

**CURRENT STATE AND PROBLEMS OF FORMING INCLUSIVE SPACES IN THE WORLD AND NATIONAL ARCHITECTURE**

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**Abstract.** The article analyses the current state and problems of forming inclusive spaces in the world and national architecture. The International and Ukrainian regulatory documents that regulate the inclusiveness and barrier-free accessibility for all the population groups are analysed. The concepts of "inclusion", "disabled person", "disability", "people with limited mobility", "barrier-free space" are defined. The main organising elements of a quality inclusive environment in all the social spheres are identified.

An urgent task is to provide the availability of residential and public buildings for all the citizens, regardless of their physical capabilities. Inclusive spaces of modern architectural development are not only about creating the appropriate infrastructure, but also about transforming the existing one.

The purpose of this research is to identify the main elements of the organisation of a high-quality inclusive environment in all social spheres. The necessary analysis of the current trends in the architectural development of inclusive spaces in large cities, as well as the peculiarities of accessibility for people with disabilities and people with limited mobility, has been carried out.

Main research methods are comparative and historical analysis; visual and analytical method; monitoring method; analysis of statistical data and qualitative indicators; collection, analysis, presentation, and interpretation of the information on theoretical and practical issues of organising an inclusive environment, which is reflected in the works of foreign and Ukrainian researchers.

The findings of the study showed that the developments aimed at solving the problems of creating inclusive spaces are relevant and timely. An important aspect of a barrier-free environment is the development of inclusive spaces in modern cities. The different types of barrier-free environment, including physical barrier-free, digital, educational and economic, social and civic, as well as the information barrier-free, are very important for the development of inclusive spaces in the world and national architecture. Persons with disabilities and people with limited mobility have extremely limited opportunities to realise their rights.

**Keywords:** disability, inclusive space in architecture, barrier-free space, people with limited mobility.

**Introduction.** The highest social value in Ukraine, according to the Constitution of Ukraine, is a person, his or her life and health, honour and dignity, inviolability and security. The existing barriers in various spheres of life, including the access to residential and public buildings, employment or cultural life, prevent many Ukrainian citizens from realising their rights, getting the access to public services and full participation in cultural, political and social life.

The welfare of every person depends on a barrier-free environment. There are some problems with the access to physical and digital infrastructure, as well as the difficulties in accessing public

transport and physical environment. For visually impaired people, the lack of website and application adaptation is a significant challenge. The creation of a "barrier-free environment" for all the people is a public benefit and it is closely linked to the social and economic development of the country in general.

The development of an integrated society means the equality of the access, easy participation, independence of people with disabilities in all the spheres of life, and the creation of favourable conditions for the concept of buildings, products, communication systems and electronic equipment, and the environment. Therefore, the research focused on solving the problems of developing inclusive spaces is relevant and timely.

**Analysis of recent researches and publications.** Many foreign scholars have studied the issues of people's inclusive adaptation in modern society. S. Busheri, D. Berkuk, T. Buzir paid considerable attention to the analysis and implementation of inclusive design and multisensory interactions in public areas [1]. Grandi Laurenassa Wungo and Ariel Natasia developed the form of inclusive street space [2]. Technologically integrated inclusive educational spaces are considered in the work of Nitu Ghosh. [3]. A. Maharani and A. Gaxioala developed the idea of an inclusive city, expanding the space for social and urban housing [4]. In their works, K. Bondarenko and S. Kryvuts [5, 6] discussed the concept of "universal design", L. Baida [7] studied the availability of transport and transport infrastructure facilities for people with disabilities. The issues of formation and development of inclusive tourism and universal design in the cities were studied by such scientists as Yen Gel [8], T. Semygina [9], I. Trunina [10].

**Problem statement.** There are about 15 % of people with disabilities in the world, it is about 1 billion 202 million people. An important feature of a developed society is an inclusive culture, which affects many spheres of society. The term "inclusion" describes the process of interaction between the people with disabilities and the people without disabilities in an environment that is accessible for this interaction.

An urgent task is to provide the accessibility of residential and public buildings for all the citizens, regardless of their physical capacity. Inclusive spaces of modern architectural development are not only about creating the appropriate infrastructure, but also about transforming the existing one.

**The purpose and objectives of the research** are to identify the main elements of organising a high-quality inclusive environment in all life spheres. To do this, it is necessary to analyse the current trends in the architectural development of inclusive spaces in large cities, as well as the specific features of accessibility for persons with disabilities and people with limited mobility.

**Materials and methods of the research.** The main research methods used in the study are comparative and historical analysis; visual and analytical method; monitoring method; analysis of statistical data and qualitative indicators; collection, analysis, presentation and interpretation of the information on the theoretical and practical issues of organising an inclusive environment, which is reflected in the works of foreign and Ukrainian researchers.

**The main part.** Disability is a measure of health loss due to congenital defects, disease, trauma or its consequences. When interacting with the external environment, the disability can lead to a limitation of a person's vital activity, and as a result, the state must create the conditions for the realisation of their rights on an equal basis with other citizens and provide their social protection [11]. At the end of 2023, there were 3 million people with disabilities in Ukraine; the number of people with disabilities has increased by about 300.000 for the last year and a half.

Inclusion is the process of increasing the participation of all the citizens in the society. First of all, the need for increased participation is experienced by people with physical or mental disabilities. This involves the development and application of specific solutions that will allow everyone to participate equally in academic and social life.

Inclusive planning consists of several steps: recognising and accepting that all people are different and have many different characteristics: age, gender, wealth, race, language, etc.; identifying the factors and barriers that prevent different people from participating in community life and cause discrimination.

The definition includes not only the access of every member of the society to the critical aspects of the society, such as education and employment, but also the ease of such access by means of transforming the society's paradigms, such as health, education and social protection systems. This is a difficult process (although significant progress has already been made in many parts of Europe) because it involves changing long-held (and often erroneous) perceptions and systems. In other words, in order to implement the inclusion in every sense of the word, it is necessary to step out of our comfort zones and take action.

The process of development and implementation of state policy to remove the barriers is complicated by the lack of statistical data. It is impossible to accurately determine the number of people who face certain barriers every day.

The creation of an accessible "barrier-free" environment for all people is closely linked to the social and economic development of the country as a whole and solves the problem of accessibility.

The main documents for creating a barrier-free space in Ukraine are:

1. The Convention on the Rights of Persons with Disabilities, ratified by the Law of Ukraine № 1764-VI from 16.12.2009 [12].

2. The European Social Charter, ratified by the Law of Ukraine № 137-V from 14.09.2006.

3. Joining of Ukraine to the international Biarritz Partnership.

4. National Strategy for Creating a Barrier-Free Space in Ukraine until 2030 [13].

On the basis of these documents and researches, Ukraine has created a barrier-free guideline that clearly defines the conditions for overcoming these barriers [14].

The National Strategy clearly classifies the types of barrier-free space: physical barrier-free, information, digital, social and civic, educational and economic [13, 15].

All the objects of the physical environment should be accessible to all social groups, regardless of the age, health status, disability, property status, gender, place of residence and other characteristics – all they include the concept of physical barrierlessness.

Highly qualified specialists in the field of city planning, architecture and transport are needed to create physical barrier-free accessibility. The regulatory and legal framework must meet the modern requirements, be effective and harmonised in the area of accessibility of the physical environment and transport. The monitoring and control in the field of accessibility of the physical environment and transport should be carried out on a systematic basis.

Inclusivity of buildings and structures is a set of architectural, planning, engineering, technical, ergonomic, structural and organisational measures to provide the accessibility of buildings and structures, in which each person, regardless of the age, gender, disability, functional impairment, level of communication capabilities or circumstances, can feel safe and comfortable without any assistance as much as possible.

For a comfortable and safe stay of people, it is necessary to solve the problems of social adaptation of the population by creating and transforming public facilities considering the inclusive space.

The transformation of the facilities and the implementation of inclusivity principles involve both the construction of new facilities and the revitalisation of existing ones.

The biggest challenges people with disabilities and low-mobility groups face are:

– for the wheelchair users: overcoming the edges and height differences; too high objects; manoeuvring in the narrow spaces; passing through the doorways; and overcoming the stairs;

– for the people who use canes or crutches – the problem of overcoming the height is removed, but there is a certain problem of getting on the escalator (the required speed of manoeuvre);

– for the blind – the spatial orientation; recognising unsafe situations; moving to the required functional area of the premises; looking for the entrance to a particular room;

– for the people with hearing impairments the impossibility to use voice announcements.

The research was carried out on the barrier-free, accessible and comfortable environment of the social facilities and infrastructure of Odesa historical centre within the streets Staroportofrakivska, Pastera, Sofiiivska, Uspenska.

The names and number of the studied objects in Odesa are presented in Table 1.

Table 1 – Names and number of studied objects

Names	Number of objects	Compliance percentage	Percentage of partial compliance	Percentage of non-compliance
Schools	16	0	31.25	68.75
Hospitals	4	25	25	50
Kindergartens	20	10	25	65
Colleges	10	0	30	70
Universities	10	0	40	60
Lyceums	5	0	40	60
Polyclinics	8	25	25	50
Pharmacies	52	19.23	19.23	61.54
Shopping centres	8	100	0	0
Market	1	100	0	0
Theatres	7	42.86	28.57	28.57
Religious institutions	9	0	22.22	55.56
Libraries	7	0	28.57	71.43
State institutions	12	8.33	0	91.67
Financial institutions	13	15.38	38.46	46.15
Average value		23 %	24 %	53 %

The research has shown that the percentage of total non-compliance is higher than the sum of the percentages of full and partial compliance.

Figures 1 and 2 show the distribution of the studied objects by the number and compliance of barrier-free, accessible and comfortable environment in Odesa within the streets Staroportofrankivska, Pastera, Sofiiivska, Uspenska.

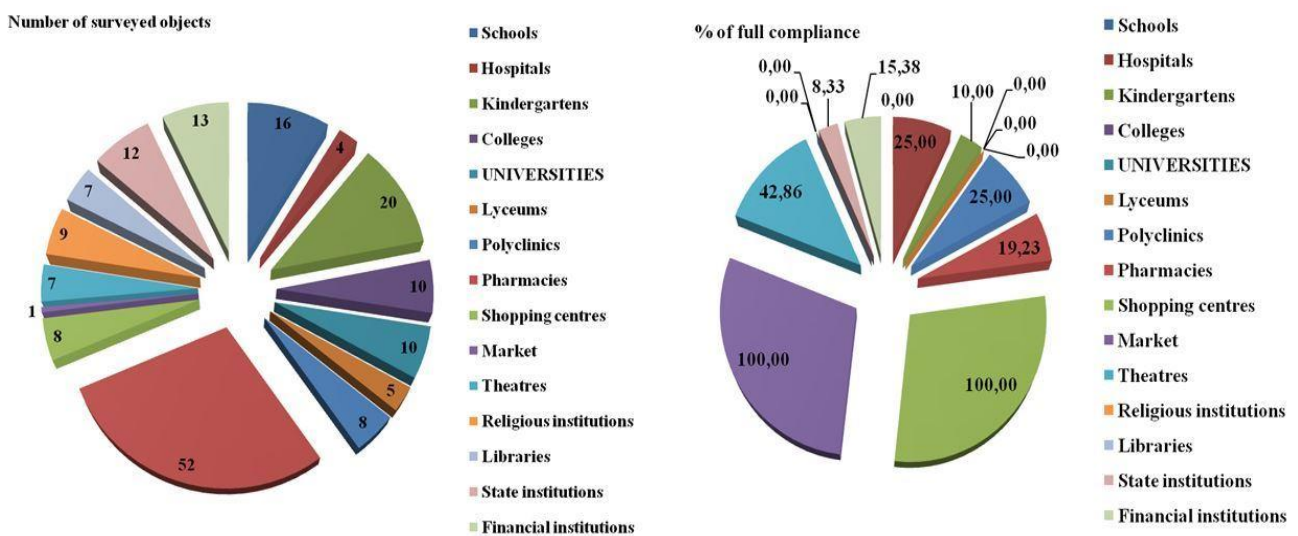


Fig. 1. Distribution of studied objects according to the number and partial compliance

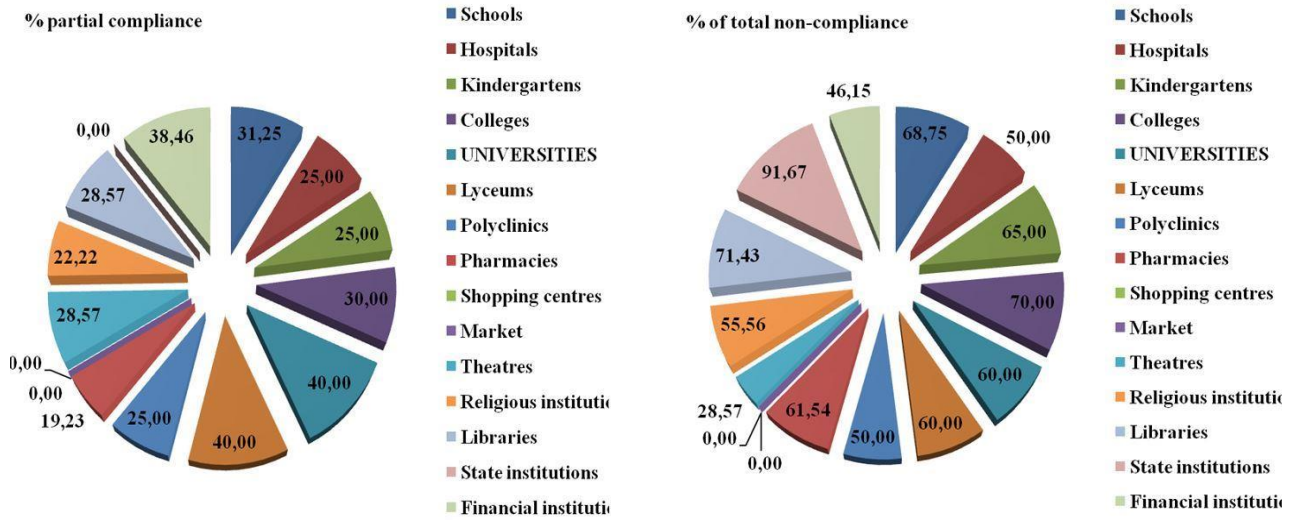


Fig. 2. Distribution of studied objects according to full compliance and full non-compliance

The condition of the pavements and the intersections within these streets was also investigated, and it was found that less than ten per cent of them meet the conditions of barrier-free and inclusive space.

The study of the barrier-free, accessible and comfortable environment of the social facilities and infrastructure in other large cities of Turkey and the UK was conducted.

In Fig. 3 there is the state of inclusive space in the streets of Denizli city, Turkey.

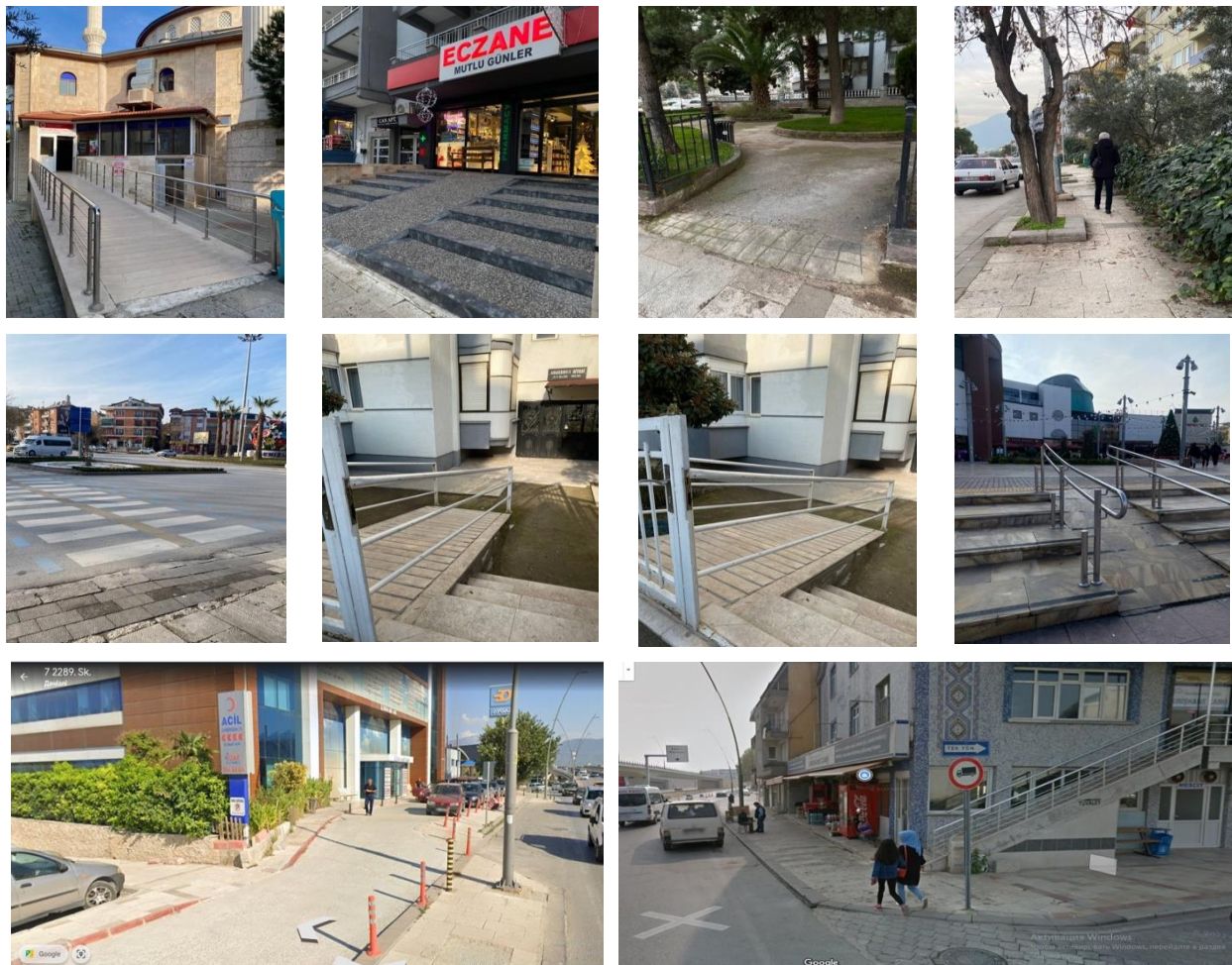


Fig. 3. Current state of inclusive space in the streets of Denizli

Figure 4 shows the current state of inclusive space in London, UK.

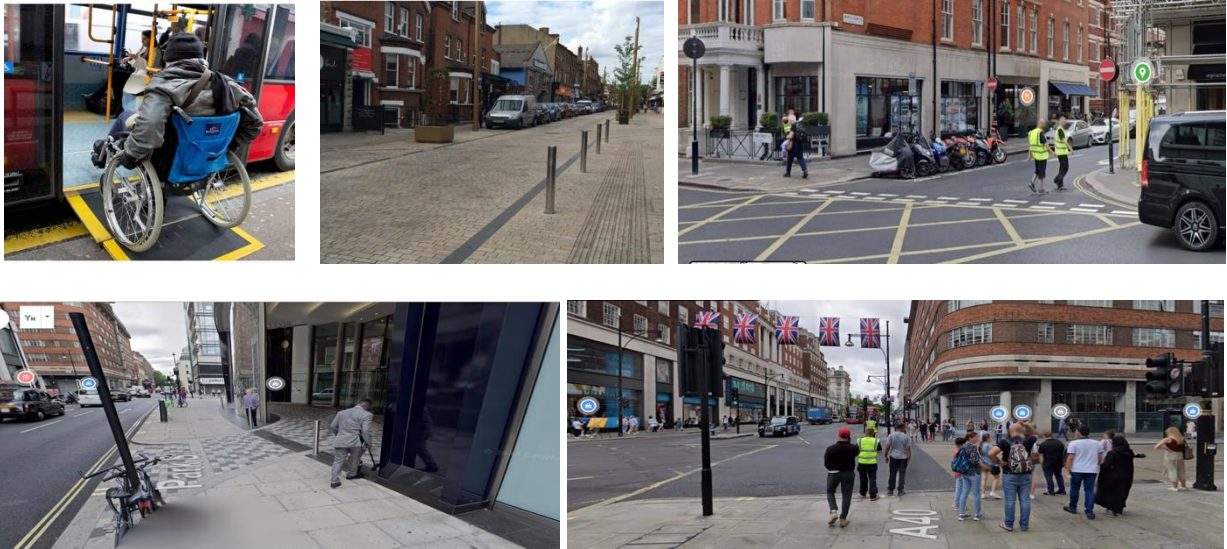


Fig. 4. Current state of inclusive space in London

Odesa also has a number of positive examples of inclusive architectural space solutions, as illustrated in Fig. 5, which shows the satisfactory state of inclusive space in the streets of Odesa.



Fig. 5. Satisfactory state of inclusive space in the streets of Odesa

However, the urban space of Odesa needs to be transformed in many more places, thus Fig. 6 shows the unsatisfactory state of inclusive space in the streets of Odesa.



Fig. 6. Poor condition of inclusive space in the streets of Odesa

The analysis has shown that the great majority of the physical environment in Odesa is not adapted for the movement/use of people with disabilities and persons with limited mobility.

Most of the public transport (buses, trolleybuses, trams), intercity, international road and rail services are outdated and inaccessible. It is impossible to transport people with disabilities and other people with limited mobility (there are no ramps or the slope does not meet the current standards).

The steps needed to achieve the physical barrier-free environment:

- at the state and local levels, to follow generally accepted practices of creating an inclusive living environment for the persons with disabilities and other low-mobility groups;
- to bring local authorities' decisions in the field of public transport into line with the subordinate legislation and relevant decisions;
- to bring the laws, regulations, norms and standards in the area of physical accessibility in line with the international standards;
- to develop and implement an effective mechanism for monitoring and controlling in the field of accessibility in accordance with the norms and standards;
- to increase the number of public transport units in the total number of units that meet the requirements of accessibility;

– to increase the number of the specialists in the technical supervision and control in the field of architecture and construction who are certified to have knowledge of accessibility laws and regulations and universal design principles.

It is *necessary to create the conditions for information barrier-free* citizens by providing the access of all the people, regardless of their functional disabilities or communication capabilities, to the information in different formats and using the technologies, such as Braille, audio description (audio commentary), subtitling, the format suitable for reading by screen reader, etc.

To implement full information accessibility for all the citizens from the public authorities; during the judicial and electoral process; the information broadcast by television and radio organisations and necessary for the participation in cultural life, leisure and recreation, sports; and public services.

To give high-speed Internet access, public services and public digital information, and to create *digital* inclusion for all social groups.

To provide equal opportunities for the participation of all people, their associations and certain social groups in the life of the communities and the state, to provide the equal access to cultural and social and political life, to create a favourable environment for physical development and self-realisation – these are the state’s tasks in terms of *social and civic* inclusion. An inclusive environment is a precondition for the participation in all the forms of public life and civic activity.

Improving the distribution mechanism of benefits and social guarantees, transforming the approaches to assessing the loss of functionality and developing of rehabilitation services will help to achieve social and civil barriers.

To provide for the *educational barrier-free environment* by creating the equal opportunities and free access to education, lifelong learning, advanced training, additional competencies. To create an inclusive educational environment, to meet the special educational needs for all the participants in the educational process and to allow adults, youth and children to use all the types and forms of education.

To create the educational barrier-free environment, it is necessary to increase the number of elderly people involved in the educational programmes of third-age universities; to increase the number of kindergartens that have an accessible environment and take the children with disabilities and special educational needs; all the inclusive resource centres should meet the regulatory requirements and have enough specialists to provide educational services.

*Economic* inclusion – regardless of the age, gender, marital status or health, all the citizens should be provided with the conditions and opportunities for employment, financial and other resources for entrepreneurship or self-employment.

The Ministry of Infrastructure of Ukraine, together with NGOs, has identified the main list of the facilities which are to be monitored for accessibility and barrier-free access: buildings for accommodation of evacuees (dormitories, module campuses); civil protection facilities; healthcare facilities; educational facilities; centres for administrative and social services; bus stations, airports, railway stations; financial institutions – banks, post offices, insurance companies, non-state retirement funds, investment funds; sports complexes, stadiums, etc.

The inspection report of the object and the degree of barrier-free accessibility of the physical environment and services for persons with disabilities includes the following data: the date of the inspection, the address of the object, the form of ownership, and the data about the person who carried out the inspection. The monitoring includes the routes to the building; the entrance group; the routes inside the building, the premises where the service is provided, and the auxiliary premises; and the barrier-free accessibility of services for people with disabilities.

The task of the barrier-free projects today is to increase the number of barrier-free intersections and the comfort of using the joint living space without the excessive implementation of the accessibility elements.

**Conclusions and directions for future research.** The analysis has shown that the research aimed at solving the problems of forming inclusive spaces is relevant and timely. The important aspect of a barrier-free environment is the development of inclusive spaces in modern cities. The different types of barrier-free environment, including physical barrier-free, digital, educational and economic, social and civic, as well as information barrier-free, are very important for the



development of inclusive spaces in the world and national architecture. Persons with disabilities and people with limited mobility have very limited opportunities to use their rights.

The future research could be aimed at the development of a questionnaire on the accessibility, transparency, and openness of the state's activities in relation to the people with the various types of disabilities in Ukraine and people with reduced mobility, processing the results and providing the guidelines for the implementation of world's best practices in inclusive spaces in architecture in the future.

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## СУЧАСНИЙ СТАН ТА ПРОБЛЕМИ ФОРМУВАННЯ ІНКЛЮЗИВНИХ ПРОСТОРІВ В СВІТОВІЙ ТА ВІТЧИЗНЯНІЙ АРХІТЕКТУРІ

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**Анотація.** В статті проведено аналіз сучасного стану та проблеми формування інклюзивних просторів в світовій та вітчизняній архітектурі. Проаналізовано міжнародні та українські нормативні документи, які регулюють інклюзивність та безбар'єрність для всіх груп населення. Визначено поняття “інклюзія”, “інвалід”, “інвалідність”, “маломобільні групи населення”, “безбар'єрний простір”. Визначено основні елементи організації якісного інклюзивного середовища у всіх сферах життя.

Актуальним завданням є забезпечення доступності житлових та громадських будівель для всіх громадян, незалежно від їх фізичних можливостей. Інклюзивні простори сучасного архітектурного розвитку полягають не лише у створення відповідної інфраструктури, а і у трансформації нині існуючого.

Мета даної роботи полягає у визначенні основних елементів організації якісного інклюзивного середовища у всіх сферах життя. Проведено необхідний аналіз сучасних тенденцій архітектурного розвитку інклюзивних просторів великих міст, особливостей доступності для осіб з інвалідністю та маломобільних груп населення.

Основні методи дослідження: порівняльно-історичний аналіз; візуально-аналітичний метод; метод моніторингу; аналіз статистичних даних і якісних показників; збір, аналіз, представлення та інтерпретація відомостей щодо теоретичних і практичних питань організації інклюзивного середовища, яке відображено у роботах зарубіжних та українських дослідників.

Проведені дослідження показали, що розробки, направлені на вирішення проблем формування інклюзивних просторів, є актуальними та своєчасними. Важливий аспект безбар'єрного середовища це розвиток інклюзивних просторів в сучасних містах. Різні види безбар'єрного середовища включаючи фізичну безбар'єрність, цифрову, освітню та економічну, суспільну та громадянську, а також інформаційну безбар'єрність мають дуже велике значення для розвитку інклюзивного простору в світовій та вітчизняній архітектурі. Особи з інвалідністю та маломобільні групи населення мають досить обмежені можливості щодо реалізації своїх прав.

**Ключові слова:** інвалідність, інклюзивний простір в архітектурі, безбар'єрний простір, маломобільні групи населення.

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