

INNOVATORY KHARKIV MASS HOUSING ESTATES IN URBAN PLANNING OF THE 1960s-1980s

Nadiia Antonenko

ABSTRACT: The destructions of the Russo-Ukrainian war are leading to a rapid loss of cultural heritage in Ukraine, including contemporary 20th century monuments in Kharkiv, the cradle of Ukrainian modernism. At the greatest risk are the sites, which were complex and not well understood heritage before the war - mass housing estates of 1960s-1980s. In view of the postwar reconstruction, there is a great need to analyze mass housing estates in Kharkiv as potential objects of preservation. The purpose of this article is to reveal the architectural and historical value of the first Kharkiv mass housing estates in terms of their innovation, which might be the basis for further preservation steps. The article focuses on the three earliest areas of mass housing estates of the city - Pavlovo Pole, Novi Budynty and Saltovsky mass housing, which were designed and built during the period of the transition to rapid and large-scale prefabricated industry in the late 1950s - early 1960s. It is namely during the design and construction of these estates that innovatory technologies and approaches were developed and tested, which were later used in the construction of new housing estates both in Kharkiv and in other cities of Ukraine. These innovations included the system of microdistricts, the staggered system of services for the population, and the method of focusing in urban planning. The creation of a number of standard series of pioneering residential buildings for mass industrial development by the "Kharkovproject" and "Ukrmistostroyproject" design institutes. The study is based on the reconstruction of the historical chronology of design work of 1960's - 1980's in the history of Ukrainian city planning; a comparative analysis of the first-erected housing estates, and the definition of the unique solutions of Kharkiv city planners that were implemented in the development of the first housing estates in Kharkiv.

KEYWORDS: mass housing, innovations, Kharkiv, urban transformations, Russo-Ukrainian War

INTRODUCTION: The Russo-Ukrainian war of 2022 has made the issue of the preservation of Ukrainian immovable cultural heritage more acute. Architectural sites are at daily risk of destruction due to rocket and artillery fire. A greater threat is posed by military operations to objects whose status even before the war was not defined as being valuable, such as the typical post-Soviet mass housing estates. In the event of the slightest destruction, there is no question of rebuilding panel buildings a priori - after the war all the destroyed buildings will be dismantled.

At the same time, for conservationists of monuments and architectural heritage, the questions "What will be built in their place?" and "Will material evidence of an entire period of world architectural history remain, when the choice was made in favor of utilitarian provision of housing after the catastrophic destruction of World War

II?" become unusually acute. After all, the post-Soviet housing estates in large Ukrainian cities range from 30 to 60 per cent of the total area. They have had a significant impact on the formation of the modern image of Ukrainian cities, having become an integral part of them for 70 years. Several generations of citizens have grown up in the spatial environment of residential areas, who culturally and socially identify themselves and their families with these city territories.

The critique of the Soviet housing programs, which claimed the 'greyness and facelessness' of the mass housing estates and was prevalent in the 1980s and 1990s, did not reflect the actual state of the situation. Despite predictions of ghettoisation, Kharkiv's neighborhoods have not only managed to adapt to the new market context, but have also created comfortable living conditions for local

residents by forming a local self-identity. Nevertheless, current challenges make it doubtful that programs of revitalization and integrated development of Kharkiv's mass housing estates should be developed promptly before the end of military activity. The most effective tool for the preservation of Kharkiv's housing estates during the war and post-war reconstruction period is the inventorization and documentation of historical phases of design, construction and development that demonstrate the uniqueness, effectiveness and resilience of developments. The documentation of the developments should be made in the viewpoint of both positive and negative aspects. The results of these studies should be taken into account in the development of new design concepts in their area.

In the 1990s, mass housing estates in the public mind of Kharkiv citizens began to be perceived as a clear aesthetic and socio-functional symbol of totalitarianism, which must be overcome and eradicated. However, thirty years after the collapse of the USSR, this symbolic opposition has softened. The natural changes which have taken place over the 30 years have partly liberated the urban environment of mass housing estates from the clichés imposed by ideology and, in parallel, acquired new symbolic and cultural meanings. This is a background for thinking about the cultural value of mass housing areas, not on the basis of authenticity and integrity, but by looking at the resilience of the original concept to the new challenges. In addition, it is necessary to evaluate the impact of the housing estates created in the 1950s and 1960s under the conditions of ideological understanding of the organization of everyday life, corresponding to the current ideas about a comfortable urban environment.

That is why now, while military attacks are taking place, an urgent task for architectural researchers and monument conservationists is to identify valuable cultural layers of 20th-century Ukrainian architecture and to take proactive measures for their further preservation. Consideration of the period of mass industrial construction is one of the key directions of this study. The importance of this work is due to the fact that large Ukrainian cities again, as after World War II, face the choice of strategy for spatial development, technological modernization and the beginning of the reorganization of their urban life.

A unique Ukrainian city whose mass housing estates should be studied in the first priority is Kharkiv, a Ukrainian modernist urban laboratory. The first phase of large-scale housing construction in Kharkiv came at a time when the city was the capital of the Ukrainian SSR (1919-1934) and one of the main cities of the Soviet Union. It was at that time when the search for an optimal housing concept took place in Kharkiv (Antonenko et al, 2016). In the

post-war 1960s and 1980s, it was Kharkiv that became the first city in Ukraine to have tested new urban planning solutions, which led to fundamental changes in the social organization of city life. Among them: the system of microdistricts, a staged system of household services, the method of focusing in urban planning, which were eventually implemented in the solutions of housing estates design in other Ukrainian cities.

The epoch of Soviet mass pre-fabricated construction has been widely reflected in the professional literature. The problem of the preservation of residential areas has been discussed in the works of P. Moiser (Moiser, Zadorin, 2018), B. Engel (Engel, 2019), N. Liutauras (Liutauras, 2020), M. Glendinning (Glendinning, 2021), F. Urban (Urban, 2018) and others. The history of Ukrainian urban planning in the 1960s and 1980s is represented by published reports of design institutes (Novikov, 1990), as well as by the works of S. Shirochin (Shirochin, 2020), V. Yatsenko (Yatsenko, 2016), and Y. Shkodovsky (Shkodovsky et al, 2002). N. Mysak opened the topic of the identity of the housing estate in the example of Sychov housing estate of Lviv (Mysak, 2018). No less important are the studies of Ukrainian scientists dealing with: the problem of revitalization of urban environment of post-soviet housing estates - M. Demin (Lavrik, Demin, 1975), A. Pleshkanovska (Pleshkanovska, 2005), I. Stetsiuk (Stetsiuk, 2016), the analysis of transformation that has occurred with areas of Ukrainian mass housing estates after 1991 (Antypenko, 2021), the problem of historic de-personification of urban planning practices of the period (Bouryak, 2017). The issue of innovative approaches during the period of mass housing is addressed in the recently published article by O. Bouryak (Bouryak, 2020), in which the authors tried to form a holistic picture of changes in urban planning that took place during the period of mass industrial development, highlighting the innovative component in each of the main aspects of this picture – urban planning, architectural and typological, engineering and technological, and social and functional.

The goal of this article is to discover the architectural and historical value of Kharkiv's first mass housing districts and to identify specific signs of innovation, which could be the basis for further protective steps. The study is based on the restoration of the historical chronology of design work in the 1960s - 1980s in the history of Ukrainian urban planning. The comparative analysis of the first erected housing estates was carried out, the unique decisions of Kharkiv city planners that were implemented in Kharkiv were revealed, and the key persons - the organizers, architects and engineers who contributed most to the development of Kharkiv of that period were identified.

THE REVOLUTIONARY APPROACH OF LEONID TULPA'S DESIGN TEAM TO THE PLANNING OF PAVLOVO POLE

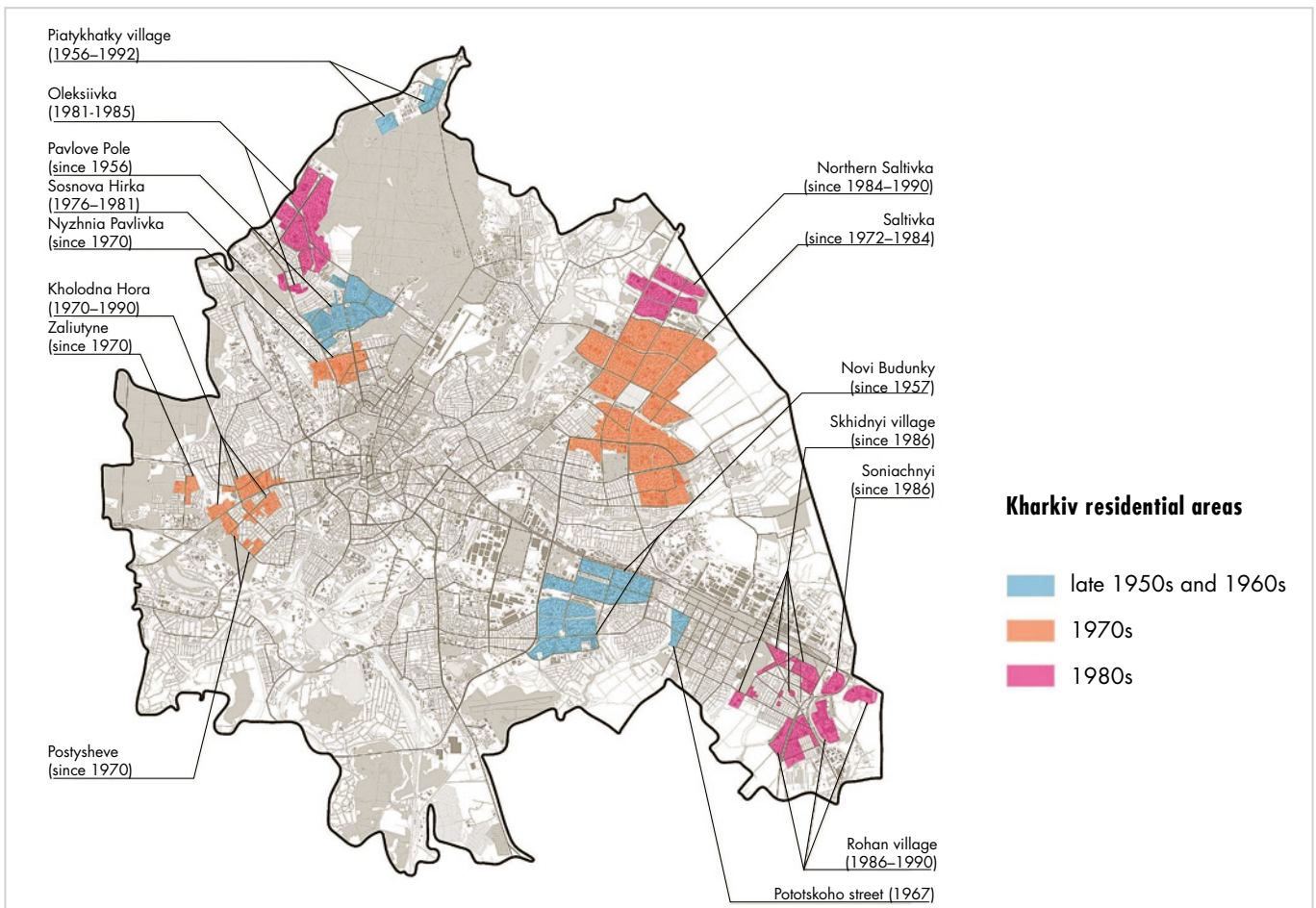
In 1967 a new master plan of Kharkiv was approved. It planned a clear functional division of the city into eight industrial and residential planning districts, connected with each other, with the city center, places of employment, urban and suburban recreation areas. The main mass housing estates were located in the eastern districts and the main industries were in the western districts (Antonov, 1967). A single subordinated street and road network of the city was created, with a clear distinction between the main and local systems. The main directions laid down in this master plan were implemented during next twenty years until the late 1980s - mid-1990s, as a result of which more than ten large-scale mass housing estates appeared on the map of Kharkiv [FIGURE 01].

The Pavlovo Pole housing estate was Kharkiv's first polygon to test new methods to fundamentally revise its urban planning approaches and significantly improve the technical and economic indicators of housing construction.

Pavlovo Pole was a large housing estate located near the city center. For a long time it has been considered an area intended for the resettlement of the "Soviet intelligentsia". The initial design project of the Pavlovo Pole planning was developed by the "Khargorproject" design institute

(architects B.G. Kleyn, A.S. Proskurnin, A.P. Pavlenko) as early as in 1945. Its architectural and planning system was based on the block type of buildings, specific to the urban planning of the late Stalin era. By 1954 only a few two-story houses had been built according to this project. In 1954, the project was declared ineffective and was sent back for reviewing (G. Krykin, L. Tyulpa and I. Feigin). However, the developed solution retained the features of the old city block approach, and although the first three blocks were built, in 1957 the construction was interrupted (Grigorenko, Tyulpa, 1958).

The adopted project of the housing estate was developed in 1958 by young specialists L. Tulpa and A. Grigorenko, who managed to bring the spatial layout as close as possible to the requirements and tasks set by the new Party administration. The designers completely abandoned the previously accepted principles of organizing the urban space, which historically referred to the neo-classical symmetrical geometric schemes. The project was based on a strict technical-economic analysis. The density of the buildings was maximized by taking into account the physical requirements of the urban environment and the buildings themselves - insulation, ventilation, estimated proportion of greenery, the number of necessary services - schools, kindergartens, shops, laundry rooms, etc. Out of 499 ha, 199.5 ha have been reserved for residential





02 Detailed planning project of Pavlovo Pole. Last approved option. © Photo of original plan, Nadiia Antonenko.

buildings, 59 ha for social facilities and 54 ha for public spaces and greenery [FIGURE 02].

In this approach, the designers decided against fractional block dividing, and the area of the housing estate was subdivided into five large self-contained microrayons of 30-50 hectares. The previously built blocks became part of microrayons Nos. 1 and 2. Schools and kindergartens were located in the center of the microrayons, grouped around the microrayon gardens. Public service buildings (shops, canteens, laundries, garages) were located along the streets that bordered the microrayon. A network of intra-block dead-end lanes was developed to provide access roads to the dwellings. Public transport in the estate consisted of trams, trolleybuses, buses and taxis (Shpara, 1988).

Not all objects were realized, but the design of the Pavlovo Pole public center included a stadium for 7000 spectators, an 800-seat auditorium, a 1200-seat cinema, a hotel, a shopping center, a café, a post office, a department store, a telephone office, and a car parking area. The territory on which the buildings were located was completely isolated from traffic. On the southern hillside of Sarzhin Yar, a botanical garden of about 60 ha was created, and a polyclinic and hospital were built next to the forest park, which served the entire housing estate (Tyulpa, 1963).

Thus, in this project Kharkiv city planners were among the first in Ukraine to implement the principle of “microrayonning”, the principle of “free planning” and tested a staged system of public facilities, in which each microrayon was a self-sufficient urban unit in terms of daily life services for its residents. A new principle of the spatial organization of the inner-district community center was designed, which in terms of the intensity of its functional content was to become a fully-fledged socio-cultural sub-center of the city. Unfortunately, however, the community center project was only partly realized due to a shortage of funding [FIGURE 03].

The direct link between the planning schemes of the housing estate and the new type of construction industry - enterprises of prefabricated assembly line production of building elements - was also innovative. The composition of the housing estate was formed on the basis of the available set of industrial products, which could be produced by the local newly created house-building factories, allowing them to be folded into the typical serial residential and public buildings.



03 Pre Russo-Ukrainian war view of the main avenue Pavlovo Pole. © Yevgen Kostjuk, 2021.

NOVI BUDYNKY AS A BALANCE OF SANITARY AND HYGIENE NORMS AND HIGH STANDARDS OF EVERYDAY SERVICES

The Novi Budyvky housing estate is located in the south-eastern part of the city of Kharkiv on the former lands of the Research Institute of Genetics and Breeding (the former selection station) on an area of 445.9 ha. The relatively close location of this territory to the large industrial enterprises, good sanitary-hygienic and natural conditions predetermined its use for housing development. The dwelling density was up to 3,100 m²/ha for a five-story building and up to 4,300 m²/ha for a nine-story building.

Two blocks were built according to the design of architects B. Klein and Y. Nikolaenko (Kharkov branch of Giprograd), retaining the features of block planning. The building of the selection station started in 1957. In 1963, the project was redesigned and the housing estate was divided into two zones, each having a population of about 150,000. The principle of 'microrayoning' was used for both zones and the territory was divided into 10 microrayons.

Zone A was designed by Ukrgorstroyproject (A. Motorin, N. Kireeva, Y. Koltsov, A. Nesterenko, etc.) and Zone B by Kharkovproject (G. Kesler, Y. Plaksiev, P. Areshkin). Both projects were interconnected, but their compositional and planning design was different. Whereas the zone A was characterised by linear structure, the zone B used completely different planning principles. For example, microrayons № 24 and 25 were characterised by long, semi-detached houses arranged in the form of trefoils (Kireeva et al, 1962).

A distinctive feature of zone B was the use of long (average length of six sections) and multi-story buildings. As a result of this planning solution, it was possible to increase the green space area at high rates of housing area output. In addition, the pinpoint inclusion of the multi-story buildings considerably enriched the silhouette of the housing estate and its architectural expressiveness. This principle was actively used later in the design of Saltovskyy and Alekseevskyy housing estates.

In the planning of Novi Budyvky great attention was paid to the development of an optimal system of green spaces. The planners managed to bring the greenery index to a norm of 10 m² per person, while minimizing the typology of greenery, combining intra-block gardens with greenery areas of schools, kindergartens, nurseries, roads and driveways, thus creating continuous "green corridors", running through the entire housing estate (Matorin, 1964). [FIGURE 04].

Novi Budyvky are an example of the successful implementation of a system of staged public services. The main elements of the system of cultural and household services for the population of individual microrayons of Novi Budyvky were: primary facilities, consisting of kindergarten buildings and primary health care stations, which served the population of housing groups located within a radius of 150-200 meters and everyday facilities, consisting of school buildings and houses of culture in housing estates, which served the population of the entire microrayon and located within a radius of 400-500 meters. The public and commercial center was conveniently connected to the microrayons - the maximum



04 Pre-war view of Novi Budyuky. © Yevgen Kostiuk, 2021.

distance from the dwelling did not exceed 1.5 km. There were shopping, food and service buildings, a cinema, a restaurant and the Palace of Culture. The center was connected by a 100 m wide boulevard with a park, stadium and artificial pond. According to local respondents, they really rarely travelled to the center - everything they needed was within walking distance, unlike residents of Pavlovo Pole, who were forced to travel to the city center almost every day due to the limited range of household and cultural services.

THE “FOCUSING” SYSTEM OF THE SALTOVSKY HOUSING ESTATE: ACHIEVING THE LIMIT VALUES OF THE TECHNICAL AND ECONOMIC INDICATORS

The development of Ukraine’s largest housing estate consisting of thirteen microrayons began in 1968. By 2018 there were over 400,000 people living there.

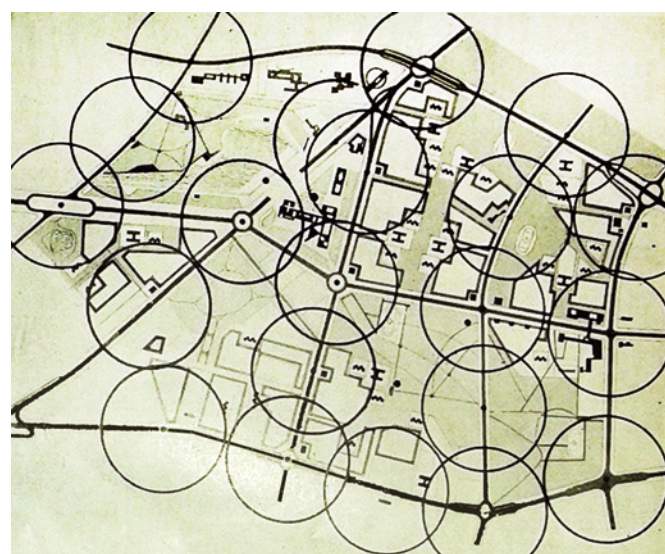
It was in the planning of the Saltovsky housing estate that Kharkiv’s urban planners developed and first applied the ‘focusing’ method. This method was based on the idea of concentrating socio-cultural, commercial and household facilities near public transport stops and major transport hubs, with appropriate calculation of accessibility radiuses. This method allowed the extension of the network of main highways, reduced the number of crossings, increased the distance between transport stops to 800-900 m, reduced the number of stops and increased the speed of communication by up to 20% (Tyulpa, 1964)

[FIGURE 05].

The ‘focusing’ method made fundamental adjustments to the microrayon system and virtually removed the ‘first

priority’ of the intra-microrayon service system as a planning principle. These adjustments to the ideology and practice of microrayon planning were a recognition of the principle of human mobility in the modern city and a de facto rejection of the principle of linking the service system to the place of residence. Further implementation and development of the method can be seen in such Ukrainian large-scale mass housing estates as Troyeschyna in Kyiv (1981-1991) and Tairova in Odesa (1968-1986).

Typological innovations can also be found in the designing of Kharkiv’s own series of industrial housing. These design developments of the “Kharkovproekt” and “Ukrmistostroyproekt” coexisted with the optimization



05 Focusing scheme of residential area No. 5 of Saltovsky mass housing estates. © Tyulpa L. (1973) New planning solutions in the development of Saltovskyyi large-scale housing estate. In: *Stroitel'stvo i arkhitektura*. Vol 4.



06 Destroyed multi-story houses of Northern Saltivka. © Victory Gritsaienko, 2023.

approach that prevailed in the adaptation and partial modifications of the “all-union” series, in particular in the work on series II-57, the base for house-building plant DSK-1. Technical and technological innovation was concentrated in the creation and cyclic modernization of the production of vibro-rolled panels, significantly more economical in comparison to frame-panel structures.

At Kharkiv DSK-1, the first house-building factory in Ukraine, three vibro-rolling mills BPS-6 were installed. An innovation was the transition to an assembly line technology for the production of large panels and the corresponding operating technology for the assembly of finished houses. The innovations in the technological processes for the production and processing of assembly units were largely focused on finding ways of replacing wet processes. Much effort has been made, in particular, to realize fully factory-assembled sanitary cabins.

The rate of construction in Kharkiv in 1970-1980s was very high thanks to technological innovations. About 320-480 thousand sq.m. of dwelling were commissioned annually. There were cases, when a nine-story building was ready for occupation after 32 days. By the mid-1980s the housing crisis in Kharkiv had almost completely disappeared.

CONCLUSION

Mass housing development radically changed the face of all post-war Ukrainian cities. However, the scale of the transformation and its value remains undervalued. Meanwhile, the mass housing program that was implemented in Kharkiv was a definite response to the post-war housing crisis. Its implementation allowed the creation

of acceptable living conditions for millions of people in a short period. When the value of such objects can be evaluated, the conditions of their creation, space-planning solutions, and technological innovations can be taken into account. Technological approaches and methods, which were developed by Kharkiv scientific-research institutes, were innovative and experimental. The usage of particular technologies during the short period of the 1950s-1960s allowed the architectural and construction industry to reach an increasing speed of construction and a higher quality. The research and historical and architectural description of Kharkiv in the epoch of mass industrial development should solve the same problem in relation to the 1960s-1980s, as the research of the heroic epoch of avant-garde of the 1920s-1930s, which was developed in recent years.

Novy Budyuky and Pavlovo Pole were the first housing estates, where various experimental layouts of microrayons with perfect territorial balance (dwellings and adjacent territories, public green spaces, areas education institutions, service and public facilities, socio-cultural institutions, as well as areas of passages) and minimally reduced construction costs were worked out. The design results obtained were taken into account in the planning of later housing estates and in the deployment and setting up of a huge machine of house-building factories. The Saltovsky housing estate is the ultimate form of techno-economic rationalism in Ukrainian urban planning of the Soviet period. The Kharkiv city planners managed to get as close as possible to the lower limit of the Soviet norms of designing housing estates, providing the maximum amount of living space, with minimal costs for the

construction of cultural and entertainment facilities and consumer services, while remaining within the approved state building codes and sanitary standards.

After the Russo-Ukrainian war, on the basis of the historical and inventory work begun, it will be possible to carry out a multifaceted study, which should include: a detailed inventory of the buildings that have survived, a sociological and demographic study, the development of local safety programs, an analysis of changing intra-city logistics, prospects for economic development and the identification of ecological threats. This study will justify the rationale for preserving the existence of material evidence of each housing estate and its parts, and, if necessary, develop a methodology for the preservation and renovation of Ukraine's mass housing areas. Perhaps, given the scale of the expected urban transformation, Kharkiv could become an innovative urban site for the third time in its history.

REFERENCES

- ALFEROV I., Antonov V., Lyubarsky R. (1977). Formation of Urban Realm (in the Context of Kharkiv). Moscow: Stroyizdat. p 104
- ANTONENKO, N., Bouryak, O., Didenko, C. (2016). Residential Housing in Kharkov (Ukraine), 1920-1935. In: *ZARCH: Journal of interdisciplinary studies Architecture and Urbanism*, pp. 68-85.
- ANTONOV V. (1967). Architectural and planning organization of the city. Kharkov. In: *Stroitel'stvo i arkhitektura*. No. 6. S. 12-13. Kyiv.
- ANTYPENKO, H., Antonenko, N., & Didenko, K. (2021). Urban Transformations of Kharkiv's Large Housing Estates •, *Építés - Építészettudomány* (published online ahead of print 2021). Retrieved Oct 12, 2021, from <https://akjournals.com/view/journals/096/aop/article-10.1556-096.2021.00017/article-10.1556-096.2021.00017.xml>
- BOURYAK O., Antonenko N., Lavrentiev I. (2017). Leonid Tyulpa – the Architect of the Period of Mass Industrial Development, *ZARCH Journal of Interdisciplinary Studies in Architecture and Urbanism*. Is. 8, pp 154–169.
- BOURYAK O., Vihdorovich O., Gayevyi Yu., Golovchenko A. (2020). Innovative Approaches in the Period of Mass Industrial Development (on the Example of Residential Areas of Kharkiv). // IOP Conf. Series: Materials Science and Engineering, Innovative Technology in Architecture and Design (ITAD 2020).907:012013. P.1–11.
- GLENDINNING M. (2021). Mass Housing: Modern Architecture and State Power - A Global History. Bloomsbury Publishing Plc. ISBN: 1474229271 ISBN13: 9781474229272
- GRIGORENKO A., Tyulpa L. (1958). Planirovka near Pavlovo field in Kharkiv. In: *Stroitel'stvo i arkhitektura*, No. 8, p. 9-12.
- ENGEL B. (ed). (2019). Mass Housing in the Socialist City. Heritage, Values, and Perspectives. Case Studies in Germany, Russia, and Ukraine. DOM Publishers. ISBN 978-3-86922-507-4
- KIREEVA N., Koltsov Yu., Matorin A. (1962). New housing estate of Kharkiv. In: *Stroitel'stvo i arkhitektura*, No. 9. Pp. 14-15.
- LAVRIK G., Demin N. (1975). Methodological Fundamentals of Areal Planning. Moscow: Stroyizdat. P. 98.
- LIUTAUROS N. (2020). Soviet Era Architecture and the Meaning It Holds for the People of Lithuania, Place Meaning and Attachment. In: *Authenticity, Heritage and Preservation*. New York: Routledge, 2020, p. 28–40.
- MATORIN, A. (1964). Housing estate Selection station. In: *Stroitel'stvo i arkhitektura*. Vol 3. Pp. 8-9.
- MOISER F. and Zadorin D. (2018). Speaking of Soviet Typologies of Standardized Buildings. Industrial Multifamily Housing in USSR from 1955 to 1991. Berlin: DOM publishers.
- MYSAK N. (2018). Formation of identity of areas of mass housing construction of the 1960s – 1980s. Thesis. Ph.D. Lviv.
- NOVIKOV (Ed.) (1990). Planning and development of populated areas (experience of Giprograd). Giprograd, Kyiv.
- PLESHKANOV'S'KA A. (2005). Functional and Planning Optimization of the Urban Areas Usage. Kiev: Institute of Urban Studie.
- SHIROCHIN S., Mykhaylyk. O. (2020). Unknown periphery of Kiev. Solomyanskiy district. Skyhorse, Kyiv.
- SHKODOVSKY Yu., Lavrentiev I., Leibfreyd A., Polyakova Yu. (2002). Kharkiv Yesterday, Today, Tomorrow. Kharkiv: Folio.
- SHPARA P. (1988). Notes of an architect. Kiev.
- STETSUIK, I. (2016). Socio-Cultural Principles of Harmonious Transformation of the Urban Environment. PhD Thesis, Kyiv.
- TYULPA L. (1963) New Microdistricts in Kharkiv. In: *Stroitel'stvo i arkhitektura*. No. 10.
- TYULPA L. (1964) Saltivka District Planning. . In: *Stroitel'stvo i arkhitektura*. Vol 3.
- URBAN F.(2018). Large Housing Estates of Berlin, Germany: Poverty, Ethnic Segregation and Policy Challenges In: *Housing Estates in Europe*. DOI: 10.1007/978-3-319-92813-5_5
- YATSENKO V. (2016). Prerequisites and the beginning of the emergence of regional planning in Ukraine. In: *Suchasni problemy arkhitektury ta mistobuduvannya*. Vol. 42. Pp. 252-258.

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