ADAPTATION OF MUSEUM AREAS FOR PEOPLE WITH DISABILITIES AND OTHER LOW-MOBILITY GROUPS

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Abstract. The issues of adaptation of museum buildings and their territories for use by people with disabilities were studied. The analysis of regulatory sources was performed, field surveys were carried out in the buildings of museums, personal project experience was used during the reconstruction with the adaptation of existing museums for visiting them by people with disabilities.

The issue was raised concerning adaptation of educational programs and excursions for all visitors without exception, including people with mental disabilities, since the ability to use city infrastructure and the encouragement to use service sectors, cultural objects enables people with disabilities to participate in the life of society, stimulates the expansion of social contacts, provides an opportunity to expand educational potential. The issues enlighten the adaptation of various types of museum spaces located in both modern and historical buildings (including architectural monuments), practical recommendations are proposed for ensuring optimal accessibility of museum buildings. Recommendations are given to bring the territories of museums in accordance with the requirements of accessibility, the possibilities of organizing information accessibility for people with disabilities by integrating information tools into the architectural space: mnemonic diagrams, pictograms, stickers, marking of hazardous areas are highlighted.

Examples of the use of equipment are given, namely, attached and stationary ramps, lifts, vertical and inclined lifts.

Keywords: museum, accessibility, adaptations, historical buildings.

Introduction. With the ratification of the UN Convention on the Rights of Persons with Disabilities in 2009 and the EU Association Agreement in 2012, the issue of creating a barrier-free area and ensuring accessibility to facilities, including museums for all segments of the population, became acute in Ukraine. According to the Convention, persons with disabilities are guaranteed the opportunity to fully use all public areas without restrictions and discrimination. The ability to use urban infrastructure and encourage the use of services, cultural facilities, gives an opportunity to participate in society life, stimulates increasing social contacts, improves educational opportunities.

Ensuring free access and creating a barrier-free area in public facilities, including museums, is an important factor in overcoming the helplessness and isolation of people with disabilities.

The relevance of the chosen topic is due to the fact that museum buildings and their territories need to create barrier-free accessibility for people with disabilities. This is especially relevant for the Ukraine museum sphere, which must adapt to new requirements.

Analysis of recent research. In the state construction norms for «Inclusiveness of buildings and structures» there are anticipated qualitative changes in the architectural space, aimed at ensuring the comfort and safety of everyone, especially for people with disorders like musculoskeletal, vision, hearing, mental activity disorder and other low-mobility groups, which also should include old people, parents with young children, pregnant women. There are also being provided all the given technical characteristics and specific examples of the barrier-free elements use: ramps, lifts, tactile floor tiles, information tables and Braille text markings, etc. Peculiarities of the
urban environment formation for people with disabilities were considered in the scientific works of Y. Rodyk. The theme of the living environment formation for low-mobility groups is being considered in the works of L. Barmashyna Doctor of architecture, professor V. Kutsevych studied the issues of ensuring accessibility for low-mobility groups to civilian objects.

Although the problems of buildings adaptation for all population groups, including museums, have been considered by many authors, the means of organizing a barrier-free architectural area are being improved and developed, so there is a need for further research in this area.

**Formulation of the problem.** Currently, most museum buildings and their territories, and especially museums located in historic buildings (including architectural monuments), are not adapted for visiting by low-mobility groups, including people who use wheelchairs. At present, these buildings require comprehensive measures to ensure accessibility for all segments of the population.

The purpose of writing this article is to provide recommendations for adapting museum buildings and their territories for the possibility of visiting by people with disabilities.

**Research methodology.** There was carried out an analysis of normative sources on the research topic. Field surveys were conducted in the buildings of museums, located in architectural monuments, personal project experience was also involved during the reconstruction with a device for people with disabilities to visit existing museums.

**Presenting main material.** With the legal framework change in the field of accessibility of public architecture objects, inclusion has become one of the most important dimensions of museum development. Inclusion means creating conditions when absolutely all museum visitors can take part in its life. Creating conditions for independent visiting of a museum by an adult with a disability is the main goal in creating accessibility to the museum.

At the moment, when designing and constructing new museums, it is necessary to ensure that all people, without exception, have access to all rooms, showrooms, lecture halls, etc., where it is planned to conduct cultural and educational work. To enable people with disabilities to work in museums, it is necessary to create access for them and a comfortable stay at workplaces, laboratories, fund premises or administrative premises - to anticipate standard doorways, elevators, ramps, corridor width, area and geometry of premises. Museum staff should be trained to conduct tours for people with various disabilities, learn to help them if necessary and provide support (Fig. 1) [6].

Fig. 1 Conducting adapted excursions in historical buildings of museums
It is also necessary to bring museums’ territory in line with modern requirements for its use by people with disabilities. The entrance to the territory must be equipped with visible elements of information about the object, using three-dimensional fonts and Braille text, at a height convenient for wheelchairs’ users. It is necessary to provide conditions for unimpeded movement on the site to the building, and these roads should be combined with external transport and pedestrian communications, parking lots, public transport stops. It is necessary to install a system of tactile and visual accessibility elements throughout the territory, which will promote safe spatial orientation for all groups of the population, and audio indicators to facilitate orientation for those who need it, on the way from the territory entrance to the museum building entrance and on territories, used to expose objects in the open air. The pavement should be firm and smooth with a minimal thick seams, bulk or coarse-grained materials should not be used [3,7].

To meet the visitors’ needs, the educational programs and excursions should be adapted for people with visual, hearing, mental retardation and mental disorders, etc. Each museum must first adapt its website to international standards so that everyone can easily use the information one needs. People with visual impairments should be able to change the color scheme and font size. For blind visitors, the site images must be added by alternative audio text, all pages and links must be accessible to audio screen readers, and there is a need to supplement the site with audio and video tours, accompanied by jargon language for the hearing impaired. People with musculoskeletal disorders should find the required page without a mouse, yet only by keyboard. For people with mental disorders there should be created parallel pages, written in simplified language. The same can be done for children of different ages. [4]. This will solve many questions if anyone wishes to use the site and find information, but to ensure accessibility to the museum building it is necessary to make more complex decisions (Fig. 2).

Most existing historic buildings from the beginning have not been accessible to all population groups, including people with disabilities. Historic buildings often have high steep stairs, narrow corridors, high thresholds and other architectural features that are not convenient in the modern meaning. However, people with special physical needs should have access to these places, along with everyone else, where it is possible. Ensuring accessibility from outside and to the interiors of museum buildings for people with disabilities is necessary with the least interference into the historical building fabric, to preserve its historical identity [6].

First of all, when installing ramps, one should pay attention to the use of materials that would be compatible with existing ones (Fig. 3). When adapting the historical museums’ buildings, it is necessary to avoid the expansion of authentic entrance doorways, and if necessary, look for other ways to get inside. In some cases, for entry there can be adapted a lower-level window opening in which a door can be placed. If physical access to the building still cannot be arranged,
it can be replaced by visual access using interactive devices that can be installed in places accessible to all visitors [5].

An important point in adapting the historical buildings of museums to the needs of low-mobility groups is the arrangement of a restroom that would meet all the criteria of accessibility [1]. If the existing restrooms are part of a historic building and cannot be easily made accessible, new standard restrooms should be considered in other rooms or in an adjacent premise.

If in the process of adaptation a decision was made to provide accessibility to all premises, there may appear an issue of installation elevators and electric lifts. In some cases, where it is not possible to install elevators for people with disabilities or lifting platforms with vertical lift, provided a sufficient width of the stairwell, there are arranged sloping horizontal platforms and the ability to move in a straight line or with a turn. If there is enough space between the stairwells, it is possible to install an elevator or a vertical lift. The main condition for making this decision is that these mechanisms and their designs will not interfere with the visual perception and view of interiors, as well as museum exhibits. It is necessary to consider the possibility of installing an elevator outside the historic part of the building, in an adjacent premise or a separate elevator shaft with a subsequent combination of these two parts. If there is a need to overcome the height difference of only a few steps, one can arrange an attached or stationary lifts, «scissor», vertical or pendulum lift [5].

During the reconstruction, restoration and overhaul of public buildings, including museums, it is mandatory to ensure the full requirements of accessibility, convenience and information [1]. But if we are talking about the adaptation of architectural monuments, there are some mitigations and decisions can be made to make a reasonable adaptation, in which access is not provided to the entire building, but only to its part, which provides special facilities, such as observation halls, cafe halls, recreation rooms, toilets, etc., which can be used by all people without any exception. In addition, a museum can provide an opportunity to see its exhibits, interesting materials, lectures and tours virtually or online [2].

For example, during the restoration of the Consistory building, which is an architectural monument of national importance and is located on the territory of national reserve "Sofia Kyivska", it was decided to provide access for low mobility groups only to the ground floor, where there are rooms for people with disabilities, cafe and restroom that meet all regulatory requirements. To have this, a «scissor-type» lift was installed in the lobby, the entrance to the facility from the street was adapted for all groups of people, a standard ramp and vestibule was also in-
stalled, the steps’ edges are contrasting, and tactile strips help visually impaired people find obstacles on the way.

During the adaptation of the NR «Sofia Kyivska» Cathedral, it was decided to provide accessibility only to the premises on the ground floor. To do this, there must be installed transparent ramps, leveled floor of the 19th century and glass probing must be installed flush with the floor. In the narthex, at the entrance to the museum, there anticipated a place to install interactive means of transmitting information about the object and its exhibits. All information is adapted for people with visual, hearing and other disabilities (Fig. 5). On the territory of the architectural ensemble there anticipated a reconstruction of the public toilet with the possibility of its use by people who use wheelchairs and by other low-mobility groups. There is also anticipated a room for mother and child.
Conclusions. In our country, despite the adopted legal documentation, the adaptation issues of museum areas for people with disabilities and other low-mobility groups yet remain non described and unresolved. When designing and constructing new museum buildings, it is necessary to use modern normative documents and provide full access to all premises of museum buildings, including funds, to provide opportunities for people with disabilities. Also, during the reconstruction of existing museum buildings one should apply all measures to provide access to all premises, using re-development, extension and making adjoint premises. However, if the adaptation of the museum building takes place within an architectural monument, then if necessary, and to avoid excessive interference with the integrity of the historical fabric of the building, it is possible to limit a reasonable adaptation, which includes providing access only to part of the premises, which should be arranged to serve people with disabilities, which should contain stands with information about the object, screens with video and audio information, interactive means of information transmission, etc.

References


АДАПТАЦІЯ МУЗЕЙНИХ ПРОСТОРІВ ДЛЯ ЛЮДЕЙ З ІНВАЛІДНІСТЮ ТА ІНШИХ МАЛОМОБІЛЬНИХ ГРУП НАСЕЛЕННЯ

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Анотація. У статті вивчено питання адаптації музеїних будівель та їх територій для використання людьми з обмеженими можливостями. Проведено аналіз нормативних джерел, проведені війзні обстеження в будівлях музеїв, використання особистий досвід проектування під час реконструкції з адаптацією існуючих музеїв для відвідування їх людьми з обмеженими можливостями.

Було порушено питання щодо адаптації освітніх програм та екскурсій для всіх без винятку відвідувачів, включаючи людей з розумовими вадами, оскільки вміння користува-
АДАПТАЦІЯ МУЗЕЙНИХ ПРОСТРАНСТВ ДЛЯ ЛЮДЕЙ С ІНВАЛІДНІСТЮ І ДРУГИХ МАЛОМОБІЛЬНИХ ГРУП НАСЕЛЕННЯ

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Анотація. В статті освіщені відомості про результати дослідження та рекомендації адаптації музейних просторів для людей з інвалідністю та інших маломобільних груп населення. Робота надобріла в контексті загальнодержавного законодавства та ініціатив відомства, які визначають стратегічні напрямки адаптації музейних просторів. Детально розглядаються такі питання, як доступність входів, приміщень, естественого освітлення, звукоізоляції та температури, а також обладнання і сховища для зберігання музейних експонатів. Особливо зацікавлені читачі, які колись маломобільні, можуть ефективно користуватись музейним простором, бажаючи орієнтуватися в ньому та взаємодіяти з різними елементами інтерактивних візуальних і навігаційних систем. Викладачі та інтернаціональні спільноти мають можливість адаптувати навчальні матеріали та програми до потреб і можливостей людей з інвалідністю. Даний документ виступає як перша стежка в напрямку адаптації музейних просторів для людей з інвалідністю і інших маломобільних груп населення.
вательных программ и экскурсий для всех без исключения посетителей, в том числе и людей с ментальными нарушениями. Проведен анализ нормативных источников, проведены выездные обследования в зданиях музеев, использован личный опыт при проектировании и реконструкции с адаптацией существующих музеев, находящихся в памятниках архитектуры, для посещения их людьми с ограниченными возможностями. Даны рекомендации по приведению территорий музеев в соответствие с требованиями доступности, освещены возможности организации информационной доступности для людей с инвалидностью путем интеграции в архитектурное пространство информационных средств: мнемосхем, пиктограмм, стикеров, маркировки опасных участков. Приведены примеры использования оборудования, а именно стационарных и портативных пандусов, лифтов, вертикальных и наклонных подъемников при адаптации существующих зданий музеев.

Ключевые слова: музей, доступность, приспособление, исторические здания.