

18. Development of Mass Housing Districts in the Second Half of the Twentieth Century: Cheryomushki and Tairovo in Odessa

Olga Savytska and Nadiia Dmytryk

Introduction

The particularity of the current stage in the development of Ukrainian cities is associated with the need to carry out large-scale measures to reconstruct and determine the further development of territories developed in the twentieth-century period 1958–1991, when residential construction of so-called *khrushchevki* (in reference to their Khrushchev-era origins) was carried out in the 1960/70s using industrial methods. Among the large cities of Ukraine, Odessa is the leader in the proportion of *khrushchevki*: there are more than one thousand such buildings, accounting for 20 percent of the urban population and 18 percent of the housing stock. At the moment, in world practice, there are two directions for the modernization of such properties—either the total demolition of existing buildings and new construction on the one hand, or, on the other, the preservation and careful reconstruction of the residential buildings, functional planning elements, and beautification and landscaping elements. In Ukraine, there are isolated examples of the reconstruction of residential buildings and adjoining lands that are to a certain extent in a natural state. The development of a general program for the reconstruction of these areas is very relevant today, both for Ukraine in general and for Odessa in particular. To make the right decisions, it is necessary to carry out a comprehensive analysis of residential areas, with the involvement of specialists from different specialties and fields of activity. Studying the history of the formation of residential areas of this period and their transformations at the present stage will also contribute to the adoption of competent decisions on their further development.

Analysis of the Literature

The theoretical basis for this study comprises fundamental works in the development of mass industrial housing construction, along with essays and scholarly articles on the topic by Ukrainian, Russian, and German specialists.

Scientific and methodological studies in the field of modernization of areas of mass residential development from the 1960 to the 1970s are described in the works of B. Engel (2019), V. Kozlov (2019), and M. V. Bivalina (2007). Regeneration issues of the living environment in multistory buildings in the 1970/80s are disclosed in the work of O. Ya. Chabanyuk (2003). The experience of renovating areas of mass residential development in Germany is considered in the works of M. G. Meerovich, A. V. Malko, L. V. Kozlova, and E. A. Gladkova (2017). The issues of organizational and technological modeling of the reconstruction of residential buildings of the first mass series are considered in the work of T. M. Dubelt (2021). The development of panel housing construction in the Cheryomushki area of Odessa is partially revealed by such authors as M. G. Meerovich and N. Antonyuk (2018), M. Meyzerskiy (n.d.), I. Kucherenko (2012), and V. I. Timofeenko (1983).

Research Methodology

The methodological basis of the research is an integrated approach involving consideration of the research object as an element of a single urban planning structure. To solve the problems posed in this study, the following methodology was applied:

- The method of historical and genetic analysis was used to identify the features of the development of panel housing construction in Odessa
- Comparative analysis of design and graphic materials (master plans and plans of panel housing construction, archival documents) was used to determine the method of renovation, compare results, and identify the transformational features of the areas of panel construction in Odessa
- Deductive and inductive methods were used for generalization and complex systematization of the data obtained as a whole
- The graphic and analytical method was used to identify transformations of the study areas

- The method of visually observing and photographing the territories was used to identify the current state of the residential areas of Cheryomushki and Tairovo in Odessa

Stages of Development of Mass Industrial Housing Construction in the City of Odessa

In the postwar years, the issue of providing Soviet citizens with living space arose with urgency in the country. The housing stock before the Second World War was about 4 million m². During two and a half years of occupation, German-Romanian invaders destroyed hundreds of residential buildings with a total area of over 1 million m² (Persikov 1964). After the war, the main focus was on restoring and reconstructing the existing housing stock with improved planning and landscaping. However, a decree “On the Development of Housing Construction in the USSR” was issued in 1957, marking the beginning of the All-Union construction of residential buildings using the industrial method. Odessa was no exception. For example, if we compare the residential area of new construction in 1945 (taken as 100%) with that of later years, by 1966 it had increased by a factor of more than eleven (Weinstein et al. 1967). Achievement of such results was made possible by the automation of engineering and technological processes of construction and the use of standard projects with reference to local design conditions. Analysis of the existing buildings and literary and archival materials made it possible to reveal the following chronology of the development of industrial housing construction in Odessa.

Stage I (1958–1963)

This first stage is characterized by the appearance of 4- to 5-story panel buildings with limited living space. The intention is to erect buildings in a few months. Construction is carried out during this period mainly from local materials. The first such houses appear in the city center in the years 1958–1960. These are the so-called *protokhrushchevki*, resembling *khrushchevki* externally, but different in content. Examples of these are the Γ-shaped buildings on the corner of Richelievskaya and Uspenskaya Streets, as well as the House of Artists on Bolshaya Arnautskaya. In terms of layouts they are closer to the “Stalinist” buildings, and, moreover, they have high ceilings of up to 3 m. Taking into account the tightness of urban development in Odessa, many houses

are equipped with a passage to the courtyard. On Polskaya Street, for example, there is an arch and a basement in the house, which were built, as a rule, of limestone. There are about twenty buildings of this kind in the city center and the district of Moldavanka—and, most of all, along Uspenskaya Street. The first block dubbed “khrushchevka” in the city is the building commissioned in 1958 in Bogdan Khmel'nitsky Street (Meyzerskiy, n.d.). During this period, selective development of areas is carried out in the central part of the city and other areas that suffered during the Great Patriotic War. A residential area named New Arcadia (Novaya Arkadiya), which is sometimes called old Cheryomushki, appeared in the area of the second transit station on Bolshoy Fontan. And in 1961, the formation of a new residential area began. It was known as the “Southwestern” housing estate, which residents would later call Cheryomushki. Construction was carried out according to standard projects using shell stone, bricks, and large-block products until, in 1963, the Odessa housebuilding plant was created.

Stage II (1964–1974)

That period was characterized by the commissioning of reinforced-concrete factories (concrete goods) and housebuilding factories (HBF), which marked the beginning of industrial panel housing construction in Odessa (Goncharuk 2004). In 1966, the Council of Ministers of the Ukrainian SSR approved the master plan for the development of Odessa for the project period (20–25 years). One of the main provisions of the master plan was to bring housing closer to the places of employment (Golovin, Sharapenko, and Tandin 1967). In 1968, the formation of the Cheryomushki district was completed, as was the development of new residential areas: Chubaevka, Dmitrievka, the settlements named after Tairov and Kotovsky, and others. The period is also characterized by an increase in the height of buildings. Along with five-story buildings, nine-story panel khrushchevki buildings, and nine-story brick buildings that are similar to them in appearance, individual projects appear, and in general the palette of projects expands. Single 12- and 16-story buildings are erected, mostly of a tower type (typically in the form of individual projects). Buildings are erected of reinforced concrete prefabricated materials; brick and limestone are used in rare cases.

Stage III (1975–1980)

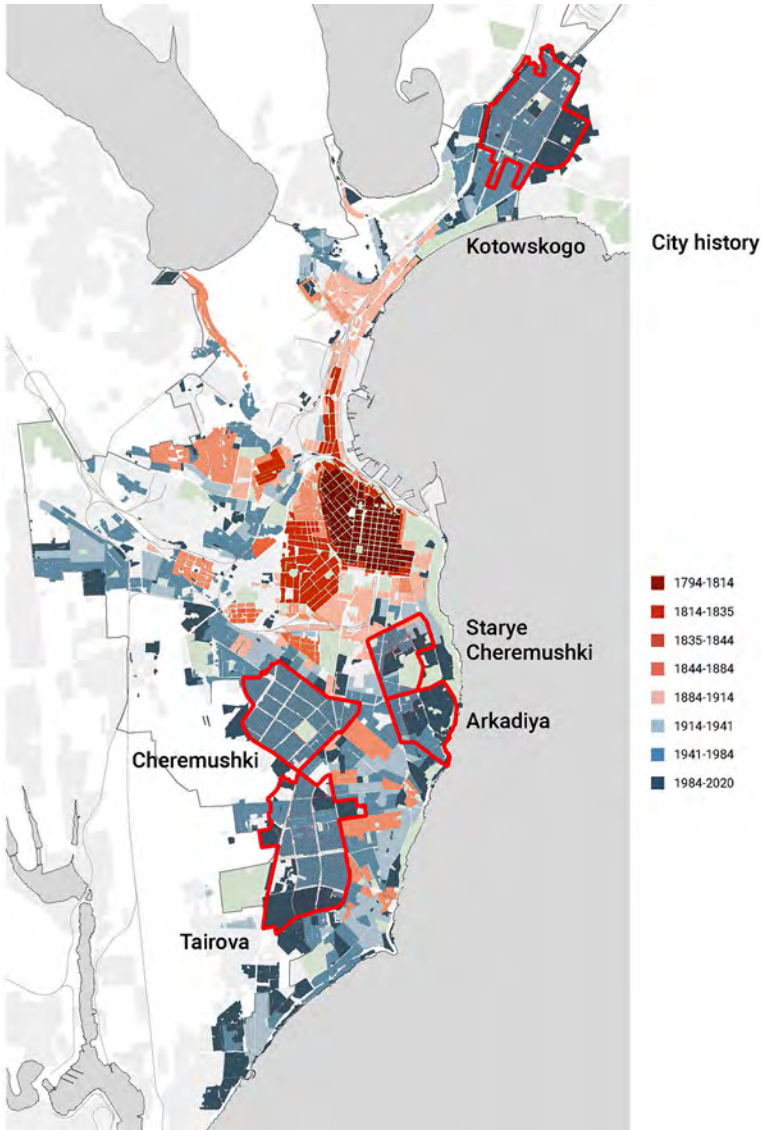
This stage is marked by the fact that since 1975, khrushchevki buildings were excluded from the construction plans. Now the standard number of stories is nine. For an expressive skyline and higher building density, tower-type residential buildings of 12-, 14-, and 16-stories are used. Such buildings, which dominate urban planning, appear on Cheryomushki and complete its final formation. Attention is paid to improving the comfort of apartments. The architecture of residential buildings acquires regionalism. The Kotovsky settlement expands, and the Tairovo settlement develops as the “Southwestern” housing estate. During this period, the first experience of erecting buildings using the sliding formwork method appears in Odessa.

Stage IV (1981–1991)

During this period, along with panel housing construction, monolithic reinforced concrete buildings are erected using the sliding formwork method, but their percentage of the total residential construction is small. Since 1980, there has been substantial use of 12- and 16-story buildings for new development. There is an increase in the norms of areas; the transition from standard to individual projects begins, and the design of multi-room apartments (up to 5 rooms) is underway. Similar changes have taken place in projects ever since the USSR State Construction Committee approved a program for the period 1980–1990 for the design of experimental residential buildings of a new type with improved hygienic and operational qualities and with elements of public services. During these years, new series of 16- and 12-story buildings OG-16 were developed for Odessa. Due to their compactness, the 16-story building series was used quite often, particularly on vacant plots amid buildings from the 1960s. It should be noted that this series is found only in Odessa and the surrounding area.

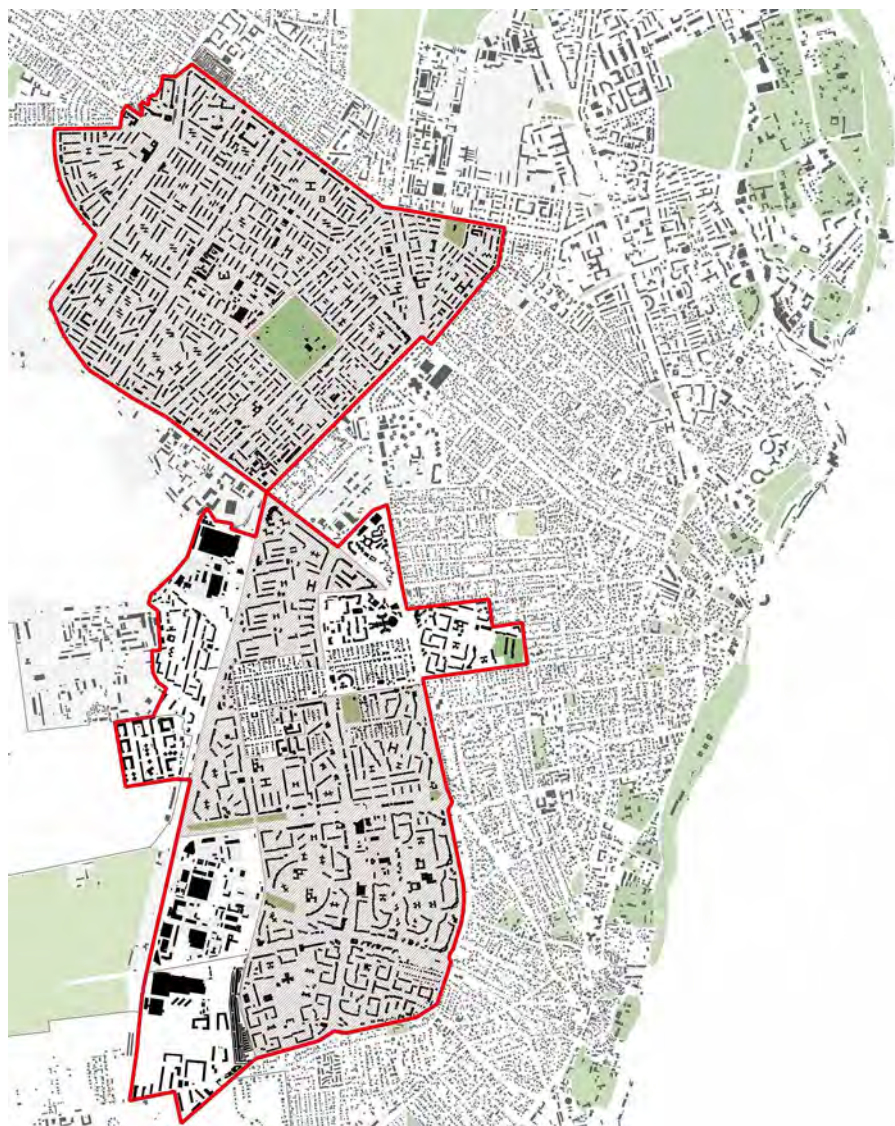
After 1991, over the course of several years, buildings whose construction had begun before the fall of the USSR with use of the industrial method were completed, and in parallel with this, widespread construction began on individual projects using the method of sliding reinforced concrete formwork (fig. 1). The reinforced concrete products plant and the housebuilding plant gradually ceased their work.

Figure 1: Development of the general plan of Odessa over time.



Source: compiled by T. Rumilets and A. Shupliakov.

Figure 2: General plan of the Cheryomushki district, the Tairovo settlement, and the Yuzhny district.



Source: compiled by T. Rumilets and A. Shupliakov.

Developmental History of the Cheryomushki District (Southwestern Region)

The district was largely constructed from 1961 to 1968, reaching its final form in the early 1980s (fig. 2). The new southwest residential district covered an area of 500 hectares with an estimated population of 124,000 people and was subdivided into five subdistricts, each of which consisted of three to six microdistricts with an area of 14–35 hectares each. The scientists E. Vainshtein, G. Topuz, N. Shapovalenko, M. Savulkin, N. Milgram, L. Chazova, and A. Krainev took part in Cheryomushki's development (Weinstein et al. 1967). The new district was initially a territory free of buildings and devoid of basic utilities. There was only a water main; there was no wastewater system, electricity, or gas. The master planning of the new housing estate began from scratch—that is, by establishing the engineering needs. By 1963, a gas pipeline was connected to supply natural Shebelinsky gas (*Znamya kommunizma* 1960).

This was initially a suburban steppe territory that was intended in the nineteenth century for grazing and was later used as a shooting range for small military units as well as for the execution of sentenced prisoners, both before the 1917, and before and during the Second World War (Kucherenko 2012). The first stage of construction of the largest residential area in Odessa at that time consisted of three blocks, which consisted of five-story buildings with a total area of 82,000 m² for forty, sixty, and eighty small apartments for family settlement (*Znamya kommunizma* 1960). The first buildings appeared near Lyustdorf Road itself, along the tram line and further along Cosmonauts Street. Later, local residents called these houses “Old Array,” in contrast to the “New Array” extending from Novoselov Street (now Academician Filatov) to 25th Chapayev Division Street (Kucherenko 2012). Development consisted of panel buildings of the All-Union (Moscow) project 1–464, but due to delays in putting the house-building plant into operation, the first houses were built of local materials.

Then the so-called “military town” appeared at the third station on the Black Sea road, bounded by the streets Pilotchikov (later V. Tereshkova) and Aerodromnaya (now Cosmonaut Komarov Street), ending with the first school in Cheryomushki (№ 33) and the Promsvyaz plant. As the main formation of the area was underway, there was a precast concrete plant on the site of the future Cosmonauts Park (today Gorky Park) and part of Varnenskaya Street. On the odd side of Pilotchikov Street was a cornfield. There was a large garden near School №33. In the mid-1960s, the even side of V. Tereshkova Street was built

up and the streets Varnenskaya, Academician Filatov, General Petrov, and Cosmonauts appeared.

Finally, in 1967/68, the main construction of the southwest district was completed, which then offered about 900,000 m² of living space. Furthermore, work on the improvement and construction of urban dominants in the form of residential buildings of 12- and 16-stories, industrial enterprises, research institutes, educational and preschool institutions, medical facilities, consumer services, and so on was carried out in this area until the beginning of the 1980s. In 1966, a park honoring the cosmonauts (today Gorky Park) was created according to plans by the architect N. G. Milgram on an area of 19 hectares. In 1969, the construction of the Moscow cinema for 800 spectators began, and the first 12-story building in the district was built. In 1974, the construction of a covered market for 210 trading places was completed (architect G. I. Tarasyuk). From 1970 to 1972, an 11-story building for the Institute Ukrkolkhozproekt was built on Cosmonauts Street, and from 1973 to 1975 the Institute Ukryuzhbiosynthesis was constructed. In 1972, a building was erected on 25th Chapayev Division Street by the Credit and Finance College, and in 1981, a truly grandiose ensemble (by local standards) of three 16-storied buildings was built on Varnenskaya Street. And this is not a complete list of buildings erected in this period (Kucherenko 2012; Persikov 1964; Dovzhenko and Dyachenko 1978).

The population of the residential area had grown from 50,000 inhabitants at the beginning of 1965 to 140,000 in the 1980s. At present, due to the decrease in the population and intracity migrations, the population is 120,000. Nowadays, architecture presents itself mainly in the form of typical five-story buildings of the period 1961–1975, interspersed with typical residential buildings of 12-, 14-, and 16-stories dating from the 1980s. The park is named after V. I. Gorky. The interior areas, although built up with garages, are still quite spacious and well planted (fig. 3). Unfortunately, in recent years there has been chaotic demolition of individual buildings and development of the district with residential buildings of an increased number of stories, which leads to a disruption of the historically established urban planning fabric to its detriment, creates burdens on the existing infrastructure networks, and violates the continuity of cultural codes.

Figure 3: Cheryomushki district, Odessa. Aerial views.



Source: D. Dokunov.

Developmental History of the District Named after V. E. Tairov

The district was largely constructed from 1968 to 1977, reaching its final form in the early 1990s (*Vechernyaya Odessa* 1976; Dovzhenko and Dyachenko 1978) (fig. 4b). The residential area named after V. E. Tairov covers a territory similar in size to the Cheryomushki residential district, and the settlement was designed by N. A. Shapovalenko, M. L. Savulkin, and V. I. Labunskaya. However, the first projects for the future settlement were born in various workshops back in 1964/65 and were laid down in the General Plan of 1966. These projects were developed by a group of architects led by Grigory Lebedinsky. The area is located on the lands of the Institute of Viticulture and Winemaking named after V. E. Tairov (Timofeenko 1983).

Figure 4a: Tairovo district. Aerial view of the new residential development.



Source: photo by D. Dokunov.

During the construction period of this area, newer series of buildings were developed concurrently, including 9-story houses made of bricks and panels, whose appearance led to a change in the Tairovo settlement's development plan, which was already being implemented. This village was mainly built with 9-story multisectional panel buildings of the OG-94 series, the 87th multi-section brick series, and panel series 1-464-a. The new district was originally supposed to be built with 5-story buildings. The 9-story panel buildings with which they began to build up the village differed little from the khrushchevki, as they belonged to the same series in version 1-464D. They were arranged in straight rows, dividing the space into huge courtyards. The architects aptly dubbed such a development with identical buildings a "logging" site and then, when leaving for the construction site, proudly said: "I'm going logging!" (Reporter 2012).

Figure 4b: Tairovo district. General view.



Source: photo from <https://myod.info/wp-content/uploads/2019/03/tairova-kievskij-rajon-620x371.jpg>.

In the late 1970s, a complete transition to new series was carried out. The 87th series was intended for construction using bricks or concrete blocks and became the primary series for constructing buildings economically. In Odessa, most of the buildings in this series are brick. In 1975, such houses already existed at the beginning of Akademik Korolev Street. In the same year, a microdistrict of “departmental residential buildings” emerged, built mainly using the 87th series around the perimeter, with many hostels in the center (between Ilf and Petrov Streets and Marshal Zhukov Avenue).

The main construction within the boundaries outlined by the general plan was completed in 1977, yet the district continued to grow, developing the adjacent territories for new microdistricts. In 1977, construction of the Shkolny microdistrict by the Ministry of Defense began on the site of the old pilot settlement. Here, the OG-94 and OG-16 series were used, as well as a special Ministry of Defense series, but the main part of the microdistrict was formed using the projects of the 87th series.

In 1985, the formation of the Vuzovsky microdistrict began at the fifth station on Lyustdorf road, whose name remained from the idea to build a student town here. The area was developed with buildings of the late version of

the 94th series and was distinguished by compact buildings with rectangular, almost closed courtyards. The plan called for the creation of an exemplary area here. On an area of 30 hectares, it was planned to build houses with 2,976 apartments, along with two schools, two kindergartens, a supermarket, a grocery store, several cafes, a post office, a consumer services complex, and boiler plants, as well as twenty playgrounds for adults, twenty for children, and fifteen sports grounds. Unfortunately, the plans were not fully implemented (Reporter 2012) (figs. 5 a, b).

Figures 5a + b: Vuzovsky microdistrict, Odessa. Aerial view, fragment (left), general layout scheme (right).



Source: photo (a) from https://odesskij-dvorik.ua/wp-content/uploads/2014/09/o_6ed9b_2e1b86bc_orig.jpg; diagram (b) by T. Rumilec and A. Shupliakov.

An analysis of the envisioned master plans and existing buildings allows us to conclude that, unlike the Cheryomushki district, many ideas were not implemented during the construction of the Tairovo settlement, namely: green boulevards inside microdistricts, inner yard solutions and landscaping, and series and configurations of residential buildings on separate plots. This was due to controversial issues that arose during the resettlement of residents of private buildings during the establishment of the district: some quarters with individual residential buildings could not be resettled, and they still exist to this day. The situation was also influenced by the rapid development of the typology of residential buildings of mass construction, for which it was necessary to make adjustments to the project at the construction stage. The calculation of parking spaces in parking lots at the project stage was carried out without tak-

ing into account the possibility of each family acquiring a car, which led to the chaotic construction of indoor garages. After the 1990s, the green boulevard along Academician Glushko Avenue gradually turned into a chaotically formed market.

Developmental History of the Area “Southern Array”

The main construction of the area was carried out from 1978 to 1991, but the formation of the area continues today (fig. 6). Construction of the “Southern Array” was carried out according to the planning of architects M. L. Savulkin, V. V. Ilyashenko, and N. F. Evangelidi with the predominant use of series 94 and 87. This area is located south of Glushko Street, behind the Tairovo settlement, and is its continuation. From 1978 to 1985 the first stage of the “Southern Array” was completed, covering the area between Glushko Avenue and Williams Street. In 1987, a 9-story residential building of the Kislodromash plant was built on the street named after Korolyov, which completed the formation of the Tairov Square. During the period 1987–1989, the outskirts of the “Southern Array” were actively built up. During this time, a radial composition of residential buildings was erected using the 94th series, in the center of which are two schools and a kindergarten. The courtyard formed there is considered the largest in Odessa.

An analysis of the envisioned master plans and the existing development allows us to conclude that the ideas of the architects and urban planners were also not fully implemented in this area. For example, when planning a microdistrict between Architectural and Williams Streets, the designers envisaged a large pond within the microdistrict, but these plans were not realized (Reporter 2012). By 1991, only half of this territory had been built as originally planned, while the rest of the territory was built with modifications and deviations from the original decisions. After 1991, the housebuilding plant produced the last panels needed to complete the construction of the buildings that had been started, after which time it was closed down, because industrial construction in Ukraine was terminated. Furthermore, the buildings were being constructed of bricks, often according to the designs of the 87th series; block buildings were also erected in small numbers; and there was a transition to technologies using monolithic reinforced concrete. For example, from 2004 to 2008, several large complexes made of monolithic reinforced concrete were commissioned on Williams and Architectural streets. The developers were pri-

vate companies, and the investors became the future tenants of the building under construction.

Figure 6: Yuzhny district, Odessa. View of Glushko Avenue.



Source: photo from https://dumskaya.net/pics/4/picturepicture_5546403184531_18800.jpg.

Today, the construction of residential buildings continues in the “Southern Array,” but the design priorities have changed radically. The foremost priority is now the profit from the sale of apartments, which leads to the construction of exceptionally tall high-rise buildings and a reduction in the distance between buildings, which in turn leads to a significant reduction in the share of the site allotted to each person, results in the failure to comply with the conditions for residential premises to be exposed to the sun, and creates parking problems for private vehicles. Also, the issues of consumer services are not resolved, and a burden is created on existing schools and kindergartens because new ones are not being constructed. The issues of the general composition of the microdistrict and its lack of permeability in the presence of a tendency to enclose the adjacent territory with fences are not being resolved. One of the main provisions of the General Plan of 1966, to bring housing closer to places of employment, has ceased to be relevant, so the priorities have shifted toward improv-

ing the quality of the area, communication with other areas, proximity to the sea, green areas, comfort, and the size of apartments. It should be noted that the above problems are typical for all areas where new residential buildings are being built—not only in Odessa, but also in all of Ukraine.

Conclusions

The history of mass housing development by the industrial method in Odessa demonstrates how—in the very short time of thirty-three years—the housing stock of the city was increased several fold, providing its citizens with separate apartments. Since the reinforced concrete products plant and the housebuilding plant were put into operation with a delay, the first five years of residential construction on Cheryomushki proceeded according to standard designs using local materials (limestone brick), which increases their service life and the possibility of reconstruction in comparison with panel buildings.

An analysis of the existing development and design solutions allows us to assert that, unlike the Tairovo and Yuzhny districts, the Cheryomushki district was built almost completely in accordance with the plans of its designers and embodies the ideals of Soviet urban modernism. In recent years, there has been chaotic demolition of individual buildings in the Cheryomushki district and development of the district with residential buildings of an increased number of stories, which leads to a disruption of the historically established urban planning fabric to its detriment, and creates burdens on the existing infrastructure networks. Assessment of the existing housing stock from the period of mass industrial housing construction shows that the most prevalent are the following series in Odessa: large-panel houses of the series 1–464, 1–464-a, 1–464D, and 1–480A; buildings with brick walls of the series 87; multisection panel series OG-94; and 16- and 12-story buildings of the series OG-16. An analysis of the envisioned master plans and the existing development allows us to conclude that during the construction of the settlements named after Tairov and Yuzhny, many ideas were not implemented into reality. Cartographic and field studies have shown that the surveyed areas have largely preserved the infrastructure laid down in the projects, which has undergone transformations and now requires rethinking.

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