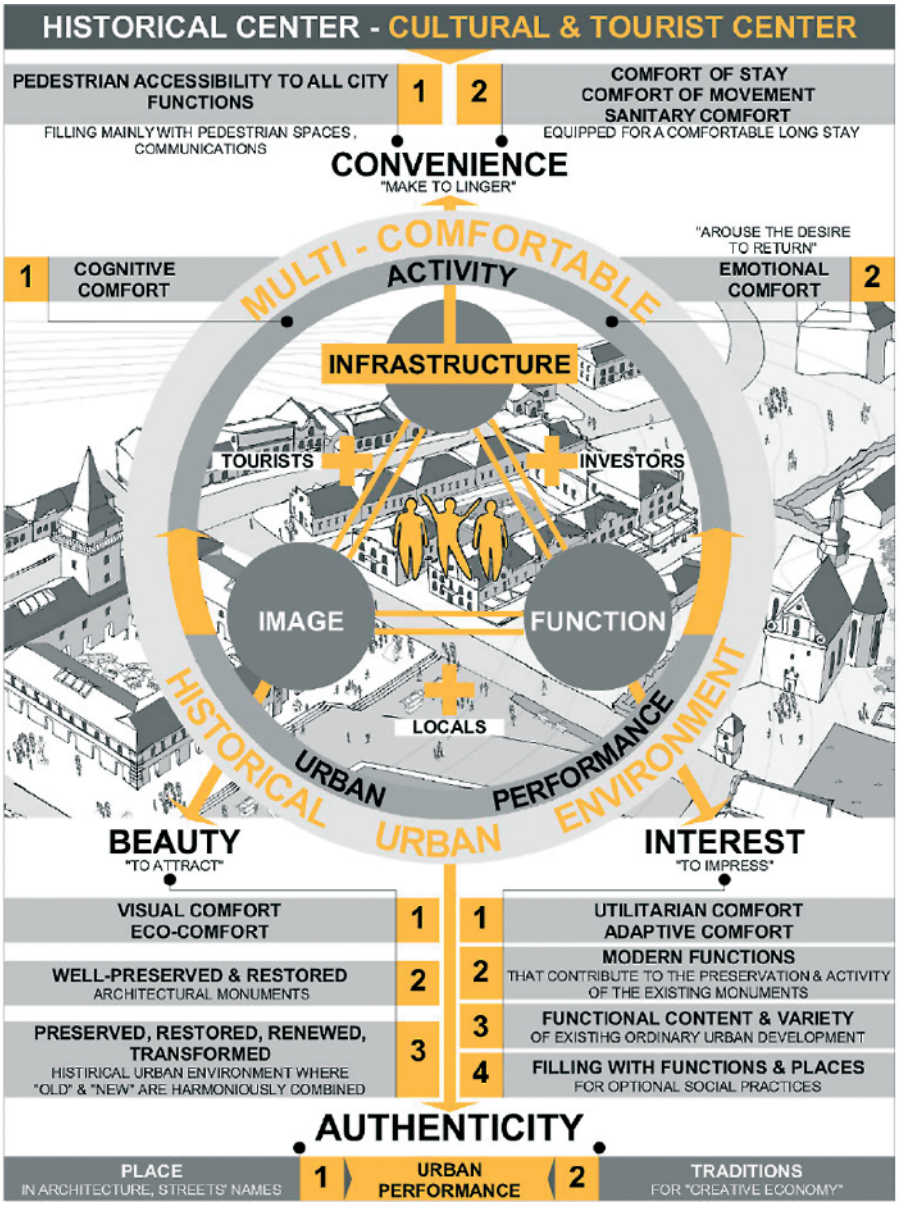


Figure 1.
Model of a multi-comfortable historical urban environment. Developed by N. Leshchenko

ple who are in them can simultaneously see what is happening on the square (street) and inside the building;

– open ground floors for arranging comfortable places for a long stay in open urban space (open trade and cultural spaces, outdoor cafes, places for meetings, communication, and recreation);

– open windows that invite to come in. The application of the "window to the floor" technique on the ground floor of buildings that form a pedestrian square (street) helps to attract people inside these buildings;

– "alive" open urban space (with active permanent, periodic long-term, and one-time short-term "urban performance"). To be "alive", it must be physically and functionally filled. Various functions, for different people, should be presented both in buildings that form the perimeter of squares and streets and in permanent and temporary sites located on the territory of these squares (streets). Their functions should be a continuation or addition to those of buildings.

10) Emotional comfort. It should be the result of all the proposed strategies combined together to

achieve compliance of the existing architectural environment of the historical center with the previously identified nine criteria of multi-comfort for its transformation into a multi-comfortable urban architectural environment. It is connected with the fourth (resulting) component of the main strategy of attractive disclosure of the historical center – "arouse the desire to return". It is presented through the influence on associative memory, as a connection of certain positive emotions with a certain place. Depends on the positive total influence and activity of all the previous nine criteria. To achieve it, there must be:

– active and interesting "urban performance";
– attractive "objects-performances" of traditional urban life;
– "friendly places" and places for impressions respectively for coziness and vivid representation.

Emotional comfort should form the basis of the principle of "multi-comfort", defined as one of the main general principles of RRT in historical city centers.

5. MODEL OF MULTI-COMFORTABLE HISTORICAL URBAN ENVIRONMENT

A model of a multi-comfortable historical urban environment was created based on the selected criteria of multi-comfort. Four components: image (and this is a beauty) – function (interest) – infrastructure (convenience) – urban performance (activity), highlighted criteria of multi-comfort, and key strategies suitable for improving each of the four components are interconnected in it (Fig. 1).

For the main strategy of attractiveness to work (to attract attention – impress – make to linger – arouse the desire to return), a multi-comfortable historical urban environment must have:

1) Well-preserved or restored architectural monuments, and recreated lost ones if possible and necessary; well-preserved, restored, renewed, or transformed historical environment where "old" and "new" are harmoniously combined. The existing buildings and spaces form the city's visual image. The attraction of those who wish to see it depends on its attractiveness (beauty). Attractiveness is primarily associated with the visual and ecological comfort of the urban environment and is improved by the proposed appropriate strategies to improve each of these criteria of multi-comfort;
2) Modern functions for existing monuments that contribute to their preservation and activity in the city's socio-economic life; functional content and variety of existing ordinary buildings and spaces; filling with functions and places of optional social practices. Interest in the historical urban environment largely depends on the functions (functional content and diversity). Their task is to impress the different people who find themselves in a given urban environment. They contribute to its preservation, increase of historical, cultural, utilitarian, and socio-economic value, modern active use, both by locals and tourists (through living, work, commercial activity, cultural life, recreation, comfortable movement, meetings, communication, free pastime). The functions influence the utilitarian and adaptive comfort of the urban environment. And the proposed strategies for improving the relevant criteria for multi-comfort lead to an increase in interest in it;
3) The convenient infrastructure (pedestrian-transport and tourist-service); pedestrian accessibility to various city's functions. The city's historical center should be filled mainly with pedestrian spaces, equipped for a comfortable people's long stay in it. The onvenient infrastructure and urban environment, where you can comfortably spend a certain time, make people stay in this city. So, the convenience of a certain urban environment is determined by the comfort of stay, movement, and sanitary comfort, and its improvement is achieved by appropriate strategies to improve each of these three criteria of multi-comfort;
4) Authenticity. This is the main thing for which people go to the historical city. It should be felt in everything, not only in architecture. Authenticity should be present in the names of streets, squares, quarters, houses, in the creation of "objects-performances", in observance of traditions, in the organization of holidays, festivals, fairs related to the history of the city, cultural events, and in the development of the "creative economy". Traditions (revived, existing, or new) should be at the heart of the activation of modern cultural and socio-economic urban life (the permanent, periodic long-term, and one-time short-term "urban performances"). Created from existing city squares, streets, quarters, after increasing their historical and architectural, utilitarian (functional), social and economic attractiveness, "objects-performances" and active "urban performance" will contribute to a person getting the most positive

impressions from what he saw, heard and felt, and as a result, will cause the desire to return again to this place. Active "urban performance" (and, first of all, permanent), which means "alive" historical urban environment, depends on the total impact on all the criteria of multi-comfort in order to increase them and achieve emotional comfort as the resultant indicator of the multi-comfort of a certain historical urban environment.

In this case, the main question is: "A multi-comfortable historical urban environment for whom?" The architectural environment of the historical city center should be attractive to different people. First of all, for local residents, as its permanent users. It should also be interesting and convenient for those who came to see it, for tourists. And also to investors (individuals, local communities, municipal authorities) who will be interested in financing its development. So the proposed model of a multi-comfortable historical urban environment is focused on the interests of these people.

Local people. It should be comfortable for them. They should be satisfied with everything so that they stay to live in their hometown. They are its permanent users. Comfort and safety of living, work, and movement (places and functions of mandatory social practices), as well as "friendly places" for rest, walks (optional social practices), where they can come every day to pastime, are equally important for them.

Tourists. They should be interested in coming to this city, spending some money on it, contributing to its development and the growth of the locals' welfare. They are its short-term users. Vivid emotions, places of impressions, comfort, and safety of stay are important for them. First of all, the places and functions of optional social practices. They should have a desire to return to this city again for the received impressions.

Investors. It should be profitable for them to invest in the city's development. They are the main "producers" of its urban environment. Investors must be sure that by investing money in its infrastructure, it will be in demand by locals and tourists. For them, it is equally important to develop the places and functions of mandatory and optional social practices. The main things are the safe, comfortable, and long stay of different people in this environment. The longer the user stays in it, the more he can spend money, and the more profitable it will be for investors and for the development of the city in general, and therefore for its locals.

The historical center of Bamberg, Colmar, or Strasbourg can be singled out as already existing successful similar examples, where the interests of the three categories of people defined above are simultaneously taken into account.

6. CONCLUSIONS

So, in each city, it is possible to identify places and functions associated with mandatory and optional social practices. Mandatory – these are living, working, moving (transit from work to home). Optional – are rest, entertainment, cultural pastime. The more places of optional social practices (parks, places for walking, playgrounds, and places for recreation and sports, communication, cultural pastime, etc.) in a city, the higher its urban environment's quality. It is better for living, more interesting for tourists, more profitable for investors, and social activity is higher in it. What, in fact, must be achieved. A socially active city means "alive".

All these features, highlighted in the proposed model of a multi-comfortable historical urban environment, should be taken into account when carrying out restoration-reconstructive transformations of historical city centers. As a result, they should receive a high historical, architectural, utilitarian, and social value; their environment should be attractive, interesting, comfortable, safe, socially, and economically active. Every resident or tourist can find something to do according to their preferences and regardless of age. They will be able to enjoy the beauty of the restored monuments, leisurely stroll through the city streets, buy souvenirs, stop and listen to street musicians, sit in the square, watch city life, meet friends in a cafe, go in for sports, ride a bike, or just sit on a bench and watch the children play, or take a walk in the park, look at the water and relax. It should become a place where you just want to live and where you want to return.

So, the highlighted criteria of multi-comfort, the proposed strategies, and model are aimed at transforming the historical urban environment into a multi-comfortable that will be in demand among the locals, will become comfortable for living, work, spending free time, interesting for tourists to visit and for investment. This will contribute to the revitalization and economic development of the city and increase the well-being of its residents. Consideration of the issue from the standpoint of interest and involvement of various people will effectively and competently solve the existing problems of improving the quality of the city's historical center. Their decision will benefit the entire historical city and, first of all, its inhabitants – the main component of its uniqueness.

REFERENCES

[1] Leshchenko, N. A. (2020). Methodological foundations of the restoration-reconstructive transformations of the historical centers of small towns (Dr.Sc. thesis, Kyiv National University of Construction and Architecture). Ukraine, Kyiv.

[2] Alexander, K., Ishikawa, S., & Silverstein, M. (1977). A Pattern Language: Towns Bildings. Construction. New York: Oxford University Press.

[3] Glazychev, V. (2011). City without Borders. Moscow: Publishing House "Territory of the Future".

[4] Gutnov, A., Lezhava, I. (1977). The Future of the City. Moscow: Stroyizdat.

[5] Lynch, K. (1960). The Image of the City. Cambridge: MITPress.

[6] Dobson, S. (2011). Remembering in the city: characterizing urban change. *Journal of Architecture and Urbanism, 35*(2), 104–109. https://doi.org/10.3846/tpa.2011.12

[7] Leshchenko, N., Tovbych, V. (2020). Revived degraded monuments of fortification architecture –potential for the historical small towns' development. *Budownictwo i Architektura, 19*(1), 47–54. https://doi.org/10.35784/bud-arch.906

[8] Harvey, D (2018). Social Justice and the City. Moscow: New Literary Review.

[9] Jacobs, J (1961). The Death and Life of Great American Cities. New York: Random House.

[10] Lefebvre, A (2015). The production of space. Moscow: Strelka Press.

[11] Whyte, W. H. (2004). The Social Life of Small Urban Spaces. NY: Project for Public Spaces.

[12] Cherkes, B. S. (2006). The National Identity in the Architecture of Public Centers of Capital Cities under the Conditions of Ideological Determination city (Dr.Sc. thesis, Kyiv National University of Construction and Architecture). Ukraine, Kyiv.

[13] Cherkes, B., Linda, S. (2019). Rebirth of Multicultural Identity in Public Spaces of Lviv. IOP Conference Series: *Materials Science and Engineering, 471*(7). https://doi.org/10.1088/1757-899X/471/7/072019

[14] Gehl, J. (2010). Cities for People. Washington: Island Press.

[15] Ikonnikov, A. (1985). Art, environment, time: Aesthetic organization of the urban environment. Moscow: Sovpainter.

[16] Osychenko, G. O. (2015). Methodological basis for the formation of the urban environment aesthetics (Dr.Sc. thesis, Kyiv National University of Construction and Architecture). Ukraine, Kyiv.

[17] Yargina, Z. N. (1991). The Aesthetics of the City. Moscow: Stroyizdat.

[18] Shebek, N. M. (2013). Theoretical bases of harmonization of architectural environment (Dr.Sc. thesis, Kyiv National University of Construction and Architecture). Ukraine, Kyiv.

[19] Day, C. (1990). Places of the Soul: Architecture and the Environmental Design as a Healing Art. London: Aquarian.

[20] Shubovich, S. A. (2012). Mythopoetic Phenomenon of the Architectural Environment. Kharkiv: KHNAGKH.

[21] Krivoruchko, Y. I. (2018). Phenomenon of the sacred in the development of cities and territories (from the experience of Ukraine) (Dr.Sc. thesis, Kyiv National University of Construction and Architecture). Ukraine, Kyiv.

[22] On the Protection of Cultural Heritage. Law of Ukraine. (2000). Kyiv.

[23] DBN B.2.2-12:2019. Planning and development of territories. (2019) Kyiv.

[24] DSTU B B.2.2-10:2016. Composition and content of scientific and project documentation regarding the definition of limits and modes of use of zones of protection of architectural monuments and urban planning. (2016) Kyiv.

[25] Leshchenko, N. (2018). Renovation – new life for old buildings. *Przestrzen Urbanistyka Architektura*, 2, 135–146. http://dx.doi.org/10.4467/00000000PUA.18.028.9530

[26] Leshchenko, N. (2021). Contextuality is a condition for preserving the uniqueness of a historical city. *ACEE, Architecture Civil Engineering Environment, 14*(3), 17–25. https://doi.org/10.21307/ACEE-2021-019