УДК: 352:711.16:711.554 (477)
DOI: 10.35432/tisb342025351535

Oleksii Yeremytsia
PhD-student of the Department of Public Administration and Regionalism
ESI of Public Service and Administration, Odesa Polytechnic National University
https://orcid.org/0009-0001-2080-4511
e-mail: odesson@as.op.edu.ua

DEVELOPMENT OF PUBLIC SPACE IN THE INDUSTRIAL ZONES OF A LOCAL COMMUNITIES: TYPES AND STRUCTURAL ELEMENTS

The article explores the process of forming public spaces based on industrial heritage sites in the context of implementing the sustainable urban and community development policy. The study identifies the socio-functional types of public spaces emerging within industrial zones and defines their structural elements, which determine architectural quality, social integration, and the communicative potential of the urban environment. Based on the analysis of domestic and international revitalization experience, the research systematizes the main transformation models: museum, cultural-educational, recreational, creative-cluster, multifunctional, and landscape-recreational. The study establishes that the role of industrial heritage may manifest as a historical background, a compositional accent, a functional foundation, or an urban framework, defining scenarios of its integration into the urban structure. Furthermore, the work evaluates the economic viability of these models, illustrating how adaptive reuse can catalyze local investment and stimulate small business growth. To ensure long-term stability, the author proposes a set of indicators for monitoring the social impact of these revitalized zones on the surrounding residential areas.

The article also reveals the governance aspects of revitalization processes, emphasizing the need for coherence between architectural and spatial decisions and socio-economic strategies of community development. It highlights the importance of improving intersectoral cooperation mechanisms and expanding “government–community–business” partnerships. By examining successful participatory design cases, the study demonstrates how involving local residents in the early stages of planning mitigates social resistance and fosters a sense of ownership over the transformed space. The research substantiates the necessity of forming a state revitalization policy for industrial areas aimed at enhancing social participation, preserving cultural identity, and ensuring environmental regeneration of territories. Special attention is given to the integration of "green" technologies within old industrial frameworks to address contemporary climate challenges and biodiversity restoration.

The findings have applied significance for public authorities and local governments in the fields of spatial planning, preservation of industrial heritage, and development of public spaces as key factors in improving the quality of the urban environment. Ultimately, the proposed recommendations serve as a comprehensive roadmap for transforming derelict "brownfields" into vibrant urban hubs that honor the past while serving future generations. This transformation not only restores the physical fabric of the city but also revitalizes the spiritual and cultural connection between the community and its industrial history.

Keywords: public space, revitalization, industrial heritage, urban development, territorial community, public administration, spatial planning.

Олексій Єремиця
аспірант кафедри публічного управління та регіоналістики
Навчально-наукового інституту публічної служби та управління
Національного університету «Одеська політехніка»
https://orcid.org/0009-0001-2080-4511
e-mail: odesson@as.op.edu.ua

РОЗВИТОК ПУБЛІЧНОГО ПРОСТОРУ В ІНДУСТРІАЛЬНИХ ЗОНАХ ТЕРИТОРІАЛЬНИХ ГРОМАД: ТИПИ ТА СТРУКТУРНІ ЕЛЕМЕНТИ

У статті досліджено процес формування публічних просторів на основі об'єктів індустріальної спадщини в контексті реалізації політики сталого розвитку міст і територіальних громад. Визначено соціально-функціональні типи публічних просторів, що виникають у межах індустріальних зон, та окреслено їх структурні елементи, від яких залежить архітектурна якість, соціальна інтеграція й комунікативна активність середовища. На основі аналізу вітчизняного та зарубіжного досвіду ревіталізації промислових територій систематизовано основні моделі трансформації: музейні, культурно-освітні, рекреаційні, креативно-кластерні, багатофункціональні та ландшафтно-рекреаційні. З'ясовано, що роль індустріальної спадщини може проявлятися як історичний фон, композиційний акцент, функціональна основа або містобудівний масив, що визначає сценарії її інтеграції у міський простір.

Стаття також розкриває управлінські аспекти процесів ревіталізації, наголошуючи на необхідності узгодженості між архітектурно-просторовими рішеннями та соціально-економічними стратегіями розвитку громад. Висвітлено важливість удосконалення механізмів міжсекторальної взаємодії та розширення партнерства за моделлю «влада–громада–бізнес». Шляхом вивчення успішних кейсів партисипативного проектування дослідження демонструє, як залучення місцевих жителів на ранніх етапах планування нівелює соціальний опір та формує почуття власності щодо трансформованого простору. Обґрунтовано необхідність формування державної політики ревіталізації промислових територій, спрямованої на посилення соціальної участі, збереження культурної ідентичності та забезпечення екологічної регенерації територій. Особливу увагу приділено інтеграції «зелених» технологій у межах старих промислових структур для вирішення сучасних кліматичних викликів та відновлення біорізноманіття. Такий підхід дозволяє створювати стійкі міські ландшафти, здатні адаптуватися до мінливих технологічних та екологічних вимог.

Результати дослідження мають прикладне значення для органів державної влади та місцевого самоврядування у сферах просторового планування, збереження індустріальної спадщини та розвитку громадських просторів як ключових факторів підвищення якості міського середовища. Зрештою, запропоновані рекомендації слугують комплексною дорожньою картою для перетворення занедбаних «браунфілдів» на життєздатні міські хаби, які шанують минуле, служачи майбутнім поколінням. Така трансформація не лише відновлює фізичну тканину міста, а й ревіталізує духовний та культурний зв'язок між громадою та її індустріальною історією.

Ключові слова: публічний простір, ревіталізація, індустріальна спадщина, урбаністичний розвиток, територіальна громада, публічне управління, просторове планування.

Formulation of the problem in general terms and its connection with important scientific and practical tasks. The contemporary transformational processes in Ukraine, particularly the decentralization of power and the growing role of territorial communities in decision-making regarding urban environment development, highlight the problem of effective spatial resource management. One of the key directions of this policy is the revitalization of industrial zones, which are losing their production functions but possess significant potential for the formation of new public spaces. The inclusion of industrial heritage sites into the system of public spaces contributes to improving the quality of life of the population, fostering social cohesion, strengthening the cultural identity of the community, and enhancing its investment attractiveness.

The relevance of the topic is determined by the need to develop scientifically grounded

approaches to state regulation and municipal governance of the processes of transforming industrial areas into multifunctional public spaces. In public administration practice, there is still a lack of comprehensive models that integrate the architectural and spatial, economic, social, and environmental aspects of revitalization. Defining the types and structural elements of such spaces makes it possible to increase the effectiveness of strategic planning, ensure the sustainability of urban development, and coordinate the actions of authorities, businesses, and the public in the field of preserving and adaptively reusing industrial heritage.

Analysis of recent studies and publications that initiated the solution of this problem and on which the author relies. In recent years, Ukrainian academic literature has shown a growing interest in the issues of revitalizing industrial areas and creating public spaces based on them. This tendency is driven by both urban development and administrative challenges related to the need to improve the quality of the urban environment, ensure the efficient use of community resources, and preserve industrial heritage. Publications from the past decade reveal four key scientific directions: architectural and spatial, design, managerial and economic, and socio-cultural.

The architectural and spatial approach is revealed in the works of N. Biloshytska, H. Tatarchenko, M. Biloshytskyi, and D. Matliak [2], who systematize the principles and methods of revitalizing industrial facilities. T. Bodnar and M. Yasinskyi [3] analyze an example of revitalization in Lviv as a model of integrating industrial zones into the modern urban structure. A. Bronevytskyi [4; 5] studies the problems of reconstructing industrial buildings in Kyiv, emphasizing the importance of preserving the historical identity of the architectural environment. O. Kudenchuk [21] and H. Kovalska [17] complement this direction with examples of the renovation of industrial complexes in Lviv and the historical areas of Kyiv.

The design aspect of revitalization is developed in the works of S. Buravchenko and A. Horbunova [6], who emphasize the creation of public spaces in industrial areas while maintaining ecological balance. H. Burlak and L. Vilinska [7] examine the features of forming a comfortable recreational environment within restored industrial territories. The ecological orientation of revitalization is highlighted by O. Amosha and I. Kocheshkova [1], who define landscape parks as an effective means of regenerating technogenic landscapes and developing such areas for recreational use.

The managerial and economic dimension is represented by studies in which revitalization is viewed as a component of the state policy for sustainable development. S. Horbliuk [10; 11] defines revitalization as a tool for restoring degraded areas, aligned with the United Nations Sustainable Development Goals. P. Hudz [12] emphasizes the need to implement effective management practices in industrial cities. M. Soldak [28; 29] analyzes institutional and financial mechanisms for supporting revitalization, using examples from European countries, while A. Kostrubitska and O. Lukianov [19] focus on the political instruments for implementing municipal revitalization policy in Ukraine.

The socio-cultural approach is reflected in studies where revitalization is interpreted as a factor of social integration and the formation of a community's cultural identity. O. Hnatkovych, A. Shevchuk, and T. Skrynka [8] consider revitalization as a brand strategy for tourism development in Lviv, while I. Dehtiarova and S. Horbliuk [13] view it as a process of rethinking the urban structure through the creation of public spaces. V. Sych [26] emphasizes that public spaces based on industrial facilities contribute to strengthening social cohesion and improving the quality of urban life.

Regional and applied studies (S. Dmytrenko, T. Kuzmenko [14]; S. Zapototskyi, O. Levytska [15]; O. Savchuk, A. Semchuk [25]; M. Kosmii, V. Nazaruk [20]; Ye. Lukash [22]) confirm that the process of revitalization is acquiring a systemic character in various Ukrainian cities – Kyiv, Lviv, Ivano-Frankivsk, Poltava, and Nadvirna – and involves the integration of architectural, social, and managerial strategies.

Thus, scientific studies demonstrate the interdisciplinary nature of the problem of developing

public spaces within industrial zones. However, despite the considerable number of works devoted to architectural, economic, and environmental aspects, the issues of state and administrative support for revitalization processes remain insufficiently explored. These include coordination between different levels of government, communities, and the private sector, as well as the development of effective mechanisms for public participation in the planning of such spaces. These aspects require further scientific elaboration within the context of implementing the policy of sustainable urban development.

Formulation of the purpose of the article. The purpose of this article is to identify the types and structural elements of public spaces formed on the basis of industrial heritage sites, as well as to reveal the roles of the industrial environment in modern revitalization practices. The research aims to determine how the adaptation of industrial areas to new socio-functional scenarios influences urban development, the formation of communicative spaces, and the improvement of the quality of community life.

To achieve this goal, the following main tasks are set:

to analyze domestic and international experience in the revitalization of industrial areas as a component of sustainable urban development policy;

to systematize the socio-functional types of public spaces formed on the basis of industrial heritage objects;

to identify the structural elements of public space that determine its architectural quality, accessibility, and social integration;

to characterize the roles of industrial heritage in the processes of forming the modern urban environment (as background, accent, foundation, or urban mass);

to generalize the factors influencing the nature of transformation and socialization of the industrial environment — architectural, historical and cultural, social, economic, and managerial.

Presentation of the main research material with a complete substantiation of the obtained scientific results. To identify the types of public spaces created in areas and facilities of industrial heritage, we analyzed more than 50 projects of public spaces based on industrial heritage. Among these projects are the winners of major international competitions, in particular, the World Architecture Festival (WAF) and the European Prize for Urban Public Space. The analyzed examples also include UNESCO World Heritage Sites (for example, the Wood Processing Factory in Verla, Finland), as well as projects designed by renowned architects.

The transformation of industrial heritage has become a crucial part of contemporary urban planning practice, largely determining the dynamics of urban development. As a result of the analysis, socio-functional types of public spaces were identified and classified, and the roles of industrial heritage within the studied revitalization projects were determined.

Based on the study of domestic and international practice, two fundamental types reflecting the interaction between historical and functional components were distinguished:

Type A – a historical object combined with a function related to its original purpose (with two subgroups identified);

Type B – a historical object combined with a new function unrelated to its original purpose (with six subgroups identified).

These types serve as a foundation for understanding the evolution of public spaces within post-industrial environments and illustrate the spectrum of approaches to the adaptive reuse of industrial heritage.

Type A – Historical Object + Function Related to Its Original Purpose.

A1. Museum Spaces. Such public spaces are formed when a historical industrial enterprise has ceased production, yet the material evidence of industrial culture – machinery, architectural structures, and engineering systems – has been preserved and transformed into museum exhibits. Another variation involves placing exhibits within a historical building that correspond to the original production profile, even if these items were not originally located there. Museum spaces

may be established on the basis of a single object (for example, the Maritime Museum of Barcelona), more commonly within the urban structure, or as part of a cultural and landscape complex (such as the BMW in Germany). In some cases, they encompass entire industrial districts consisting of multiple settlements, such as the Ironbridge Gorge in the United Kingdom.

Elements of theatricalization and historical context simulation may also be employed, for instance, the reconstruction of a Victorian-era town within the Ironbridge Gorge complex. In Ukraine, similar examples include the State Metallurgical Museum of Ukraine and the Museum of the History of the Dnipropetrovsk Metallurgical Plant, both of which illustrate the adaptive transformation of industrial heritage into museum environments that preserve collective memory and contribute to civic education.

Some of these complexes are UNESCO World Heritage Sites – for example, the Zollverein Coal Mine Industrial Complex in Essen (Germany), the Ironbridge Gorge (United Kingdom), and the Verla Groundwood and Board Mill (Finland). Other sites analyzed within this subgroup include the Lowell National Historical Park (USA), the Werstas Museum of Labour (Finland), the National Museum of Science and Technology of Catalonia (Spain), and the Maritime Museum of Barcelona (Spain). In all the reviewed cases, these museums function as public spaces, reflecting contemporary trends in the development of museum institutions – their transformation from closed exhibition venues into open, communicative urban environments that combine educational, cultural, and social functions.

A2. Public spaces at operating industrial enterprises (predominantly developed in the context of industrial tourism). The public functions that arise within such spaces are associated with the demonstration and presentation of the enterprise's history, technology, and products in real production conditions (mainly through adaptation, the designation of routes and exhibition halls within the existing structure) or in specially allocated areas (separate buildings or annexed parts).

The main method of integrating an operating historical enterprise is through production tours. In most of the analyzed cases, these tours are conducted on a commercial basis, although some are open to the public free of charge – for instance, BMW Welt, which is a new facility but conceptually connected to the historic production site. There is also a noticeable tendency toward a freer format of visitor experience within such spaces: this is not a traditional museum, where the visit's goal is to observe exhibits arranged according to a specific scenario, nor is it a guided tour, where behavior is regulated by various factors, including safety requirements. The exhibition area is organized so that visitors can freely explore the company's products while also experiencing the expressive architecture of the public building.

Examples of spaces of this type include the Ritter Sport Museum (Germany), the public areas of the Cadbury factory (United Kingdom), the public spaces of the Jack Daniel's Distillery (USA), the Macallan Distillery and Visitor Centre (United Kingdom), Berdychiv Brewery LLC, Khlibozavod "Kulinychi" JSC, and the Drohobych Saltworks. In this case, the foundation of the public space consists of new buildings located adjacent to the historical enterprise. These structures accommodate functions necessary for attracting visitors and promoting the brand without interfering with the main production process. It should be noted that visitor-oriented spaces can be designed not only at historical but also at new industrial facilities, illustrating a broader trend toward integrating industrial enterprises into the urban fabric.

Type B – Historical Site + New Function (not related to its original purpose).

B1. Creative Clusters ("Cultural Factories") represent spaces of "free activity" or art spaces, where the territory of a historical industrial complex is developed by users according to an open, flexible scenario, often without a predefined project. These areas are occupied and adapted for their needs by independent artists or creative studios that create and display their works within the same historical environment. Moreover, this environment can change quite dynamically.

It is worth noting that historical industrial complexes, which form environments unique in artistic expressiveness and socio-cultural significance, have become symbolic landmarks of the

creative industries sector. The first projects of cultural transformation appeared as early as the 1970s (for example, the cultural and communication center Fabrik in Hamburg). Artistic means of transforming the territory are often used: street art, monumental compositions, and murals can quickly enliven a space, reveal new meanings, and in some cases, become independent objects of public display.

Creative clusters are often established as grassroots initiatives or take the form of pronounced alternative socio-cultural movements; the term "placemaking" is frequently used in relation to their creation. Sometimes, the creative and open mode of operation may be temporary – for example, when future redevelopment plans for the territory are already known, or when the implementation of a larger transformation project is impossible for various reasons, making an alternative mode of use necessary. Examples of such creative clusters include Art-zavod "PLATFORMA", located on the site of the former Yaskov Darnytsia Silk Factory (Kyiv); IZONE Creative Community (Kyiv); the die Fabrik cultural center (Germany); and the Idea Factory complex (China).

It should be noted that cultural clusters vary greatly in scale – from small sites to large territorial formations such as creative districts integrated into the surrounding urban environment. Examples include the Sheffield Creative Industries Quarter and the 798 Art District in Beijing, as well as the Northern Quarter in Manchester, Ropewalks in Liverpool, the Creative Industries Quarter in Wolverhampton, and the Jewellery Quarter in Birmingham. In such large-scale cases, the socio-functional type reflects the main conceptual direction of the area's transformation.

B2. Spaces with a designated public function (a prioritized functional focus) are characterized by greater functional stability (typically, there is a design brief and a formal project), more substantial architectural transformations (restoration, reconstruction, addition of new structural elements to the complex), and increased attention to the landscaping of adjacent areas compared to creative clusters.

Examples of such spaces correspond to the following functional directions:

- exhibition centers: Fondazione Prada complex (Italy), Arquipélago – Center for Contemporary Arts (Portugal);
- education: Unitobler University (Switzerland), University of Oxford, Saïd Business School (United Kingdom);
- gastronomy: Food Market in Odesa, Wasserwerk banquet hall (Germany);
- entertainment: Machines of the Isle of Nantes (France);
- museums (if their exhibitions are not related to the history of the enterprise or industrial culture in general — for example, a museum of contemporary fine arts);
- theatrical and performance spaces: SILO complex in Marseille, The Kampanje theater in Den Helder, Snape Maltings concert hall, St. Ann's Warehouse theater in New York, and Live Theatre in Newcastle.

In particular, Mystetskyi Arsenal (Kyiv) is a national museum and exhibition complex housed in the buildings of the former Pechersk Arsenal (historic artillery workshops). Today, it is a large public cultural institution hosting exhibitions, festivals, educational projects, and the "Book Arsenal" fair. Jam Factory Art Center (Lviv) is a contemporary art center located in the buildings of a former jam factory (Kronik i Syn complex, late 19th – early 20th century). The entire site has been reimagined for exhibitions, performances, public programs, and educational activities; it functions as a private, non-profit cultural institution. The Dovzhenko Centre (Kyiv) was established on the grounds of the former Kyiv Film Printing Factory (1948). The area and production facilities have been reconstructed for public use, including a film archive, film museum, cinema hall, and exhibition and educational programs. The Korsaks' Museum of Contemporary Ukrainian Art (Lutsk) is located within the Adrenalin City cultural complex, created in the buildings of a former leatherboard factory; the museum and cultural venues became the central public element of the revitalization project. FESTrepublic (Lviv) is a cultural and event cluster on the site of the former

Halychsklo glass factory, featuring venues for festivals, concerts, and public events; the space is open to community initiatives.

B3. Public spaces in refunctionalized industrial complexes (where cultural and social potential is minimal, and the main areas are occupied by commercial activities). Objects of this subgroup can be classified under the following conditions:

1. The historical appearance is preserved, but the site hosts a public function that either does not allow free access or does not attract significant public attention (for example, when a historical building is occupied by offices). Such spaces can be described as socially neutral (or potentially public), with a low degree of socialization, since the site itself (the architectural environment) is not the primary purpose of visiting. These objects are often characterized by fragmented use and a conflict between the historical "monostructure" and modern "polystructural" use. Examples include KYÏVPROEKT City Space, Illinsky Business Center (Kyiv), Podil Heritage Centre / Regus (Kyiv), Fabrika.space (Kharkiv), and Kooperativ (Kyiv).

2. In addition to the situation described in point 1, the site may, by its external and/or internal appearance, no longer be identifiable as an object of industrial heritage (for example, due to new façade or interior finishes). In such cases, a genuine public space does not emerge (or fails to be revealed) because there is no socially significant communicative core or a distinct attractor beyond consumption or utilitarian use (i.e., performing specific, narrowly defined functional tasks such as office work, services, or retail). Overall, such examples can be regarded as less successful in terms of social integration. Projects of this Type B2 category include the MAREMAGNUM shopping center (Spain) and the Innovation Park in Kyiv, developed on the site of the former Kyiv Motorcycle Plant. It is important to note, however, that this mode of reuse may still be appropriate in certain contexts – for instance, when the area already contains active public spaces based on industrial heritage (so that in the renovation of nearby sites, external observation of the historic architecture is sufficient when it is incorporated into the project) or when a significant portion of the original complex's architecture has been lost.

B4. Public spaces within multifunctional structures. These sites (buildings or complexes) combine several functions – offices, cultural and social facilities, and often residential units, either permanent or temporary. Housing helps maintain round-the-clock activity within these spaces. The public space (often serving a cultural or recreational purpose) is incorporated into the design from the outset, holds a central role, and is frequently a destination in its own right. Architectural, urban planning, and design solutions, as well as landscaping projects, are specifically developed for it. A distinctive feature of this type of space is its appeal to a wide audience: office employees, residents or hotel guests, visitors to exhibitions, museums, concerts, cafés, and restaurants, and others. Examples of multifunctional spaces include the mixed-use district on the site of a former flour mill (Netherlands), the Lingotto multifunctional center (Italy), the Logomo cultural center (Finland), and Renovatsiia (Ivano-Frankivsk).

In the context of multifunctional use of sites, it is important to note the issue of functional compatibility. Studies exist that assess the effectiveness of functional combinations in economic terms or evaluate the degree of market synergy. At the same time, these studies highlight the flexibility of such schemes and relationships, as well as a growing tendency to combine seemingly "incompatible" functions. Industrial heritage – along with the unique characteristics of the site and its production history – provides a foundation for implementing flexible functional combinations and conducting spatial and programmatic experiments.

B5. Public spaces as part of the urban environment. In terms of functional structure, this type of space is similar to multifunctional complexes (B4) or renovation projects with a defined (priority) function (B2) discussed earlier. It may take the form of embankments, event squares, courtyards, or interior areas such as halls and lobbies. The key distinction lies in the positioning of the public space as the framework of the entire project, which itself is based on industrial heritage, and in its high degree of integration with other public spaces of the city. This integration is

expressed through the absence of clear boundaries between the public space created on the basis of industrial heritage and the surrounding urban fabric – access is free and barrier-free, often allowing for transit or spontaneous use (a place where one can stop to rest, work, or socialize). Projects of this kind may include both individual sites offering unique socio-cultural experiences and serving as communication spaces, as well as entire districts. Such spaces attract active visitation due to their distinctive functional content, well-designed environment for interaction, and location along high-traffic urban routes. It is important to note that these spaces typically have a development program and may be guided by a unified concept for engaging tenants and residents who form a community and sustain multifaceted social activity. These spaces often evolve gradually, strengthening and expanding upon existing renovation projects.

Examples of this type of space include the Vulkan district in Oslo (Norway), the King's Cross district in London (United Kingdom), the Manufaktura complex in Łódź (Poland), the Cellulose Attisholz AG multifunctional complex (Switzerland), and Roshen Plaza in Kyiv. This type of space can also be represented by interior environments within architectural structures, such as the LocHal Library in Tilburg (Netherlands).

B6. Public spaces with an active landscape component. The landscape-oriented approach to renovation emerged quite early – within the broader movement for the preservation and renewal of industrial heritage that has been developing since the mid-20th century – and was already evident in the 1970s (for example, the famous Gas Works Park in Seattle opened in 1975). The scale of such spaces varies widely – from large parks or interconnected park systems to green elements integrated into multifunctional structures, such as green roofs, patios, or vertical landscaping (for instance, the redevelopment of the former Empire Stores coffee warehouse in New York). In these spaces, the primary focus is often placed on ecological concepts: for example, one of the key goals of transforming the Ruhr region was the cleaning and restoration of the Emscher River. Equally important is that visitors can observe the unique interaction between two systems — the industrial and the natural – where the experience of history occurs through recreation, exploration, and environmental renewal. Such processes are referred to as landscape reconstruction or post-industrial landscape regeneration.

Today, in the context of the ecological challenges of industrial territories, attention is drawn not only to the creation of new landscape solutions but also to the preservation of natural biotopes, spontaneous nature, and wasteland ecosystems – as results of industrial activity, the tangible "traces" of industrial development in these areas. Spaces with an active landscape component include the Gas Works Park on the site of a former gas plant in Seattle (USA); the Huangpu River waterfront in Shanghai (China); Parco Dora in Turin (Italy); Fundidora Park (Mexico); the Lea River Park in London (United Kingdom); the Play Landscape "be-MINE" (Belgium); the transformation of the ENCI quarry in Maastricht (Netherlands); the Bethlehem Steel Stacks complex (USA); a series of projects for the Landschaftspark Duisburg-Nord (Ruhr region, Germany); the former coffee warehouse Empire Stores in Brooklyn (USA); Pochaina Park (Kyiv, Obolon industrial zone); the Roshen embankment on the Southern Bug River (Vinnytsia); and the post-industrial landscapes of Kryvbas (Kryvyi Rih).

It should be noted that the transformation of industrial heritage can also take other forms – for example, when the industrial legacy has been completely or largely lost. In such cases, contemporary architecture may reinterpret and preserve the industrial character and atmosphere through form, material, and spatial composition. An example of this approach is the Halic Shipyards project on the shores of the Golden Horn in Istanbul, where modern structures maintain the stylistic features and industrial character of the site, echoing the silhouettes of partially preserved port facilities. The materials used – steel, brick, concrete, and zinc – further emphasize continuity with the area's industrial past.

The selected public spaces based on industrial heritage were also classified according to additional criteria, including

the degree of accessibility:

– open (accessible) – entry to the territory or building is free, and no admission fee is charged;

– partially accessible – certain restrictions exist that prevent unrestricted entry into the space. For example, the space may be located within an operating enterprise and open to the general public only as part of organized tours, or the site may have been repurposed but functions as a relatively closed structure (such as offices) – the area is guarded, and access is regulated through a pass system. The requirement to purchase an admission ticket may also limit free access to such sites.

by purpose (functional use):

– recreation: spaces are used for leisure and social interaction. Visits may be intentional – for example, in the case of museums or park complexes – or incidental, such as recreational zones adjacent to office or residential developments, or cultural sites. Recreation can also involve entertainment, play, and sports activities. This category may also include gastronomic projects. Spaces of this type can be free from any strictly defined function, instead emphasizing the possibility of choice and communication;

– education: a) the establishment of educational institutions and complexes; b) the communication of the historical, cultural, and socio-economic significance of industrial heritage sites to visitors through guided tours, informational panels about the history of the enterprise and prominent figures, advertising materials, or digital tools such as mobile applications and augmented/virtual reality, enabling immersion in the corresponding historical period. In this sense, the educational function is most prominently expressed in museum complexes;

– creative production: studios, workshops, and creative laboratories;

– offices or business: development of a business environment attractive to a wide range of tenants – from startups to large technology companies – who may use the historical and architectural uniqueness of the site as part of their brand identity;

– culture: exhibition, concert, and theater programs, including temporary and experimental projects;

– commerce: integration of retail enterprises into multifunctional redevelopment programs, or complete conversion of former industrial sites into shopping and entertainment centers;

– services: development of household, medical, and other service facilities.

It is important to note that even when a primary functional use is designated, the analyzed sites typically demonstrate complex models based on the interaction of multiple functional components.

by the method of implementing public spaces:

– architectural and urban design projects with planned public spaces. These projects include a landscaping plan, a comprehensive development program, and the creation of a system of interconnected public spaces. The approach is deliberate and structured, ensuring spatial coherence and long-term sustainability;

– gradual formation of public spaces. This approach is characterized by flexibility and functional variability, often arising in the absence of a clearly defined development strategy for the territory (due to factors such as lack of funding or economic instability). Such projects are typically aimed at solving specific or temporary tasks – for example, hosting concerts, exhibitions, or festivals. The landscaping often employs transformable structures and mobile furniture, allowing adaptation to changing needs and events.

by the mode of organization (initiator):

– initiative from enterprise owners. The initiative may come from the owners of enterprises, whether the production facilities are still in operation or have already been shut down;

– initiative from professional or creative communities. These include associations for the preservation of industrial heritage, creative collectives, architects, and urban planners who act as

initiators of transformation projects;

– other individual or group initiatives. Projects may also be initiated by independent activists, local communities, or public organizations interested in revitalizing industrial heritage sites and integrating them into the urban cultural environment.

by size:

– compact: area less than 1 hectare;

– medium: area from 1 to 5 hectares;

– large: area greater than 5 hectares;

– extra-large: area exceeding 100 hectares.

by socio-cultural significance:

– local significance: spaces are primarily used by office employees or residents of the surrounding neighborhood;

– city-wide significance: the cultural offerings or other activities on the site, as well as the importance of preserved heritage objects, attract attention and interest from city residents and tourists who may visit the area specifically.

– national significance: the site contributes to shaping the political and cultural image of the country.

by duration of use:

– long-term: the functional program of the renovated site or complex remains relatively stable – the development direction of the territory and its functional concept are clearly defined, often formalized within an architectural or urban planning project;

– temporary: these spaces are created for festivals or cultural projects, when the historical site does not yet have a finalized or permanent development plan, but already attracts various initiative groups for social or cultural activities. Such actions are often aimed at supporting and promoting the identity of industrial heritage, serving as a statement of intent for a larger-scale renovation program or, alternatively, preceding its eventual disappearance. Events are organized not only for entertainment or leisure but also to immerse visitors in the environment, help them appreciate its uniqueness, and emphasize the importance of its revival. To achieve this, it is essential to establish a functional public space. Events may be regular (for example, the Flow Festival in Helsinki) or one-time. The temporary nature of such spaces determines the use of modular, tent, pneumatic structures, as well as parametric design and 3D-printed elements. Industrial sites thus become experimental grounds, continuing their historical association with innovation. In such cases, socialization often extends to adjacent areas (for instance, plans for repurposing the Helsinki power plant near the Flow Festival site). This kind of socialization can be described as intermittent, realized through short-term events, festivals, and programs – "event-spaces." Temporary spaces open up new opportunities and architectural approaches for adapting and socializing industrial complexes, demonstrating high adaptability to contemporary conditions through the use of advanced structural and technological solutions. The variety of artistic means employed helps reveal the cultural significance of industrial heritage. The outcomes of temporary use may vary: events can take place on both operational and abandoned industrial sites, potentially leading either to the development of industrial tourism or to the complete repurposing of the area.

As a result of the study, we identified the main structural elements of public spaces based on industrial heritage sites – elements that determine their architectural quality and, in various combinations, can describe distinct socio-functional types. These elements include:

– boundaries: characterize the degree of integration or isolation of the site (presence of barriers or obstacles to access, degree of industrial specificity). Boundaries define the contours of the space and can be closed; open but spatially defined; or completely open;

– entrance node: a notional "point" marking the beginning of the space – for example, a square, street, or a group of publicly accessible functional zones such as a lobby, café, or waiting area;

– point or points of interest: key objects, zones, or spaces that attract and concentrate public attention;

– paths: internal routes within the site or complex – the lines along which the spatial scenario unfolds; these may include transit routes.

Thus, a public space is understood as a process unfolding within a conditionally defined area (with varying types of boundaries) and possessing a certain dynamic of development.

As a result of the analysis, we identified four main roles of industrial heritage – in other words, the ways in which historical industrial architecture functions within these projects:

– background: industrial heritage forms an expressive environment within or against which public activity and urban life unfold. This often creates a theatrical or scenographic effect;

– accent: industrial heritage elements (a building, engineering structure, machinery, or preserved construction fragments) become part of a transformed architectural environment, creating new conditions for perception. In contrast to the surrounding landscape or modern architectural elements, the industrial object serves as a significant semantic and visual focal point;

– framework (Basis): key elements of the industrial structure are preserved –both in terms of spatial planning and volume. New architectural components are added through extensions, insertions, or superstructures, producing a striking dialogue between historical and contemporary layers;

– mass: the industrial heritage complex remains a cohesive, “monolithic” structure with minimal or no contrasting insertions of new architectural elements.

It is also known that various approaches to the use of color and light (especially nighttime illumination) are employed to enhance the visual and emotional impact of public spaces based on industrial heritage (for example, through evening lighting). These approaches can be classified as follows:

- Umbra (Latin – Illusion): the use of light and shadow to create a sense of mystery, depth, or illusion within the industrial environment;
- Spectrum (Latin – Spectrum): emphasizing the aesthetic and structural features of industrial architecture through color and light diversity, creating dynamic visual effects;
- Nuntius (Latin – Message): lighting and color are used as a communicative tool to convey information, symbolism, or the identity of the place;
- Affectio (Latin – Mood): the use of lighting and color to shape emotional perception and atmosphere, evoking specific feelings or associations in visitors.

Based on the analysis of the examined examples of socialization of industrial heritage, several key characteristics can be identified, among them:

architectural and urban-planning features. The attractiveness of such spaces is largely determined by the high artistic expressiveness of the buildings and engineering structures, which serve as the foundation for the communicative component – the public space itself. Industrial heritage sites and complexes may be located within the urban fabric, ensuring more active interaction with the city’s network of public spaces, or outside city boundaries, where they often form autonomous cultural or recreational environments. Public spaces can take the form of open areas (streets, squares) or enclosed interiors. However, their effective functioning and social relevance depend primarily on accessibility – free entry, the orientation of certain functions toward the city, and the creation of a barrier-free environment – as well as on convenient location and connectivity. The scale of public spaces also varies widely – from micro-spaces to large urban fragments or entire districts, such as in Sheffield, or even networks of spaces formed where the close proximity of industrial enterprises historically reflected the specifics of production processes, technologies, resource deposits, and extraction conditions;

historical and cultural features. The analyzed spaces often include groups of objects differing in style, period of construction, and building technology, reflecting the layered historical development of industrial architecture. The heritage protection status of sites or complexes

significantly influences the character and design of public spaces. When socialization takes place within a protected architectural monument or a cultural heritage site, all restrictions related to work within the monument's territory and its buffer zone must be carefully observed. In some cases, objects acquire heritage protection status after a period of use as public spaces, once their historical, architectural, or cultural value becomes more widely recognized through the process of adaptive reuse and public engagement;

socio-functional features. A defining characteristic of public spaces based on industrial heritage is the central role of the communicative component – the public space itself – which both influences and depends on other functional elements such as attractors (museums, cultural venues, educational institutions, landscape areas). The functional structures of these spaces are highly dynamic, even when a strong attractor currently dominates. Functions may diversify, expand, or diminish over time, reflecting changes in social demand and cultural context. A notable feature is the high adaptability of social scenarios: public spaces – museums, tourist routes, art centers, and similar formats – can be integrated both into abandoned industrial buildings and into operating facilities, achieving coexistence between production and public use. There is also considerable diversity among the initiators of industrial heritage transformation: these may include property owners, public and professional heritage activists, artists, entrepreneurs, and other potential users. Many projects are closely tied to social practices, such as supporting retired and active industrial workers, involving them in transmitting knowledge about the enterprise's history, creating places of memory, and even sustaining ongoing production. Importantly, public space cannot be reduced to its purely functional dimension – especially in cases where the cultural and social potential of industrial heritage is minimally expressed. Ensuring accessibility and fostering integration into the atmosphere of the historical industrial environment are essential conditions for authentic socialization.

We have determined that the nature of transformation and socialization of industrial heritage is influenced by a range of interrelated factors:

- resource-related factors: the initial potential of the environment – production and urban-planning characteristics, including the specific features of the site or complex, its degree of preservation, the presence or cessation of production, and the site's location;
- historical and architectural factors: the uniqueness of the site – whether it is an architectural monument, a cultural heritage site, or an object without protected status;
- functional factors: the nature of the intended use scenarios, requirements for organizing new activities, and compatibility with contemporary functions;
- social factors: the intentions of the project owner, as well as public attitudes toward the site (for example, from heritage advocacy groups or current and former employees);
- economic factors: the potential use model, the number of property owners, and the available financial and investment resources.

Thus, under the influence of this complex set of factors, various socio-functional types of public spaces are formed. Moreover, it can be assumed that the established typology will continue to expand as the relative impact of these factors evolves over time.

Conclusions and Prospects for Further Research. As a result of the study, it has been established that the revitalization of industrial areas through the creation of public spaces on their basis represents an important direction in the implementation of state policy for sustainable urban and community development. This process is interdisciplinary in nature, combining architectural and spatial, sociocultural, ecological, and managerial approaches to rethinking the functional purpose of industrial heritage sites.

The research identified the main socio-functional types of public spaces within industrial zones, as well as their structural elements, which ensure architectural quality, accessibility, and social vitality of the environment. It has been demonstrated that the role of industrial heritage in contemporary revitalization models may take various forms – as a historical background, a

compositional accent, a functional framework, or an urban fabric. Such a typology allows for a clearer definition of management priorities in the integration of industrial sites into the urban structure.

It has been determined that the effectiveness of revitalization processes depends on the level of institutional support and the coordination of management actions among state authorities, local governments, businesses, and civil society. The most effective management mechanisms include public-private partnership models, a program-target approach to strategic territorial development planning, and the involvement of civic initiatives in the design and operation of public spaces.

It is emphasized that the formation of public spaces based on industrial heritage sites contributes to strengthening social cohesion, reviving local identity, and enhancing the communicative potential of the urban environment. At the same time, revitalization projects require systematic legal and regulatory support, financial incentives, and integration into strategic spatial development documents of communities.

The results of this study have practical significance for shaping state and municipal policies in the fields of revitalization, spatial planning, and cultural heritage protection. Prospects for further research lie in developing a model of public administration for the revitalization of industrial territories — one that integrates architectural and spatial solutions, social participation, and ecological regeneration. Special attention should also be given to studying the socio-economic impacts of public spaces functioning within transformed industrial zones.

Список використаних джерел

1. Амоша О. О., Кочешкова І. М. Ландшафтний парк як спосіб ревіталізації відвалів доменних шлаків. *Вісник економічної науки України*. 2021. № 2. С. 71-75.

2. Білошицька Н. І., Татарченко Г. О., Білошицький М. В., Матляк Д. М. Ревіталізація промислових об’єктів: історія, основні принципи та прийоми. *Просторовий розвиток*. 2023. Вип. 4. С. 76-94.

3. Боднар Т., Ясінський М. Можливості ревіталізації промислових територій міст на прикладі вулиці Замкової у місті Львові. *Вісник Національного університету "Львівська політехніка". Серія : Архітектура*. 2023. Vol. 5, Iss. 2. С. 1-13.

4. Броневицький А. П. Особливості ревіталізації промислових будівель. *Збірник наукових праць [Полтавського національного технічного університету ім. Ю. Кондратюка]. Серія : Галузеве машинобудування, будівництво*. 2015. Вип. 2. С. 65- 69.

5. Броневицький А. П. Ревіталізація промислових будівель Києва. Будівельне виробництво. 2016. № 61(1). С. 59-66.

6. Буравченко С. Г., Горбунова А. І. Сучасні підходи до реновації промислових районів зі створенням міських громадських просторі. *Теорія та практика дизайну*. 2020. Вип. 21. С. 7-15.

7. Бурлак Г. М., Вілінська Л. М. Особливості дизайну зовнішнього середовища в умовах ревіталізації промислового комплексу. *Art and Design*. 2021. № 2. С. 85-95.

8. Гнаткович О. Д., Шевчук А. В., Скринька Т. Г. Ревіталізація як сучасна бренд-стратегія у туризмі Львова. *Східна Європа: економіка, бізнес та управління*. 2021. Вип. 4. С. 78-82.

9. Гнатюк Л. Р., Мельник М. В. Ревіталізація промислових об’єктів на прикладі м. Київ. *Теорія та практика дизайну*. 2019. Вип. 16. С. 52-67.

10. Горблюк С. А. Реалізація цілей сталого розвитку в процесі ревіталізації здеградованих міських територій. *Ефективність державного управління*. 2020. Вип. 4. С. 100-112.

11. Горблюк С. Ревіталізація міста: сутність та ключові характеристики. *Збірник наукових праць Національної академії державного управління при Президентові України*. 2020. Вип. 2. С. 34-41.

12. Гудзь П. В. Управлінські практики планування розвитку промислових міст шляхом ревіталізації територій. *Економічні інновації*. 2017. Вип. 64. С. 71-76.

13.Дегтярьова І. О., Горблюк С. А. Модель міста як об'єкта ревіталізації. *Вісник Національної академії державного управління при Президентові України. Серія : Державне управління*. 2020. № 3. С. 59-66.

14.Дмитренко А. Ю., Кузьменко Т. Ю. Ревіталізація промислових територій та об'єктів у великих містах України. *Містобудування та територіальне планування*. 2020. Вип. 72. С. 70-78.

15.Запотоцький С., Левицька О. Ревіталізація промислових об'єктів міста (на прикладі м. Івано-Франківська). *Часопис соціально-економічної географії*. 2016. Вип. 21. С. 102-106.

16.Іваночко У. І., Засадній М. Л. Особливості архітектурно-просторової організації громадської забудови на реструктуризованих промислових територіях. *Містобудування та територіальне планування*. 2013. Вип. 50. С. 245-254.

17.Ковальська Г. Л. Проблеми ревіталізації промислових об'єктів в історичній зоні міста. *Сучасні проблеми архітектури та містобудування*. 2019. Вип. 54. С. 373-382.

18.Ковальський В. П., Абрамович В. С. Принципи якісної ревіталізації громадських просторів. *Сучасні технології, матеріали і конструкції в будівництві*. 2021. № 2. С. 54-59.

19.Коструб'іцька А. В., Лук'янов О. П. Упровадження політики ревіталізації міст в Україні. *Дніпровський науковий часопис публічного управління, психології, права*. 2021. Вип. 6. С. 36-39.

20.Косьмій М. М., Назарук В. Г. Європейський досвід ревіталізації військово-промислових комплексів (на прикладі Закарпатського регіону). Містобудування та територіальне планування. 2025. Вип. 88. С. 133-146.

21.Куденчук О. Ревіталізація промислових територій як поштовх до сучасної трансформації міст (на прикладі м.Львова). *Вісник Чернівецького торговельно-економічного інституту. Економічні науки*. 2024. Вип. 3. С. 91-107.

22.Лукаш Є. В. Кластерна організація як перспективний шлях ревіталізації промислових територій у м. Полтава. *Містобудування та територіальне планування*. 2023. Вип. 83. С. 172-183.

23.Майборода О. М., Духняк І. О. Ревіталізація промислових територій під багатофункціональний комплекс. Досвід Львова, Івано-Франківська, Варшави. *Молодий вчений*. 2020. № 1(2). С. 158-162.

24.Савйовський В. В., Броневицький А. П. Реконструкція промислових будівель при їх ревіталізації. *Нові технології в будівництві*. 2014. № 27-28. С. 33-36.

25.Савчук О. М., Семчук А. С. Ревіталізація покинутої території Надвірнянського нафтоперегінного заводу. *Містобудування та територіальне планування*. 2024. Вип. 86. С. 168-177.

26.Сич О. А. Ревіталізація як складова стратегії розвитку міста. *Вісник Харківського національного університету імені В. Н. Каразіна. Серія : Економічна*. 2020. Вип. 99. С. 66-73.

27.Собко Б. Ю. Оцінка технологічних і організаційних рішень з ревіталізації техногенних ландшафтів. *Збірник наукових праць Національного гірничого університету*. 2017. № 50. С. 111-116.

28.Солдак М. Інституційний аспект ревіталізації браунфілдів: приклад Україні. *Журнал європейської економіки*. 2021. Т. 20, № 2. С. 315-340.

29.Солдак М. О. Фінансова підтримка ревіталізації старопромислових територій: досвід Великобританії, Чехії та Туреччини. *Управління економікою: теорія та практика. Чумаченківські читання*. 2021. С. 250-263.

References

1. Amosha, O. O., & Kocheshkova, I. M. (2021). Landshaftnyi park yak sposib revitalizatsii vidvaliv domennykh shlakiv [Landscape park as a way of revitalization of blast furnace slag heaps]. *Visnyk ekonomichnoi nauky Ukrainy - Herald of the Economic Sciences of Ukraine*, (2), 71–75 [in

Ukrainian].

2. Biloshytska, N. I., Tatarchenko, H. O., Biloshytskyi, M. V., & Matliak, D. M. (2023). Revitalizatsiia promyslovykh obiektiv: istoriia, osnovni pryntsypy ta pryiomy [Revitalization of industrial objects: history, basic principles and techniques]. *Prostorovyi rozvytok - Spatial Development*, (4), 76–94 [in Ukrainian].

3. Bodnar, T., & Yasinskyi, M. (2023). Mozhlyvosti revitalizatsii promyslovykh terytorii mist na prykladi vulytsi Zamkovoi u misti Lvovi [Opportunities for revitalization of industrial areas of cities on the example of Zamkova Street in Lviv]. *Visnyk Natsionalnoho universytetu "Lvivska politekhnika". Seriia: Arkhitektura - Bulletin of Lviv Polytechnic National University. Series: Architecture*, 5(2), 1–13 [in Ukrainian].

4. Bronevytskyi, A. P. (2015). Osoblyvosti revitalizatsii promyslovykh budivel [Features of revitalization of industrial buildings]. *Zbirnyk naukovykh prats Poltavskoho natsionalnoho tekhnichnoho universytetu im. Yu. Kondratiuka. Seriia: Haluzeve mashynobuduvannia, budivnytstvo - Collection of scientific works of Poltava National Technical University. Series: Branch engineering, construction*, (2), 65–69 [in Ukrainian].

5. Bronevytskyi, A. P. (2016). Revitalizatsiia promyslovykh budivel Kyieva [Revitalization of industrial buildings in Kyiv]. *Budivelne vyrobnytstvo - Building production*, 61(1), 59–66 [in Ukrainian].

6. Buravchenko, S. H., & Horbunova, A. I. (2020). Suchasni pidkhody do renovatsii promyslovykh raionov zi stvorenniam miskykh hromadskykh prostoriv [Modern approaches to renovation of industrial districts with the creation of urban public spaces]. *Teoriia ta praktyka dyzainu - Theory and Practice of Design*, (21), 7–15 [in Ukrainian].

7. Burlak, H. M., & Vilinska, L. M. (2021). Osoblyvosti dyzainu zovnishnyoho seredovyshcha v umovakh revitalizatsii promyslovoho kompleksu [Features of outdoor environment design in the conditions of industrial complex revitalization]. *Art and Design*, (2), 85–95 [in Ukrainian].

8. Hnatkovych, O. D., Shevchuk, A. V., & Skrynka, T. H. (2021). Revitalizatsiia yak suchasna brend-stratehiia u turyzmi Lvova [Revitalization as a modern brand strategy in Lviv tourism]. *Skhidna Yevropa: ekonomika, biznes ta upravlinnia - Eastern Europe: Economy, Business and Management*, (4), 78–82 [in Ukrainian].

9. Hnatiuk, L. R., & Melnyk, M. V. (2019). Revitalizatsiia promyslovykh obiektiv na prykladi m. Kyiv [Revitalization of industrial objects on the example of Kyiv]. *Teoriia ta praktyka dyzainu - Theory and Practice of Design*, (16), 52–67 [in Ukrainian].

10. Horbliuk, S. A. (2020). Realizatsiia tsilei staloho rozvytku v protsesi revitalizatsii zdehradovanykh miskykh terytorii [Implementation of sustainable development goals in the process of revitalization of degraded urban areas]. *Efektyvnist derzhavnoho upravlinnia - Efficiency of Public Administration*, (4), 100–112 [in Ukrainian].

11. Horbliuk, S. (2020). Revitalizatsiia mista: sutnist ta kliuchovi kharakterystyky [City revitalization: essence and key characteristics]. *Zbirnyk naukovykh prats Natsionalnoi akademii derzhavnoho upravlinnia pry Prezydentovi Ukrainy - Collection of Scientific Papers of the National Academy for Public Administration*, (2), 34–41 [in Ukrainian].

12. Hudz, P. V. (2017). Upravlinski praktyky planuvannia rozvytku promyslovykh mist shliakhom revitalizatsii terytorii [Management practices for planning the development of industrial cities through the revitalization of territories]. *Ekonomichni innovatsii - Economic Innovations*, (64), 71–76 [in Ukrainian].

13. Dehtiarova, I. O., & Horbliuk, S. A. (2020). Model mista yak obiekta revitalizatsii [City model as an object of revitalization]. *Visnyk Natsionalnoi akademii derzhavnoho upravlinnia pry Prezydentovi Ukrainy. Seriia: Derzhavne upravlinnia - Bulletin of the National Academy for Public Administration. Series: Public Administration*, (3), 59–66 [in Ukrainian].

14. Dmytrenko, A. Yu., & Kuzmenko, T. Yu. (2020). Revitalizatsiia promyslovykh terytorii

ta obiektiv u velykykh mistakh Ukrainy [Revitalization of industrial territories and objects in large cities of Ukraine]. *Mistobuduvannia ta terytorialne planuvannia - Town Planning and Territorial Planning*, (72), 70–78 [in Ukrainian].

15.Zapototskyi, S., & Levytska, O. (2016). Revitalizatsiia promyslovykh obiektiv mista (na prykladi m. Ivano-Frankivska) [Revitalization of industrial objects of the city (on the example of Ivano-Frankivsk)]. *Chasopys sotsialno-ekonomichnoi heohrafii - Journal of Socio-Economic Geography*, (21), 102–106 [in Ukrainian].

16.Ivanochko, U. I., & Zasadnii, M. L. (2013). Osoblyvosti arkhitekturno-prostorovoi orhanizatsii hromadskoi zabudovy na restrukturyzovanykh promyslovykh terytoriiakh [Features of architectural and spatial organization of public buildings in restructured industrial areas]. *Mistobuduvannia ta terytorialne planuvannia - Town Planning and Territorial Planning*, (50), 245–254 [in Ukrainian].

17.Kovalska, H. L. (2019). Problemy revitalizatsii promyslovykh obiektiv v istorychnii zoni mista [Problems of revitalization of industrial objects in the historical zone of the city]. *Suchasni problemy arkhitektury ta mistobuduvannia - Modern Problems of Architecture and Urban Planning*, (54), 373–382 [in Ukrainian].

18.Kovalskyi, V. P., & Abramovych, V. S. (2021). Pryntsypy yakisnoi revitalizatsii hromadskykh prostoriv [Principles of high-quality revitalization of public spaces]. *Suchasni tekhnolohii, materialy i konstruktsii v budivnytstvi - Modern Technologies, Materials and Structures in Construction*, (2), 54–59 [in Ukrainian].

19.Kostrubitska, A. V., & Lukianov, O. P. (2021). Uprovadzhennia polityky revitalizatsii mist v Ukraini [Implementation of urban revitalization policy in Ukraine]. *Dniprovskyi naukovyi chasopys publichnoho upravlinnia, psykholohii, prava - Dnipro Scientific Journal of Public Administration, Psychology, Law*, (6), 36–39 [in Ukrainian].

20.Kosmii, M. M., & Nazaruk, V. H. (2025). Yevropeiskyi dosvid revitalizatsii viiskovo-promyslovykh kompleksiv (na prykladi Zakarpatskoho rehionu) [European experience of revitalization of military-industrial complexes (on the example of the Transcarpathian region)]. *Mistobuduvannia ta terytorialne planuvannia - Town Planning and Territorial Planning*, (88), 133–146 [in Ukrainian].

21.Kudenchuk, O. (2024). Revitalizatsiia promyslovykh terytorii yak poshtovkh do suchasnoi transformatsii mist (na prykladi m. Lvova) [Revitalization of industrial areas as an impetus for modern transformation of cities (on the example of Lviv)]. *Visnyk Chernivetskoho torhovelno-ekonomichnoho instytutu. Ekonomichni nauky - Bulletin of Chernivtsi Institute of Trade and Economics. Economic Sciences*, (3), 91–107 [in Ukrainian].

22.Lukash, Ye. V. (2023). Klasterna orhanizatsiia yak perspektyvnyi shliakh revitalizatsii promyslovykh terytorii u m. Poltava [Cluster organization as a promising way of revitalization of industrial territories in Poltava]. *Mistobuduvannia ta terytorialne planuvannia - Town Planning and Territorial Planning*, (83), 172–183 [in Ukrainian].

23.Maiboroda, O. M., & Dukhniak, I. O. (2020). Revitalizatsiia promyslovykh terytorii pid bahatofunktsionalnyi kompleks. Dosvid Lvova, Ivano-Frankivska, Varshavy [Revitalization of industrial territories for a multifunctional complex. Experience of Lviv, Ivano-Frankivsk, Warsaw]. *Molodyi vchenyi - Young Scientist*, 1(2), 158–162 [in Ukrainian].

24.Saviovskyi, V. V., & Bronevytskyi, A. P. (2014). Rekonstruktsiia promyslovykh budivel pry yikh revitalizatsii [Reconstruction of industrial buildings during their revitalization]. *Novi tekhnolohii v budivnytstvi - New Technologies in Construction*, (27-28), 33–36 [in Ukrainian].

25.Savchuk, O. M., & Semchuk, A. S. (2024). Revitalizatsiia pokynutoi terytorii Nadvirnianskoho naftopereghinnoho zavodu [Revitalization of the abandoned territory of the Nadvirna oil refinery]. *Mistobuduvannia ta terytorialne planuvannia - Town Planning and Territorial Planning*, (86), 168–177 [in Ukrainian].

26.Sych, O. A. (2020). Revitalizatsiia yak skladova stratehii rozvytku mista [Revitalization

as a component of city development strategy]. *Visnyk Kharkivskoho natsionalnoho universytetu imeni V. N. Karazina. Seriia: Ekonomichna - Bulletin of V. N. Karazin Kharkiv National University. Economic Series*, (99), 66–73 [in Ukrainian].

27. Sobko, B. Yu. (2017). Otsinka tekhnolohichnykh i orhanizatsiinykh rishen z revitalizatsii tekhnohennykh landshaftiv [Evaluation of technological and organizational solutions for the revitalization of man-made landscapes]. *Zbirnyk naukovykh prats Natsionalnoho hirnychoho universytetu - Collection of Scientific Papers of the National Mining University*, (50), 111–116 [in Ukrainian].

28. Soldak, M. (2021). Instytutsiinyi aspekt revitalizatsii braunfildiv: pryklad Ukrainy [Institutional aspect of brownfield revitalization: the case of Ukraine]. *Zhurnal yevropeiskoi ekonomiky - Journal of European Economy*, 20(2), 315–340 [in Ukrainian].

29. Soldak, M. O. (2021). Finansova pidtrymka revitalizatsii staropromyslovykh terytorii: dosvid Velykobrytanii, Chekhii ta Turechchyny [Financial support for the revitalization of old industrial areas: the experience of Great Britain, the Czech Republic and Turkey]. *Upravlinnia ekonomikoi: teoriia ta praktyka. Chumachenkivski chytannia - Economic Management: Theory and Practice. Chumachenko Readings*, 250–263 [in Ukrainian].