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CONSRTUCTION OF INCLUSIVE URBAN SPACE BY MEANS OF LANDSCAPE ARCHITECTURE

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Abstract. *The article presents the results of the author's research on the construction of an inclusive urban space by means of landscape architecture; the legal framework has been considered; the main principle of creating a network of barrier-free pedestrian routes in the space of the city center has been determined (the principle of "frame on the frame"); techniques for implementing barrier-free have been studied (zoning of the sidewalks by combinations of different types of paving; leveling obstacles, etc.). Based on the analysis of world theoretical and practical experience, the means of implementing barrier-free (paving, green infrastructure, street furniture, etc.) have been determined and a number of examples in European cities have been provided. Recommendations on the adaptation of public spaces to form an inclusive urban space in buffer zones have also been provided.*

Key words: *inclusive urban space; construction of space; buffer zone; object of cultural heritage; means of landscape architecture.*

Introduction.

Landscape architecture deals with the construction of the environment by means of landscape natural elements active usage (relief, water, vegetation); an obligatory element of urban planning is the organization of a harmonious combination of populated areas with a natural frame, the formation of open spaces of cities as complex green areas consisting of internal (parks, gardens, squares, boulevards) and external (forest, hydro-, meadow, agricultural parks, protective zones, etc.) elements. Rather frequently the basis of landscape architecture is not the creation of new objects, but the preservation of existing unique nature resources located in the area of human activity. Nowadays a focus of scientific attention has been shifted from the worldview problems to the specific needs of the individuals. Measures to preserve and promote the historical, cultural and natural heritage have been carried out on the basis of equality and non-discrimination of all segments of the population. The landmark of this process becomes the implementation of relevant EU standards and norms and "barrier-free... to ensure unhindered access of all groups of the population to various spheres of life" after receiving a candidate state status for membership in the European Union by Ukraine [1, section 1].

As for Ukraine, "according to the State Statistics Service and the Ministry of Veterans Affairs, 2.7 million civilians and almost 500 thousand combatants have disabilities in Ukraine" [2]. Taking into account the continuation of hostilities, the number of people with disabilities in our country, unfortunately, will grow.

As a result of being a part of Soviet Union, Ukraine has not been one of the countries where the barrier-free strategy was popularized. While most European countries advocated the concept of anthropocentrism, in the CIS countries "collectivism" has been treated as a dominant trend. The demand of modern world for the "post-totalitarian renovation" of the Soviet urban environment, the revival of national memory, the movement of society towards "anthropocentrism" and the post-war reconstruction of the country determine the search for means of popularizing and protecting the cultural heritage of Ukraine.

Main text.

Buffer zones (according to I. Korotun) are divided into 3 categories: I direct usage of the territory; II multifunctional; III combined. The most difficult in terms of specifics is the second category of buffer zones of non-direct multifunctional usage, which includes historical centers of cities, historical areas and other territories occupied by residential or other buildings. In such buffer zones, the primary function is the safety and comfort of people dwelling there and Memorial Protection Object Facility acquires a secondary function [3].

In Ukraine, 4 out of 8 World Heritage sites have buffer zones of non-direct multifunctional usage: "Kyiv: St. Sophia Cathedral and nearby monastery buildings, Kyiv-Pechersk Lavra, Church of the Savior on Berestov" (1990); "Ensemble of the historical center of Lviv" (1998); "Residence of the Metropolitans of Bukovina and Dalmatia" (2011) and "Historical Center of Odesa" (2023) [3].

In order to implement the principles of accessibility, on December 13, 2006, the UN General Assembly adopted the Convention on the Rights of People with Disabilities, which was signed and ratified by almost all countries of the world, including Ukraine. According to Article 30 of this Convention, the State must take all effective measures for barrier-free access to cultural heritage, places of cultural events, recreational and tourist facilities [4]. The Council of Europe Strategy on the Rights of People with Disabilities for 2017-2023 refers to five priority areas based on human rights, among which is accessibility. Paragraph 36 of this document states that "accessibility challenges can be avoided or greatly diminished through intelligent and not necessarily costly applications of the Universal Design which benefits everyone" [5].

In addition to the above, the state documents of protecting cultural heritage and ensuring accessibility urban development are: the Law of Ukraine "On the Protection of Cultural Heritage" (2000); Law of Ukraine "On Regulation of Urban Development" (2011); DBN V.2.2-40:2018 "Inclusiveness of buildings and structures" and "Mode of use of territories of monuments, reserves, buffer (protection) zones of UNESCO World Heritage Sites" (2020). Ukrainian legislation does not prohibit and promote the execution of works on the arrangement of barrier-free urban spaces in protected areas, however, it should be borne in mind that any reconstructions must meet the monument protection requirements [6, 7, 8]. In particular, in buffer zones, according to the "Mode of use...", work is allowed that does not contradict the requirements for the protection of cultural heritage, but recommendations for the adaptation of public spaces for the construction of inclusive urban space in buffer zones are not indicated [9].

In the context of urban space, the barrier-free environment is divided into pedestrian, transport and functional components. The pedestrian component provides an opportunity for autonomous and safe movement; transport — connection of areas with a minimal number of transfers and barrier-free public transport stops; the functional component combines the two previous ones [10].

In this context, such a structural element of space as a barrier-free route that combines all the above mentioned components of urban space is important [10]. It should be noted that the "route" (according to I. Dreval and A. Khakhalina) is considered "as a means of adapting urban space to the needs of people with disabilities", meanwhile ergonomics and universal design — as "the principle of design for all" [11]. The implementation of the idea of the "route" within the buffer zone should also become “tourist attractive zone”, that is, to cover the sightseeing and streets in the buffer zone of the object with cultural heritage.

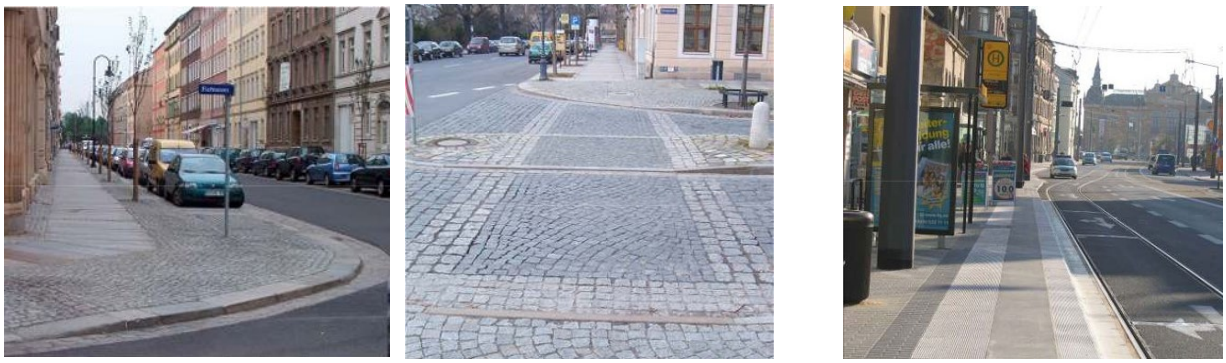
Complementary, in relation to the idea of "route," is the principle of constructing accessible urban spaces in the current environment — the principle of creating "barrier-free corridors" or "frame on the frame" (according to A. Teryagova). It means creating a framework of inclusive routes with all the necessary informing systems for people with disabilities in a specific morphological area or zone [12]. In fact, this principle is universal for all urban conditions, so it can be applied in buffer zones of cultural heritage sites as well.

A striking example of the construction of continuous barrier-free corridors in a historical environment is the "Mobility planning and good solutions in the field of barrier-free access for people with disabilities in Dresden — barrier-free city for all" the historical center of which is included in the buffer zone (1,240 ha) of the cultural heritage object — Dresden Elbe Valley. The main idea of this concept is mobility and organization of barrier-free environment in key components of urban space, namely: pedestrian, transport and functional (Figure 1) [13].

One of the world's best examples of accessible cities is Amsterdam. The buffer zone of its World Heritage Site — the "Seventeenth-Century Canal Ring Area of Amsterdam inside the Singelgracht " occupies the core of the city and is 481,7 ha. Amsterdam is a pattern of symbiosis for preserving the traditional character of the historical environment, sustainable development of the city and accessible environment. One of the main methods of creating a barrier-free walking route within the buffer zone in Amsterdam is the zoning of the sidewalk using a combination of paving materials (Figure 2). Along the path, it differs in texture and color, despite the fact that the color scheme corresponds to the historical environment. Textured paving is used to warn of a change in the direction of movement, turn, obstacle on the way, etc.; while on the main path of pedestrians, the paving should be smooth, but not a sliding one.

An analysis of the arrangement of barrier-free pedestrian paths in European cities show that the technique of zoning the sidewalk is used not only to highlight the path of pedestrian traffic, but also to organize additional zones. In particular, we observe highlighting with textured paving surface along the facades or roadway or in places of street furniture or landscaping. For example, in Paris and Berlin, sidewalks are mainly zoned by textured paving on the pedestrian zone and zones where street

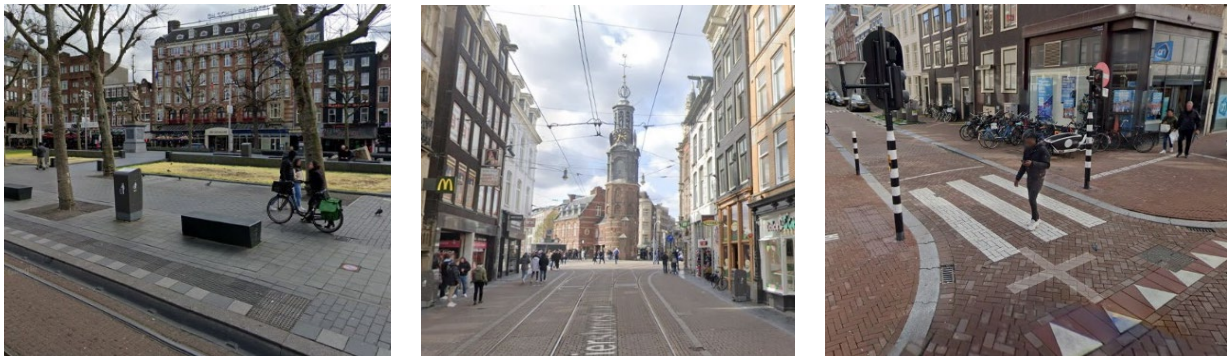
furniture and landscaping are located. Sometimes a zone along the facade stands out separately. In London, even on narrow sidewalks, a strip of textured paving along the roadway is arranged, however, this strip is often an area for placing furniture. In Copenhagen, a significant part of the sidewalk is allocated for landscaping and recreation areas near the facades.



A. B. C.

Figure 1. Patterns of barrier-free corridors in the buffer zone in Dresden (Germany): *zoning of the sidewalk **(A)**; inclusive pedestrian crossing **(B)**; zoning of the stop by paving and raising the carriageway **(C)**.*

A source: [13]



A. B. C.

Figure 2. Patterns of barrier-free corridors in the buffer zone in Amsterdam (Netherlands): *zoning sidewalk **(A)**; the color of the paving in one range with the historical environment **(B)**; inclusive pedestrian crossing **(C).***

A source: © 2023 Google

Having analyzed the foreign experience of arranging barrier-free corridors due to the way of sidewalks zoning, several main zones can be distinguished: the prefacade (frontage) zone; pedestrian zone; furniture and landscaping zone and technical one. The surface of the barrier-free pedestrian way is decorated with smooth paving without a texture, and other zones can be textured or delimited by a strip of textured paving. The prefaçade zone can be of different widths and, depending on the size, it can accommodate groups of plants and/or places for rest. The area of furniture and landscaping or greenery, usually is arranged on wide sidewalks, where it is possible to provide both a normal passage and places for people rest without crossing each other. The technical area is used to delimit the roadway. Greenery is arranged in the furniture area or in the prefaced zone. As a rule greenery is used as a natural barrier to separate the footpath from the bike lanes or roadway [14, 15].

Summary and conclusions.

Consequently, the construction of an inclusive urban space within the buffer zone is carried out by creating a network of barrier-free walking routes based on the principle of "frame on frame." This can be done using the following techniques: zoning sidewalks by means of combinations of different types of paving, landscaping (greening) and decoration; leveling of natural barriers by means of landscape architecture. Selection of colors of paving and equipment is carried out in accordance with the scale of authentic development of the buffer zone. The means of landscape architecture for the implementation of these techniques are textured paving, greenery, decoration, as well as street objects created on the basis of the concept of universal design.

The construction of an accessible urban space in buffer zones will contribute to the realization of a prior function as to the safe and comfortable way of human living in buffer zones of category II of non-direct multifunctional usage alongside with preserving historical environment of the object with cultural heritage. Individual selection of materials and plant species should be carried out depending on the morphological region and according to the monument protection requirements.

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