

DOI: 10.21005/pif.2019.40.C-07

NEW OBJECTS IN THE SPACE OF LVIV (1956 – 1990)

NOWE OBIEKTY W PRZESTRZENI LWOWA (1956 – 1990)

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ABSTRACT

The article describes architectural objects built in Lviv during the period of 34 years (1956 - 1990) along with urban transformations of the city. The influence of the spatial development plans of Lviv from 1956 and 1966 on the urban development of the city, development of industrial zones and forming of housing estates, construction of public and university education facilities, and organizing green areas are presented.

Key words: educational institution building, Lviv, residential area, industrial building, industrial area, green area.

STRESZCZENIE

W artykule opisano architektoniczne objekty, zbudowane we Lwowie w ciągu 34 lat (1956 – 1990) oraz transformacje urbanistyczne. Pokazano wpływ planów zagospodarowania przestrzennego Lwowa z lat 1956 i 1966 na rozwój urbanistyczny miasta, rozwój stref przemysłowych i kształtowanie osiedli mieszkaniowych, budownictwo obiektów użyteczności publicznej i oświaty uniwersyteckiej, kształtowanie terenów zielonych.

Słowa kluczowe: budowla uniwersytecka, Lwów, osiedle mieszkaniowe, przemysłowa zabudowa, strefa przemysłowa, teren zielony.

1. INTRODUCTION

The new stage in the development of architecture and urban planning in the Soviet Union (USSR), in particular, and in Ukraine (UkrSSR) began in 1955. At the time, the Communist party and government passed the resolutions condemning the "creative development of the principles of classical architecture" in the architecture and urbanization of the USSR during the post-war decade. These resolutions also define further development of the industry based on the architectural objects' typification and construction process' mechanization.

Any appeal to the samples of the classical architectural heritage became inadmissible; the new construction should have been fully replaced with a set of typical projects based on the use of pre-fabricated concrete structures. The new technology, which include the construction of buildings from ready-made constructions and parts, has become a decisive factor in the formation of architectural shapes. After 1957, home-building factory began to work everywhere and their final product was not a *construction and building elements, but ... a finished separate building* (Bylinkin et al., 1985, p.3).

In urban planning, the principle of functional zoning of the city's territory was adopted as the basis for three main zones: residential, industrial, and landscape-recreational. According to the concept of industrialization of Ukraine, cities grew based on the construction of new large industrial enterprises that formed industrial districts and nodes. For the resettlement of workers of enterprises, large areas were built up with multistory dwelling houses. There was a change in the principles of spatial formation of buildings: the mandatory rule was locating the large groups of buildings among green plantations. The Aim of the change, was to bring people closer to the nature.. At the same time, in the USSR at the governmental level, it was a generally accepted rule that new buildings (industrial, residential, public) should, be built according to typical projects using large-sized prefabricated reinforced concrete elements.

According to the Civil Construction Regulations of the USSR (1962), the territory of the city was divided into five main zones: 1 - industrial, 2 - residential, 3 - communal and warehouse, 4 - external transport, 5 - recreation within the city [24, p.5].

The residential area consisted neighborhoods and residential areas. It was recommended to allocate groups of dwelling houses with a population of 1500 to 3000 people, territorially united with kindergartens-nurseries with a radius of pedestrian accessibility up to 300 m in the micro district. The micro districts, depending on the number of dwelling groups, could accommodate from 6000 to 12000 people, with the construction of more than 5 floors - up to 18 thousand people. The unifying element here was schools and institutions of daily trade with a service radius of up to 500 m. All the establishments of trade and services in the neighborhood were calculated on the day-to-day working conditions.

Housing areas (depending on the size of the city, the population of 24 - 36 000 people, with the construction of more than 5 floors - up to 60 000 people) consisted of several micro districts. In a residential area, public centers with a service radius of up to 1500 m were designed, it was considered that their establishments operate in the mode of periodic service [24, p.15].

During the 1970's there was a certain increase in the marginal standard population of the neighborhood (up to 20 000 people) and residential area (up to 80 thousand people), depending on the size of the city (Belousova et al., 1978, p.261-262).

In Ukraine, the new approach to town-planning development of cities were first used since 1956 in Kyiv. At the first stage, residential areas were divided into small blocks of the same type with perimeter 5-storey buildings; since 1965, the formation of enlarged neighborhoods (micro districts) and residential areas of freely located 9-storey houses surrounded by greenery (Mezentsev, Oliynyk, Mezentseva, 2017, p.231). At the same time, such architectural and urban transformations took place in Lviv, of course, on a much smaller scale. Between 1957 and 1990, the urban development of Lviv was carried out by the general plans of the city in 1956 and 1966.

2. URBAN DEVELOPMENT AND INDUSTRIAL ENTERPRICES

The rapid development of industry in Lviv in the first post-war decade has caused the population growth of the city, which led to the elaboration of a new general plan of the city for the project period until 1975. However, several years passed and the real rates of development of the city began to exceed the indicators of the general plan for the estimated 20-year period. An example, the urban population in 1965 reached the point of 495 000 people, with a general plan forecast of 520 000 people in 1975 (Biryulyov et al., 2008, p.610).

In the first post-war years, the territory of Lviv generally remained within the boundaries of 1931, when the city annexed the lands of suburban communities and amounted to 65 square km. The increase of the territory begins in 1951 and until 1980 the city area reaches 155 square km. Suburban towns Bryukhovychi and Vynnyky were subordinated to the Lviv city council respectively in 1957 and 1959. In 1980 the territory was expanded to the southern sector in vicinity of the villages of Zubra and Kozelniki, thus the area of the Great Lviv has increased to 171 sq. km (Posatskyi, 2007, p.220).

The work on the project of city's next general plan started in Lviv in the early 1950s. It was continued at the Kyiv Design Institute of The Cities "Dipromisto" under the leadership of A. Barabash and I. Persikov, along with the development of the main provisions of the general plan of Lviv in 1946. The Council of Ministers of the USSR in 1956 approved the general plan of Lviv for the project period until 1975. The authors of the master plan were guided by the principle of preserving the urban structure and development of the city center due to its uniqueness, historical and architectural value. The territory of the city received clear functional zoning, and for the first time, along with the livelihood zone, separate areas were allocated for industrial zones, the territory of parks, parks, and mass recreation areas were expanded (Trehubova, Mykh, 1989, p.191).

As the real growth rates of the city outstripped the planned targets, in the early 1960s the Soviet government decided to work on the next general plan of Lviv, based on the concept of an industrial city and, at the same time, the main multifunctional regional branch of Western Ukraine.

It should be noted that all existing industrial enterprises were state-owned and only some types of services remained in cooperatives. The most rapid developing industries included: machine-building (bus factory, factory of forklifts, factory of agricultural machines) and electrical engineering (from the factory of electro-lamps formed to the plants of the kinescopes and televisions, factories of electronic devices were built), light industry (clothing and footwear), food industry (confectionery and alcoholic beverages). In 1951, Lviv industry employed 32100 people, in 1959 the number of workers increased to 57700, 9100 people employed in construction can be added to this number (Sekretaryuk, 1984, p. 275).

At the turn of the 1950s and 1960s, it became clear that the possibility of "consolidating" the central part of the city with an industrial function no longer existed. The historic urban structure and capital construction did not allow further redevelopment and construction of the sites of enterprises in accordance with the technological requirements of production, but unbuilt territories was not enough. However, government plans for industrialization required further industry development and it was time to work out a new concept of the spatial development of Lviv, following the new role of the city in the settlement system of Ukraine.

The following Soviet master plan of Lviv was developed at the same time at the Kyiv Institute "Dipromisto" (by authors O. Rapoport, M. Yorysh, I. Kuts, I. Dubinsky, I. Bazarnyk¹, A.Shulyar²) and approved in 1966 with the project period until 1985 - 1990 and planned population growth up to 700 000 people (Trehubova, Mykh, 1989, p.210).

The general plan of 1966 (fig.1.a) was characterized by a complex character and envisaged the division of the city into four large planning regions with its service centers: the Central - within the boundaries of the city in 1939; Northern - in the territory of suburban villages Holosko and Zboy-

¹ Ivan Bazarnyk (1913 - 1985) at that time occupied the position of Chief Architect of the city of Lviv.

² Andriy Shulyar (1918 - 2010) at that time held the position of Chief Architect of the Lviv region

iska; Southern - on the site of the suburban villages Kozelnyky, Bondarivka, Sknyliv; Eastern - on the territory of the so-called "Pasiky" between the upper parts of Lychakivska and Zelena Streets.

There was no industrial development in the Central Planning Area. In the Northern Planning Area there was an industrial zone "Northern" and the industrial site "Northern", as well as the industrial district "North-east", in the south - the south-eastern industrial zone between Stryiska and Zelena Streets and the industrial center "Sykhiv", in the west - the south-western industrial site "Sknyliv" and the industrial zone "Syhnyvka", as well as the large industrial knot "Ryasne" (fig.1.b, fig.2.a).

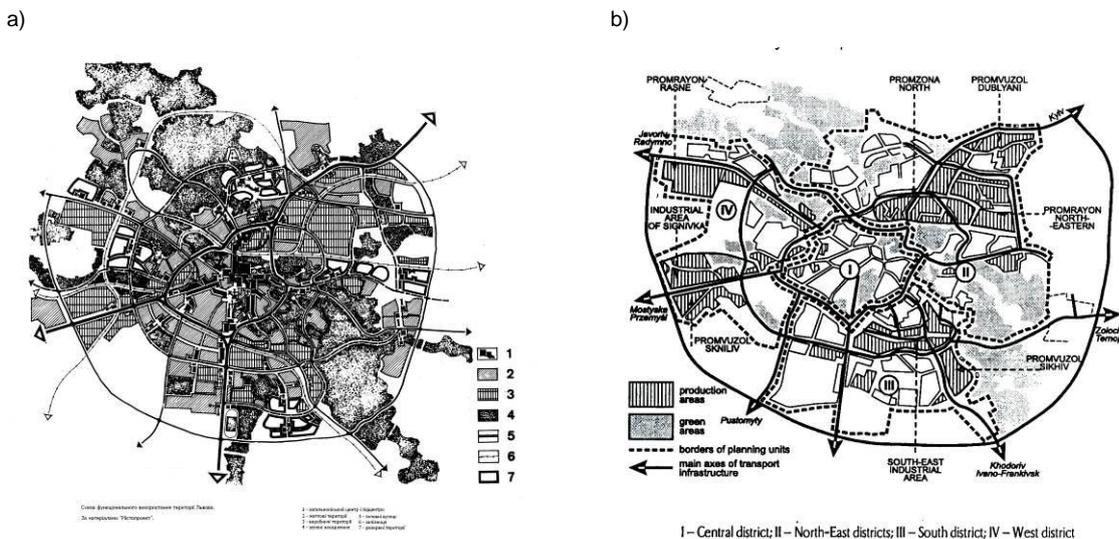


Fig.1 a) Scheme of general plan of Lviv in 1966 Source: Architectural Bulletin. 2008, No. 30. b) Industrial areas in the general plan of Lviv in 1966. Source: (Posatskyi B. 2013.).

Ryc. 1. a) Schemat planu przestrzennego zagospodarowania Lwowa 1966 roku. Źródło: Architekturny Wisnyk. 2008. No.30, b) Tereny przemysłowe według planu zagospodarowania przestrzennego 1966 roku. Źródło: (Posatskyi B. 2013.)

In the northern industrial area there were enterprises of various industries: food (sausa-ges factory, confectionery factory, liqueur and vodka factory), footwear factory, ski factory, diamond tools factory, glass, instrumental, oil refining, fittings, medical facility, pharmacy etc. (Nelhovskiy, Shulyar, 1969, p.72). Most of these enterprises worked in adapted and reconstructed industrial buildings of the early twentieth century, as the production function in the northern region of Lviv developed in the late nineteenth century.

Instead, new large enterprises were built in the southern industrial zone: bus plants, glass insulators, milling machines, electric bulbs, instrument making. A house-building factory, which manufactured 5-storied ductile houses, began to work at Zelena Street (Nelhovskiy, Shulyar, 1969, p.73).

An interesting architectural solution appeared in 1975, a complex of publishing houses on the corner of Stryiska and Volodymyr Velykyi Streets (architect V. Doroshenko, B. Gaba). The composition of the complex is based on the contrast of distinct geometric shapes of a 9-storey office building and a two-storey building of the printing house (fig.2.b).

On the western outskirts of Lviv, near the intersection of Horodotska St. with a roundabout road, large buildings of the warehouse of the industrial site Syhnyvka (architects V. Doroshenko, L. Omelchenko) were built. On the other side of the street in 1988 the construction of a 12-storey building design bureau was started by the plant of agricultural machines (architects Yu. Leikin, L. Omelchenko). The silhouettes of buildings on both sides of the Horodotska Street serve as original propyls at the entrance to Lviv from the western direction. Alongside there is a production and trading complex of maintenance and sale of passenger cars (architects V. Pavlov, I. Pavlova) (Trehubova, Mykh, 1989, p.217).

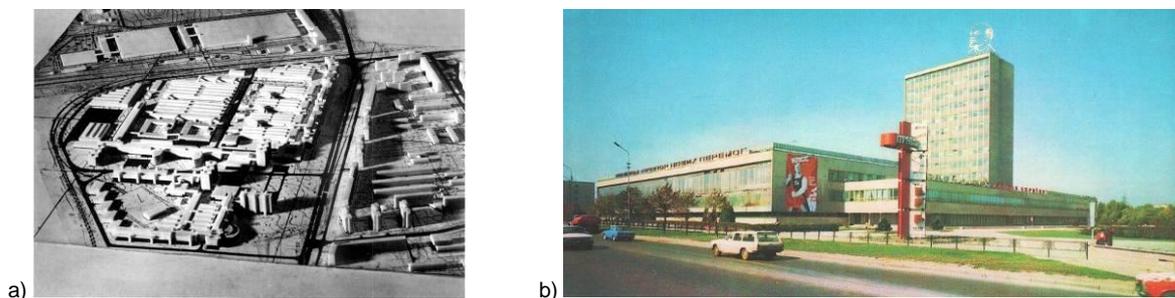


Fig. 2 a) Detailed planning of the industrial zone and residential area "Ryasne". Model. 1977 Source: Architectural Bulletin, 2008, No. 30. b) Publishing and Printing Plant on Stryiska St. Source: Lvov 1988.

Ryc. 2. a) Plan strefy przemysłowej i osiedla „Riasne”. Makieta. 1977. Źródło: Architekturnyj Wisnyk, 2008, no. 30.; b) Wydawnictwo I drukarnia na ul. Stryjskiej. Źródło: Lvov 1988

The 200-hectare Ryasne industrial unit was one of the largest, and its forequarter began in the mid-1980s on the northwestern outskirts of Lviv . According to a project, small enterprises should be moved from the central part of the city, which have exhausted the reserves of territorial development, into the territory of a new industrial knot. Until 1990, the Television Plant "Electron" and the factory of metal constructions were transferred into the newly built buildings and two micro districts were built on the territory of the residential area. In 1991 in connection with changes in the political and economic situation in Ukraine the process was stopped (Posatskyi, Mazur, 2010, p.101-112). Over the period from 1966 to 1985 more than thirty large industrial enterprises were built in Lviv, including: a bus factory, a truck loader plant, a farm factory, three machine tools and metal processing plants, eight factories of electronics and electrical engineering, five light industry factories and factories of the food industry (fig.3a). The general feature of these enterprises was the relatively low demand for raw materials, but a large number of employees was needed because most enterprises worked in two shifts.

Although the population of Lviv during the period of 1945-1990 continue to grow, the need for industrial enterprises increased considerably faster. As a result, a large pendulum migration started. In the scale of Ukraine at the end of the 1980s, Lviv occupied the third place (after Kyiv and Kharkiv) on the indicator of the pendulum migration with 130000 people (Kovtun, Stepanenko, 1990, p.144).

In the 1960s - 1980s, the rapid development of industry caused a significant increase in the population of Lviv and small cities of agglomeration within a radius of 30-50 km from the city center (tab. 1).

The development of the street network is designed according to the radial-circular scheme with three traffic rings: a ring highway and two inner-city ring streets. The first of them (less) was to surround the entire built-up area of the city until 1939, and the second - to connect new industrial and residential areas. According to this concept, in the territory of the new residential building, the elements of the second ring were the new streets of Volodymyr Velykyi, Ivan Vyhovskyi, Naukova and its extension Khutorivka, which connected the extension of the existing streets axis of Stryjska, Kulparkivska, Lyubinska, Knyahynya Olga and Zelena. The streets of Lypynskyi and Mazepa became new fragments of the ring in the northern part of the city, connected with the radial direction of Bohdan Khmelnytskyi Street. The construction of a "shallow metro" or "underground tram" in Lviv was proposed for the first time in the general plan of 1966 to improve the urban transport system (Trehubova, Mykh, 1989, p.210).

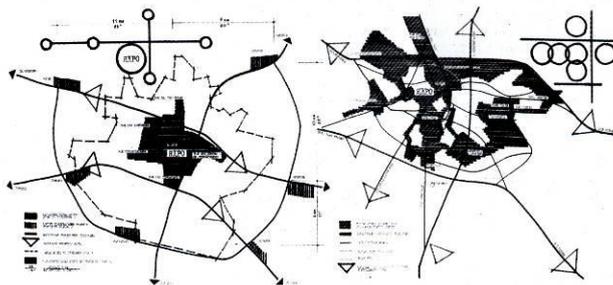
However, it should be noted that the plans for the formation of ring-streets were not implemented in full. No important ring connection was built (extension of Naukova Street in the western direction) of the radial directions of Horodotska, Lyubinska and Kulparkivska Streets, which today creates complex problems with organization of traffic in the western part of the city. Horodotska Street is one of the two entrances to Lviv from the western direction (from the border with Poland, the EU), and Lyubinska Street connects the city with the Lviv airport.

Tab. 1. The population of Lviv and the small cities of the agglomeration. Source: (Kotlobulatova I. 2009; Lozynskiy R. 2005; Malanchuk V., et al. 1968)

№	City	Number of population (thousand people)		
		1939	1959	1989
1	Lviv	320,3	411	787
2	Bibrka	5,9	3,1	4,5
3	Dublyany			9,7
4	Horodok	14,5	10,0	16,5
5	Kamyanka-Buzka	9,6	7,9	11,3
6	Mykolayiv	3,9	6,8	14,0
7	Pustomyty		3,2	9,3
8	Sudova Vyshnya	5,1	4,1	6,4
9	Zhovkva	11,1	7,7	12,6
10	Vynnyky	6,0	7,2	12,0



a)



b)

Fig.3 a) On the conveyor of the Lviv bus factory. 1970s Source: Internet; b) Scheme of proposed transport diameters according to the project of 1970. Source: Build differently. Architecture. Construction. Interior. 2002, No. 4.

Ryc. 3. a). Składanie autobusów w Lwowskiej fabryce autobusów. Lata 1970. Źródło: [Internet]; b) Proponowane komunikacyjne diametry według projektu 1970 roku. Źródło: Budujemy inaczej. Architektura. Konstrukcji. Interjer. 2002. No.4.

With the general plan in 1966, city authorities began to build tram lines connecting the central part of the city with new residential areas. The first in the 1980s was a line from the central part of Lviv to the Southern residential area on Sakharov and Knyahynya Olga Streets. At the same time, for the passage of high-speed transport within the city on the most loaded directions of the movement south-north-east (Stryiska Street - Bogdan Khmelnytskyi Street) and west-north-east (Gorodotska Street-Bogdan Khmelnytskyi Street), it was suggested that two transport diameters with complex engineering structures and traffic junctions outside the central part of the city should be constructed (fig.3b) (Biryulyov et al., 2008, p. 611, 613).

In accordance with the general concept of the general plan of 1966, the territory of Lviv, built until 1939, became the central part of a large city. It was surrounded by a horseshoe of railway lines (Pidzamche - Main Station - Persenkivka). Surrounding the territory, the railway lines crossed into the peculiar "spatial barriers" separating the "old" capitalist pre-war city from the "new", socialist postwar city (Posatskiy, 2013, p.29).

3. NEW CITY CENTER

In the central part of Lviv, the unique architectural-urban complex of buildings from XIV - the beginning of the XX century has survived. Today this part forms the core of the city's public center. Along with this, in the 1960s, the city's development process led to the beginning of the formation of a polycentric system of public centers, which is typical for large cities in general.

By the concept of the master plan of 1966, a project of detailed planning of the zone of the public center of Lviv along the Chornovil Avenue (architect M. Mykula, M. Vendzylovyh) was elaborated, which existed in two versions during 1968-1969. In both cases, the Chornovil Avenue remained the main transport and composite axis of the new part of the center of Lviv, on which both pedestrian esplanades were adjacent to both sides, built-up high-rise buildings (up to 25 floors) with public buildings of administrative, trade-purpose and large cultural objects (concert hall, exhibition rooms). The passage of the avenue partially deepened the underground, in one of the options the tunnel should have started on the square in front of the opera house and thus increased the area of the pedestrian esplanade (fig.4a, b). It was noted that on the projected territory there 2 to 3 storey old houses in unsatisfactory technical condition, to carry out the project they should be demolished (Skoryk, 1969, p. 33-34).

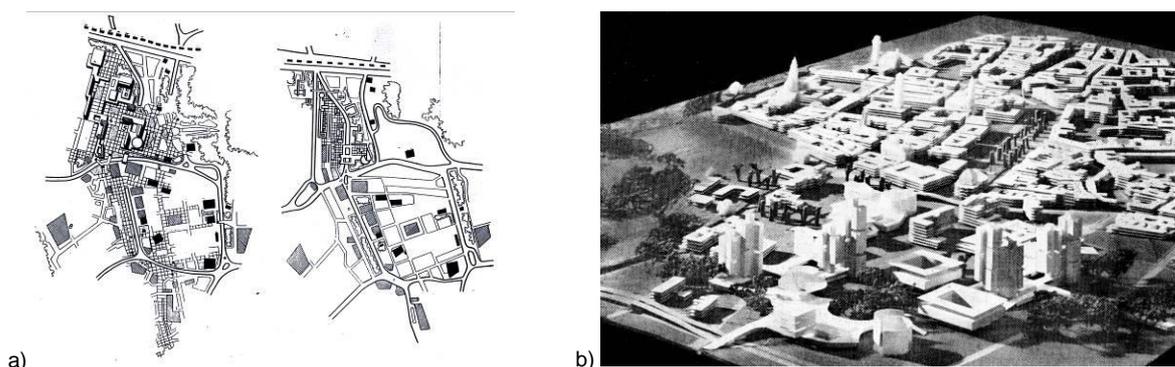


Fig. 4 a) Scheme of the plan of the new center of Lviv. a) Option I. b) Option II. Source: (Posatskyi B. 2011); b) Project development of the central part of Lviv. Version. Model. 1966. Source: Architecture of the USSR. 1972, No. 10.

Ryc. 4. a) Schemat planu nowego centrum Lwowa. Warianty a) i b). 1966. Źródło: (Posatskyi B. 2011). b) Projekt rozbudowy centralnej dzielnicy Lwowa. Wariant. Makieta. 1966. Źródło: Architektura SSSR. 1972. No. 10.

The project was refined several times and was implemented only fragmentarily since all the old houses could not be removed. From the planned construction of public buildings on Chornovil Avenue 11-storey building of the Regional statistical department (architect M. Vendzylovyh), the cinema "Mir" with a hall for 1200 seats (architect S. Sokolov, now the entertainment establishment "Malevich"), the largest at that time in the city 8-storey hotel "Lviv" for 400 seats (architects A. Consulov, P. Comte, L. Nivina). From the perspective of time, it can be said that all the buildings do not form an integral spatial composition, their architecture is diverse (fig.5 a,b). The fact is that each of the buildings is the result of processing the corresponding typical project and adapting it to the conditions of a specific plot. It has been confirmed that in the conditions of the existing development of foreclosed plots, the design of new large public objects can not be imitated by typical analogues designed to be located in unbuilt territories. A little later, in the early 1970's, at the crossroads of Chornovil Avenue and Lypynskyi Street the formation of the public center of the northern planning district (fig.6a) was initiated by the construction of the district administration's building (re-application of the project), the 9-storey building of the ZNTI (architect B. Kuznetsov) and the 12-storey building of the Druzhba oil pipeline (fig.6b) (architect V. Doroshenko), reserved areas for other public buildings (Posatskyi, 2011, p.154-163).

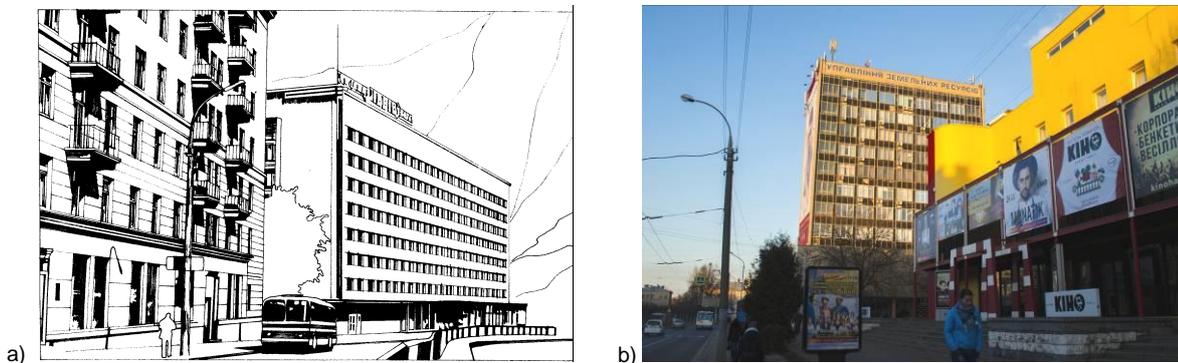


Fig.5. a) Hotel "Lviv" on Chornovil Avenue. Source: Picture from the photo of B. Posatskyi, 1985.; b) Regional statistical office and the cinema "Mir" on Chornovil Avenue. Source: Wikimedia 2019

Ryc. 5. a) Hotel „Lwiv” na Aleji Czarnowola: Rysunek według foto B. Posatskyi, 1985; b) Regionalny urząd statystyczny i kino „Myr” na Aleji Czarnowola. Źródło: Wikimedia 2019

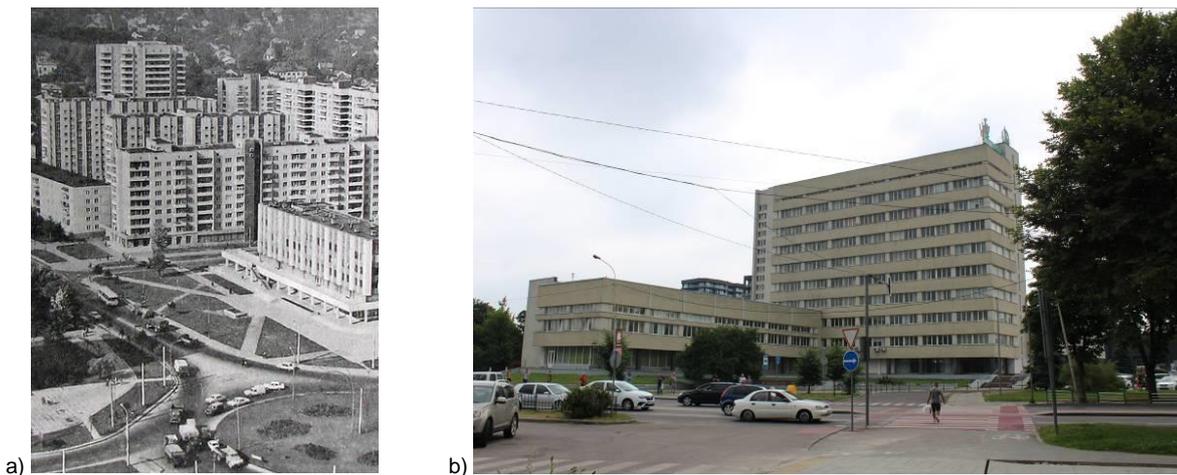


Fig.6 a) The general view of the development of Chornovil Avenue –Lypynskiy Street Crossroads. Source: Photo by RATAU, 1988.; b) Office building at the crossroads of Chornovil Avenue and Lypynskiy Street. Source: Photo by Cherniak, 2019

Ryc. 6. a) Widok ogólny skrzyżowania Aleji Czarnowola – ulicy Łypynskoho. Źródło: Foto RATAU, 1988. b) Biurowiec Rurociagu Družba na skrzyżowaniu Aleji Czarnowola – ulicy Łypynskoho. Źródło: Foto I- Czerniak, 2019

Taking into account the importance and complexity of the development of the central part of Lviv, in 1970 a detailed planning project of the territory was developed by the architects from Lviv branch of "Dipromisto" (architects Ya. Novakivskiy, R. Mykh, A. Petrova, A. Rudnytskyi). The main concept of the project was the transition from the monocentric to the polycentric system of the city-center. By the general plan of 1966, the development of the northern central core was projected to the north from the Opera House on the north-south axis (as in the general plan of 1946); it is located in the present-day on Chornovil Avenue. Also, three other cores were supposed to be centered: the western (in the district of the Pryvokzalnyi Market), the eastern (at the crossroads of Lychakivs'ka Street, Pasichna Street), the southern (south of Stryiskiy Park on Stryiska Street). Thus, Lviv received a polycentric structure of the city center for the functional dismemberment of the historic city center (Biryulyov, 2008, p.613).

As you can see, in all postwar general plans, the territory to the north from the opera house along Chornovil Avenue was considered as a development zone of the city center. However, the planning and complex development of this territory during the project term of the general plan of 1966 to

1990 was not implemented due to the need to eliminate a significant amount of quarterly residential development of the 19th-20th century. By the project of the polycentric structure of Lviv city center development in 1970, the formation of a new administrative center on Stryiska Street to the south of Stryiskyi Park began (fig.7 a,b). In 1986, the construction of a 14-storey building of the regional administration (now the Regional tax administration), the Office of the Soviet Army officers with the drama theater, the Institute of Regional Studies of the National Academy of Sciences of Ukraine began. The project was implemented in part because the restoration of Ukraine's state independence in 1991 radically changed the political situation. The buildings of the tax administration and the buildings of the Institute of Regional Studies were built, but instead the theater building the construction of the campus of the Greek Catholic University named after Pope Clementy began (Biryulyov, 2008, p.629).

Considering the city center as a historical-compositional and planning axis of the city, the necessity to give the historic part of the city special status was substantiated by the authors in the project, which served as the basis for the organization of the State Historic-Architectural Reserve³ (SHAR) in 1975 on an area of 120 hectares (Biryulyov, 2008, p.613).

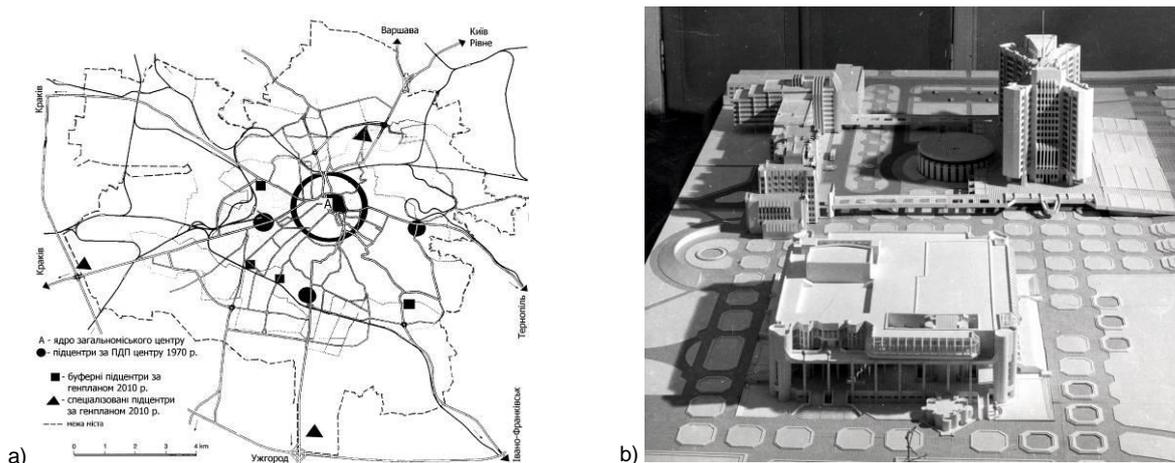


Fig.7. a) Placing projected sub-centers in the Lviv plan. Source: Work by B. Posatskyi, 2011; b) Southern sub-center project on Stryiska Street. Model. Source: Lviv branch of "Dipromisto", 1970.

Ryc. 7. a) Usytuowanie projektowanych subcentrów w planie Lwowa. Źródło: Opracowanie własne B. Posatskyi, 2011 . b) Południowe subcentrum projektowane na ulicy Stryjskiej. Źródło: Lwowska filia "Dipromisto", 1980.

In the historical center of Lviv in the Soviet era, virtually all real estate belonged to the state, and, first of all, it was considered that the main task is to maintain the external appearance of structures and their use for cultural functions (fig.8 a,b). Therefore, there were located museums (residential palaces of the 17th - 18th centuries in the Rynok Square), artistic exhibition halls (the church of St. John the Baptist, built in the XII century on the Staryi Rynok Square), scientific institutions (Pototskyi palace of the XIX century), concert halls or museums (Church of Mary Magdalena of the XVII century, Dominican Church of the XVIII century, Onuphriy church of the XIV century, city arsenal of XVI century), building of public organizations (Powder Gate of the XVI cent., Pototskyi palace of the XIX century). It was planned to create a sculpture museum at the Bernardino Church of the XVII century and a museum of architecture in the church of Carmelite of the XVII century.

³ Within the limits of SHAR there were 199 monuments of state-owned architecture, the same territory in 1997 was submitted for inclusion in the UNESCO World Cultural Heritage List and received this status in 1998.

Radical political changes in Ukraine after 1991 led to changes in the use of architectural monuments. First of all, virtually all religious buildings were returned to their original function, restored the activities of religious communities of different denominations. Other public buildings moved into communal or private property, they were actively used to primarily serve the tourists.

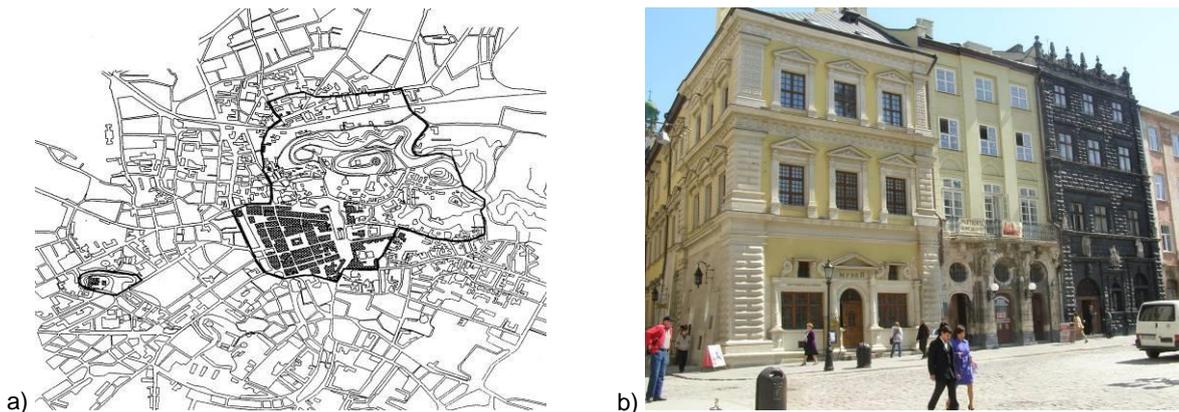


Fig.8 a) The territory of SHAR in terms of the central part of Lviv. Source: Architectural Bulletin. 1997, No. 2 - 3. b) Building of the eastern side of Rynok Square in Lviv. Fragment. Source: Photo by B. Posatskyi, 2010.

Ryc. 8. a) Wydzielony obszar Państwowego Historyczno-Archiitektonicznego rezerwatu w centralnej dzielnicy Lwowa. Źródło: Archiitekturnyj Wisnyk. 1997, No. 2 - 3. b) Zabudowa strony wschodniej Rynku we Lwowie. Foto; B. Posatskyi, 2010.

4. RESIDENTIAL DEVELOPMENT

From the second half of the 1950s in Ukraine (then the USSR), the development of free territories by multistory dwelling houses according to typical projects became one of the main tasks in the work of design and construction organizations.

Following the approval of the general plan of Lviv in 1956, planning and building of the residential area began following the hierarchy of its division into residential areas and micro districts. In the Kyiv Institute "Dipromisto" in 1957 a project for detailed planning of the territory of the Southern residential district of Lviv (architects O. Malishenko, A. Barabash, I. Persikov, L. Prokopchuk) with an area of 125 hectares between Kulparkivska and Stryjska Streets with the estimated population of 40 000 people was developed (fig.9 a,b). The residential area consisted of three micro districts with a population of 13 000 people in each, the population density was determined in the range of 578 - 603 persons/ha [26, p.27].

The spatial composition of residential development is evidence of an attempt to combine the perimeter building, which was characteristic of the early 1950s, along the streets with a "free" location of residential houses within the quarters. Each of the districts was divided into residential groups with kindergartens, inside the territory was a greened space (micro district garden), to which the schools were adjoining.

The gradual transition from gridiron layout to the micro district planning of residential areas can be noted in the projects of the Lviv branch of "Dipromisto". The first projects include neighborhoods in the New Lviv (1957, architects M. Mykula, L. Kamenska), in Mayorivka (1957, architects G. Shvets'ko-Vinetskyi, M. Vendzylovych), the area of low-rise building of Levandivka (1958, architects G. Shvets'ko-Vinetskyi, M. Vendzylovych), the area between Chornovil Avenue and Warsawska Street (1964, architects M. Vendzylovych, S. Domazar) (Biryulyov, 2008, p.616).

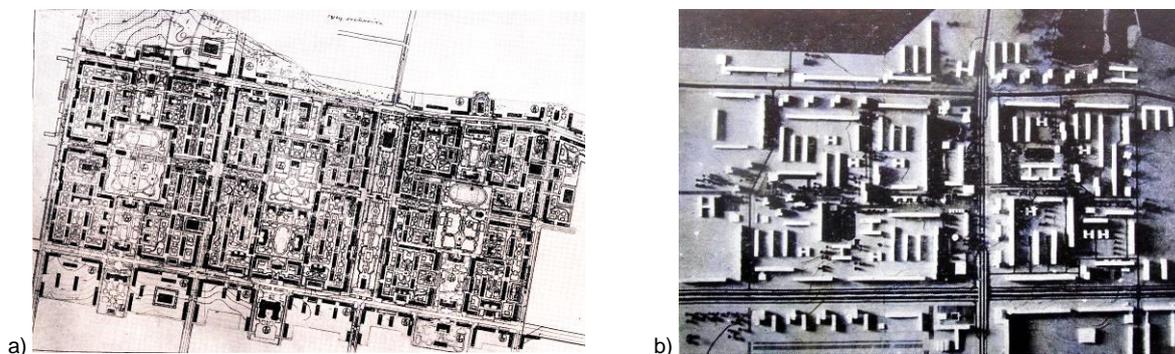


Fig.9 a) Detailed Planning Project for the Southern Region. 1957. Source: Building and Architecture. 1958, No. 5 (41).; b) Detailed planning of the district № 1 in the Southern region. Model. 1970. Source: Stroitelstwo i Arkhitektura. 1967, No. 9.

Ryc. 9. a) Szegółowy plan zagospodarowania terenu Południowej dzielnicy mieszkaniowej we Lwowie. Źródło: Budownictwo i Arkhitektura. 1958, No. 5 (41); b) Szegółowy plan osiedla No.1 na terenie Południowej dzielnicy mieszkaniowej. Makieta. 1967. Źródło: Stroitelstwo i Arkhitektura. 1967, No. 9

The next stage of the design and construction of large residential areas in the peripheral territories of Lviv was associated with the implementation of the postulates of the master plan of 1966. In the vicinity of new industrial areas in the north, south, and west of the city, it was planned to locate new residential areas by the principle of "housing near the place of work". At that time, centralized management of the economy made it possible (at least theoretically), if the workers of one or another enterprise were provided by apartments in its neighborhood (fig.10 a,b). Large new residential areas were built in the southern sector of the city, they were dominated by 9-story large-panel houses, or brick with prefabricated reinforced concrete elements (Posatskyi, 2013, p.60).

The first of these was the southern residential district with a projected population of 100 thousand people (between Naukova, Stryiska and Lyubinska str.), which consisted of several micro districts with 10 to 12 thousand inhabitants each. In the first three micro districts, residential groups consist of five-nine-storeyed houses, schools and kindergartens were located inside the territory (architects M. Vendzylovych, S. Pidlisnyi, K. Sokolova, V. Seryogina). In the direction east-west through the micro districts a pedestrian boulevard was laid, which provided a connection between micro district and the public center on Knyahynya Olga Street (architects Z. Pidlisnyi, V. Kamenshchik, Yu. Verblyan). As part of the center, a large department store "Lviv" with original architecture, a telephone station, a water sports palace (now an aqua park) and a hotel "Suputnyk" were built. The objects of this center have kept the city-wide significance to this day; the department store and an aqua park are popular among the city's inhabitants.

The next four microdistricts are marked by a more expressive compositional solution, along Naukova Street there are groups of 14-storey houses, united on the first-floor level by the adjoining premises of trade and service, which have cross-passages inside the microdistricts. The developed pedestrian zone was created between Kulparkivska and Symonenko Streets. The space within this area included a school, a polyclinic, and shops. The presence of the water reservoir has created an architectural and landscape environment with an individual character. The design of these neighborhoods was carried out by architects O. Bazyuk, V. Kamenshchik, M. Koshlo in the second half of the 1960s.

Two elongated micro districts were built along the upper part of Stryiska Street following the general planning scheme (architect L. Nivina) and the project of detailed planning (architects A. Petrova, Ya. Novakivskyi, I. Kaganyak). Along the street are laid out, in turn, multi-sectional 9-storey and two-section 12-storeyed buildings with built-in retail premises (fig.11 a,b, fig.12 a,b) (Trehubova, Mykh, 1989, p. 223).

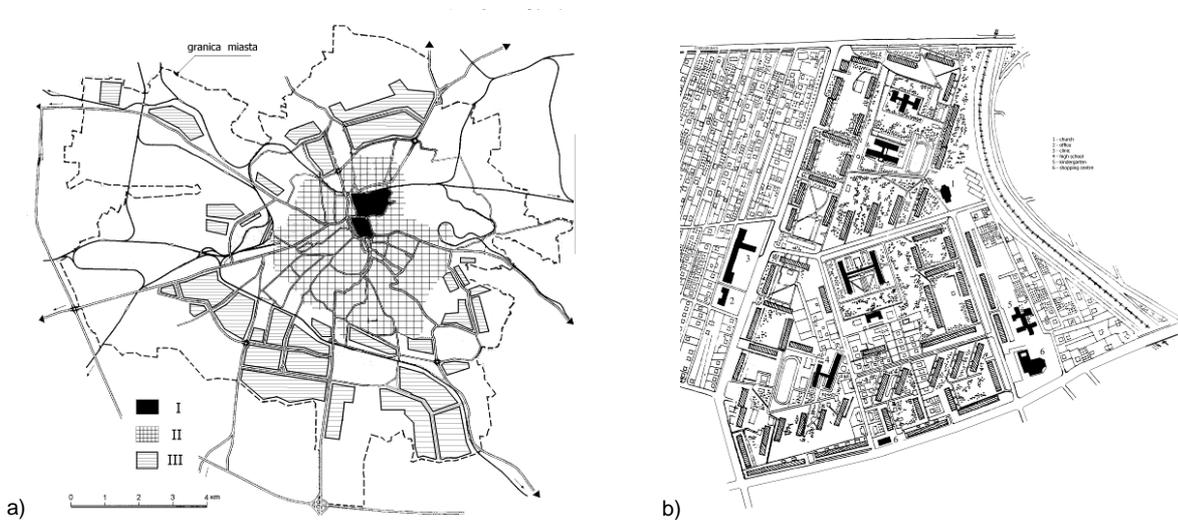


Fig.10 a) New residential areas of the 1950s - 1980s in the planning structure of Lviv. Source: B. Posatskiy, 1999. b) Scheme of a development plan of the South-west region between Horodotska and Kulparkivska streets. Source: Work by B. Posatskiy, 1995

Ryc. 10. a) Nowe dzielnice mieszkaniowe z lat 1960 - 1970 w planie Lwowa. Źródło: Opracowanie B. Posatskiy, 1999. b) Plan zagospodarowania Południowo-zachodniej dzielnicy między ulicami Horodocka i Kulparkiwska. Źródło: Opracowanie B. Posatskiy, 1995



Fig.11 a) The crossroads of Knyahynya Olga and Volodymyr Velykyi Streets. Source: Photo by A. Shutyuk, 2005.; b) A group of 12-storey residential buildings on Stryiska St. Source: Photo by I. Cherniak, 2019.

Ryc. 11. a) Skrzyżowanie ulic Kniahyni Olhy i Wołodajmyra Welykoho. Źródło: Foto A- Szutyk, 2006.; b) Grupa 12-kondygnacyjnych budynków mieszkalnych na ulicy Stryjskiej. Źródło: Foto I. Czerniak, 2019.

Intensive residential construction was carried out during the 1960s in the northern planning region between Warszawska, Zamarstynivska, Bogdan Khmelnytskyi Streets and Bryukhovyt'skiy forest. This part of the city is in the unfavorable geological conditions of the floodplain of the Poltva River, and a new building could begin only after the Poltva Channel had been laid to the underground reservoir in the 1960s (fig.13 a,b). Between Warszawska and Okunevskyi Streets were built three micro districts (architect B. Kuznetsov). Taking into account the important urban significance of Chornovil Avenue, at the intersection with Lypynskyi Street the public center of the northern region was formed.



Fig.12. a) Residential buildings on Stryiska Street. Source: Photo by I. Cherniak, 2019. [; b) Houses on Paton Street. Source: Photo by B. Posatskyi, 1975.

Ryc. 12. a) Budynki mieszkalne na ulicy Stryjskiej. Źródło: Foto I. Czerniak, 2019.: b) Zabudowa ulicy Patona. Źródło: Foto B. Posatskyi, 1975



Fig.13. a) A general view of residential development in the Northern region of Lviv. Source: Photo by B. Posatskyi, 1985. b) Center for trade and domestic services in the northern region. 1979. Source: Lviv branch of Diopromisto

Ryc. 13. a) Widok ogólny zabudowy mieszkaniowej w północnej części Lwowa. Źródło: Foto B. Posatskyi, 1985.; b) Centrum handlowo-usługowe w północnej części Lwowa. 1979. Źródło: Lwowska filia „Dipromisto”

The housing stock of Lviv has considerably increased due to the multistorey building of the northern planning area along Bogdan Khmelnytskyi Street. The projects of the first micro districts were developed in the early 1960's (architects M. Mykula, L. Kamenska, O. Radomskyi, R. Fedotovska, Y. Nazarkevych), their building consisted of 5-9-12-storey buildings, and for this purpose it was necessary to eliminate many single-storey housing, which could not be completed in full, so the implementation of projects began only a decade later (fig.14 a,b).

The micro districts of the 1970s-1980s, allocated between Lincoln, Hetman Mazepa and Naukova Streets, stand out for their spatial organization (architects Y. Nazarkevych, R. Fedotovska, V. Leokhnovskyi). Housing groups are formed from 5-9-14-storey buildings and a separate 2-storey shopping center. Here, for the first time, an attempt was made to actively apply color to the facade of 14-storeyed buildings in the form of large colored planes, however, after several years the colors lost their original attractiveness (Trehubova, Mykh, 1989, p. 227-228).



Fig.14. General view of the building on Bohdan Khmelnytskyi Street. 2000. Source: Internet
 Ryc. 14. Widok ogólny zabudowy ulicy Bohdana Chmielnickiego. 2000. Źródło: Internet

The widespread public recognition was given to the Sriblyastyi (Silver) neighborhood in the western planning region (architects Z. Pidlisnyi, L. Nivina, S. Zemyankin), and its authors received the State T. Shevchenko Prize in 1982. Its construction during 1979 - 1980 was carried out with 5 - 9 - storeyed buildings made of light gray silicate bricks with elements of "figured masonry". Actually, the area was called "Silver" because of the color of this brick. (fig.15 a,b). A well-thought-out scheme of organization of pedestrian connections and passages within the micro district, the installation of passages on the first floors, the opening of the courtyard spaces and their accomplishment deserved recognition of the inhabitants (Biryulyov, 2008, p.620).

A special place among the residential territory belongs to Sykhiv residential area with a total square of 390 hectares, designed for 120 thousand inhabitants. Its construction began in 1979 on the southern outskirts of the city on the site of the suburban villages Sykhiv and Kozel'nyky in a flat area with a slight slope to the valley of Zubra river between two industrial units on Zelena and Stryjska Streets. The residential area was intended for the resettlement of workers of new enterprises in the south-eastern district. The first variants of the planning of the territory of the residential area were developed in 1965-1966 (architects Ya. Novakivskyi, O. Kobat, L. Skoryk). Further detailed design of the common housing estate and separate micro districts (architects Ya. Novakivskyi, Z. Pidlisnyi, A. Petrova, P. Krupa, V. Dubyna, O. Mariev) was carried out after the reconstruction of the Lviv house-building plant, when its capacity increased from 60 to 200 thousand m² of total area of apartments per year (Trehubova, Mykh, 1989, p. 230).

Urban structure of the massif consists of three residential districts, separated by city highways - Sykhivska Street, Khutorivka Street and Chervona Kalyna Avenue, a public center of a residential area is located at the intersection of these highways. Residential areas, in turn, consist of micro districts formed under the current regulatory requirements. Near the residential area along Zelena Street during the 1980s and 1990s an industrial unit with the same name "Sykhiv" was built. Thus it was planned to form a large-scale urban construction, where the labor places were located near the housing, which allowed to significantly reduce the time for transport connection (fig.16 a,b).



Fig.15. a), b). The Sriblyastyi (Silver) neighborhood. Source: Photo by B. Posatskyi, 1982.

Ryc. 15. a), b). Osiedle mieszkaniowe Sriblastyj (Srebrne). Źródło: Foto B. Posatskyi, 1982

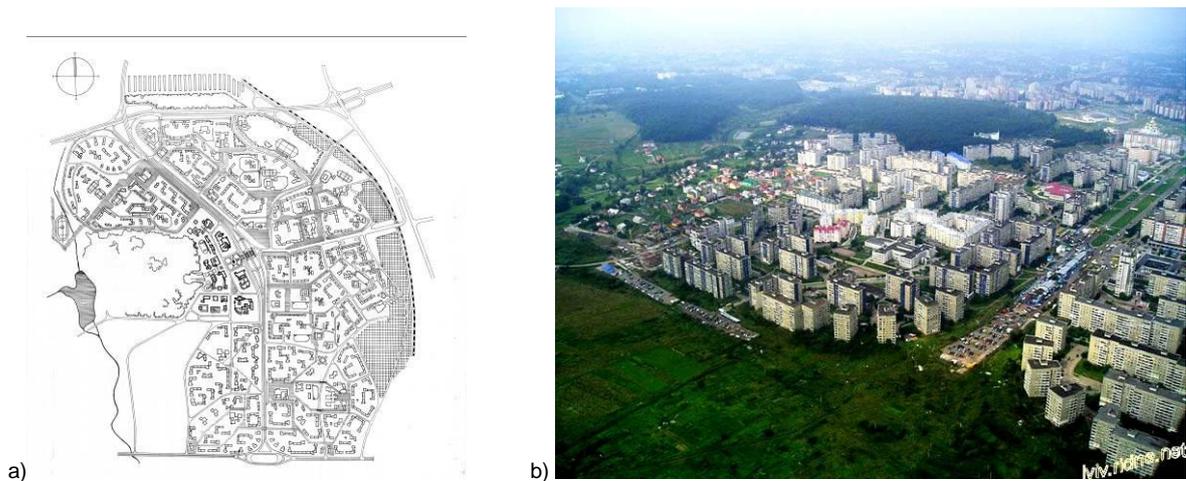


Fig.16. a) Sykhiv residential area in Lviv's plan. 1990. Source: Archive of the Department of Urban Planning; b) Scheme of Sykhiv residential area plan. 1990. Source: Internet

Ryc. 16. a) Plan dzielnicy mieszkaniowej Sychiw. 1990. Źródło: Archiwum Katedry Urbanistyki; b) Widok ogólny dzielnicy mieszkaniowej Sychiw.1990. Źródło: Internet

It was planned to form service and trade centers in each residential area. They were built in two districts on Sykhivska and Khutorivka streets; the largest center on Chervona Kalyna Avenue was built only partially. Each group of dwelling houses is provided with a kindergarten, each micro district has a high school (gymnasium), trade and service facilities are located near public transport stops (bus, trolleybus, and from 2017 also a tram).

Sykhiv residential area as integrity can be an example of a large-scale urban composition that reflects the hierarchical structure of the residential territory. Especially for the needs of the construction of an area, a homebuilding plant ("factory of houses") was reconstructed on Zelena Street, which until 1990 produced large-panel elements for 9-storey residential buildings. According to the project, the role of spatial accents was allocated to 12 - 15-storey buildings, however, existed home-building plant didn't manufacture them and the buildings had to be built in traditional technology with brick walls (fig.17 a,b,c,d). (Posatskyi, 2016, p.24,27).

Until 1990, Sykhiv residential area reached a planned number of residents of 120 thousand people, which led to the growth of the population of Lviv during 1970 - 1989 from 553 thousand to 787 thousand people (Lozynskyi, 2005).

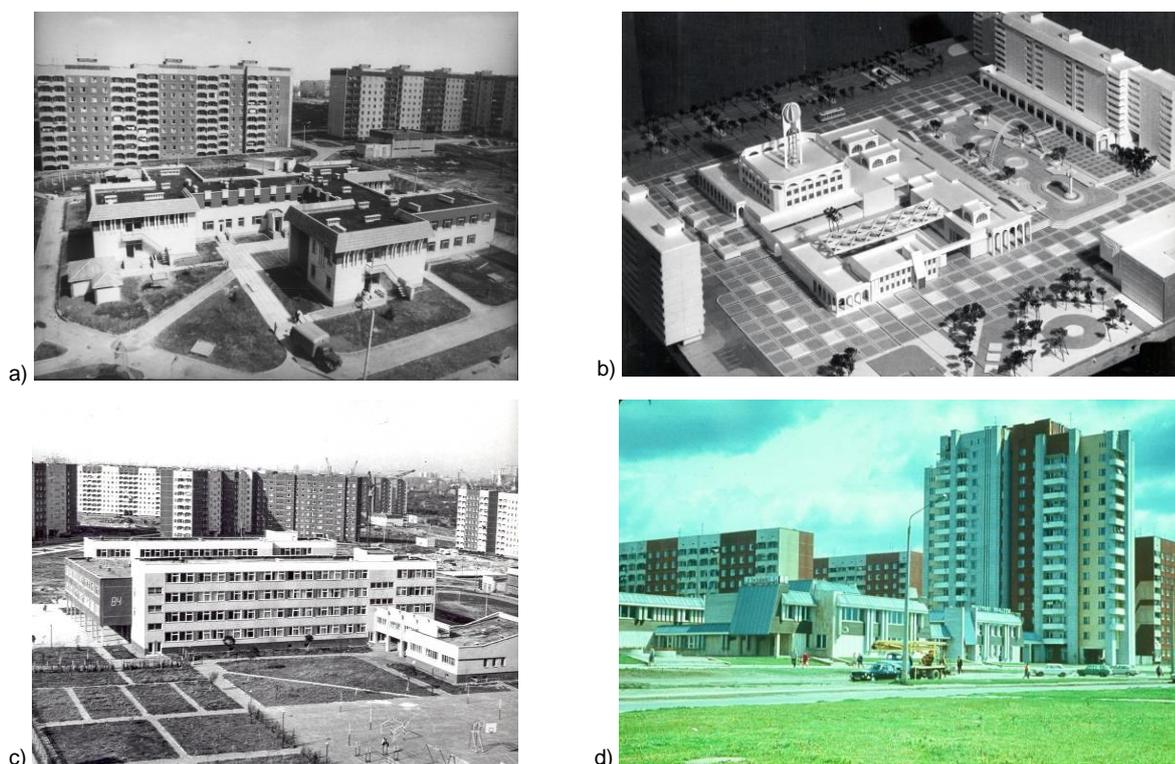


Fig.17. a) General view of Sykhiv residential area. In the foreground there is a kindergarten building. 1990. Source: Photo by Dipromisto.; b) Project of the service center on Chervona Kalyna Avenue in the area of Sykhiv. Model. 1985. Source: Photo by Dipromisto.; c) School in Sykhiv residential area. 1985. Source: Photo by Dipromisto.; d) The service center of the neighborhood in Sykhiv residential area. Source: Photo by B. Posatskyi, 1990.

Ryc. 17. a) Widok ogólny dzielnicy mieszkaniowej Sychiw. Na pierwszym planie budynek przedszkola. 1990. Źródło: Lwowska filia Dipromisto; b) Centrum handlowo-usługowe na Alei Czerwona Kalyna. Makieta. 1985. Źródło: Lwowska filia Dipromisto; c) Budynek szkoły w dzielnicy Sychiw. Źródło: Lwowska filia Dipromisto; d) Osiedlowe centrum handlowo-usługowe w dzielnicy Sychiw. Źródło: Foto B. Posatskyi, 1990.

The construction of Sykhiv residential area, according to the detailed plan of 1980, was generally completed in 1990 and thus formed an almost solid ring belt (redistributed by the hills of Roztochchya in the east and Kortumivka hills in the west) of new residential areas surrounding the pre-war central part of Lviv.

Along with the massive housing construction in the former neighborhood, small groups and quarters were built in the central part of the city. These include the student campus of the Lviv Polytechnic, which consists of two blocks of dormitories formed in the 1950s - 1970s, the first of which is limited by Karpynets, Lukash, Vidkryta, and Sakharov Streets, and the second one is located on Lazarenko St. In the beginning of construction three symmetrically located 4-storey hostels were built in 1954 - 1960 along Lukash Street according to typical projects of the Moscow Institute Di-provuz (Cherkes, Linda, Bohdanova, 2016, p.324-327, 332-335, 342-345).

The next stage of the development of the Student Town began in 1964 when the first students settled in a 5-storey hostel at Karpynets St. (architect O. Selastelnikov). In the design of the hostel, a typical project was reworked and a new scheme of planning for the USSR at that time was introduced in the form of blocks of two living rooms (designed for 3 and 4 persons) equipped with a sanitary unit and a shower. Starting from this house all further Lviv Polytechnic hostels' projects were

developed at the Student Design Bureau of Lviv Polytechnic through similar processing and adaptation of typical projects under the guidance of the Engineering-Construction Faculty, which then consisted of the Department of Architectural Design.

During 1966-1972, one 6-storey hostel for 1400 students with a built-in dining room for 150 people (fig.18 a) (architect V. Sydorenko) and two 5-storey hostels (architects V. Sydorenko, I. Rusanova), on Vidkryta Street - one 6-storey (architects V. Sydorenko, V. Blyusyuk) and one 9-storey (architects V. Sydorenko, I. Pavlova, V. Pavlov) were built (Cherkes, Linda, Bohdanova, 2016, p.336-341, 346-355).

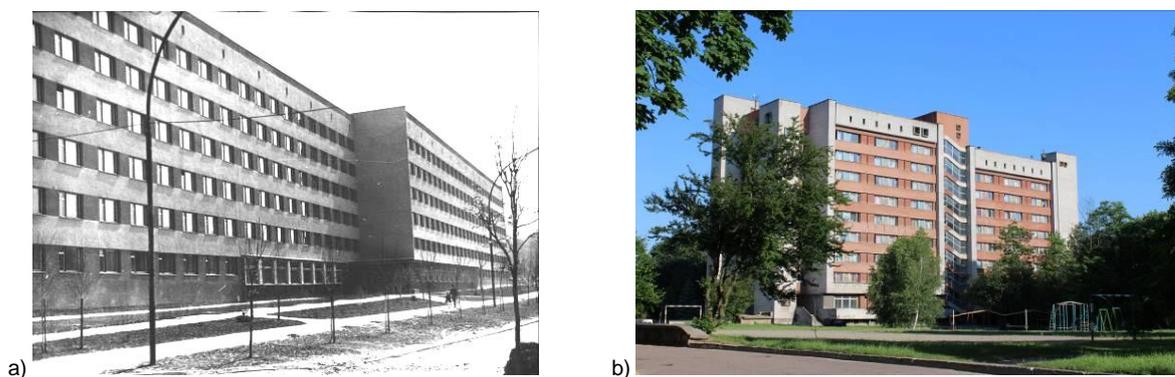


Fig.18. a) Student campus of Lviv Polytechnic. Hostel for 1,500 people on Sakharov Street. 1966. Source: Photo by B. Posatskyi, 1966.; b) Student Campus of Lviv Polytechnic. Hostel on Lazarenko Street. 1985. Source: Photo by I. Cherniak, 2019.

Ryc. 18. a) Studenckie miasteczko Lwowskiej Politechniki. Dom akademicki na 1500 studentów na ulicy Sacharowa. 1966. Źródło: Foto B. Posatskyi, 1966; b) Studenckie miasteczko Lwowskiej Politechniki. Dom akademicki na ulicy Łazarenka. 1985. Źródło: Foto I. Czerniak, 2019.

The second quarter of the four dormitories was built from 1978 till 1984 on Academician Lazarenko Street. Two houses of 13-storey dormitories (architects V. Blyusyuk, M. Trach) consisted of four sections, each displaced in plan one concerning another, a section consisting of two blocks with four living rooms in each (fig.18 b). The estimated number of people in blocks was adopted - 8 and 12. In the quarter, two 9-storey hostels were built (architects M. Trach, I. Hnes), block layout was repeated in the planning of floors since 1966. In the quarter there is a two-storey block of services that placed a dining room for 270 people, trade and household services (Cherkes, Linda, Bohdanova, 2016, p.356-371). In general, about 9.6 thousand people could live in hostels of Lviv Polytechnic, constructed during 1962 - 1984.

Along with the construction of large new residential areas in Lviv, during 1956-1990, the construction of individual multistory residential houses in the central part of the city was carried out. These houses were designed individually, as typical design solutions in the conditions of the historically formed architectural environment were not possible to apply. Among them are 9-storey residential buildings on Venetsianov Street (architect O. Radomskyi), on Stryiska Street (architect Ya. Nazarkevych) (fig.19 a), at the corner of Sakharov and Stryiska Streets (architect V. Doroshenko).

Also, several house-insertions were constructed with architectural solutions of the facades, agreed with the existing old buildings. The first one was a 7-storey dwelling-house with a cafe on the first floor at the beginning of Svoboda Avenue (1965, architect Ya. Nazarkevych) (fig.19 b). Then one can list 5-storey residential buildings with traditional brick walls on Snopkivska Street (architect M. Trylovskyi), Crimean Street (architect V. Plykhyvskyi), Kyivska Street (architect Z. Galay), Ogienko Street (architect R. Sivenkyi), on the corner of Zelena - Dniprovska Streets (architects A. Bakhmatov, B. Posatskyi), on Chermeshyna Street (architect B. Posatskyi) and others (fig. 20 a,b, fig. 21 a).



a)



b)

Fig.19. a) A dwelling house on Stryiska Street. 1977. Source: Internet; b) Residential building on Svoboda Avenue. 1966. Source: Building and Architecture. 1967, No. 9.

Ryc. 19. a) Budynek mieszkalny na ulicy Stryjskiej. 1977. Źródło: Internet b) Budynek mieszkalny na Alei Swobody. 1966. Źródło: Stroitelstwo i Architektura. 1967, No. 9.

Near city park named after Ivan Franko Park on Mateyko Street in 1982 the Dnister Hotel was built for 340 beds (architects L. Nivina, A. Consulov, Y. Mastylo). The facade of the house is solved in the form of stained glass, dissected by aluminum profiles. On the roof is a terrace of the restaurant, which offers panoramic views of the center of Lviv (Trehubova, Mykh, 1989, p.236) (fig.21 b).



a)



b)

Fig.20. a) Residential building on the corner of Zelena - Dniprovska Streets 1967. Source: Photo by B. Posatskyi, 1970.; b) Dwelling house on Ogienko Street. 1967. Source: Photo by B. Posatskyi, 1970.

Ryc. 20. a) Budynek mieszkalny na rogu ulic Zielonej – Dniprowskiej. 1967. Źródło: Foto B. Posatskyi, 1970. b) Budynek mieszkalny na ulicy Ohienka. 1967. Źródło: Foto B. Posatskyi, 1970.

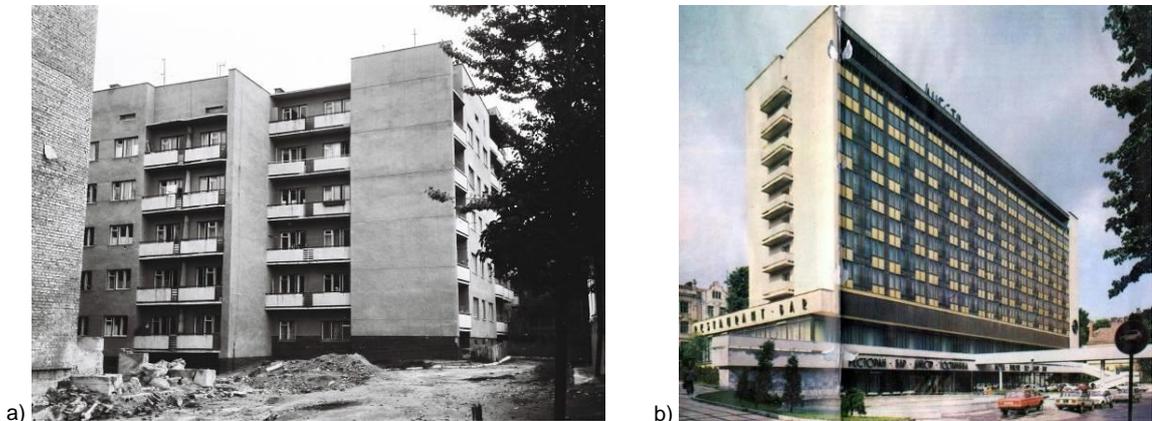


Fig.21 a) Dwelling house on Cheremshyny Street.1970. Source: Photo by B. Posatskyi, 1975.; b) Hotel Dniester on Matejko Street. 1982. Source: Internet

Ryc. 21. a) Budynek mieszkalny na ulicy Czeremszyny. 1970. Źródło: Foto B. Posatskyi, 1975. b) Hotel Dniester na ulicy Matejka. 1982. Źródło: Internet

4. Public buildings and structures. Public buildings and structures play a significant role in solving social, urban and architectural problems; they are mainly located on main squares and streets, forming public centers for a wide range of services or special-purpose complexes. Among the public buildings of the 1950s there is a television center building on the lower terrace of the High Castle (architect J. Novakivskyi) with a metal television tower with a height of 192 m on the upper terrace of the park (Kotlobulatova, 2009, p.188). Since then, the television tower has become the main dominant of panoramas and silhouettes of Lviv (fig.22 a).

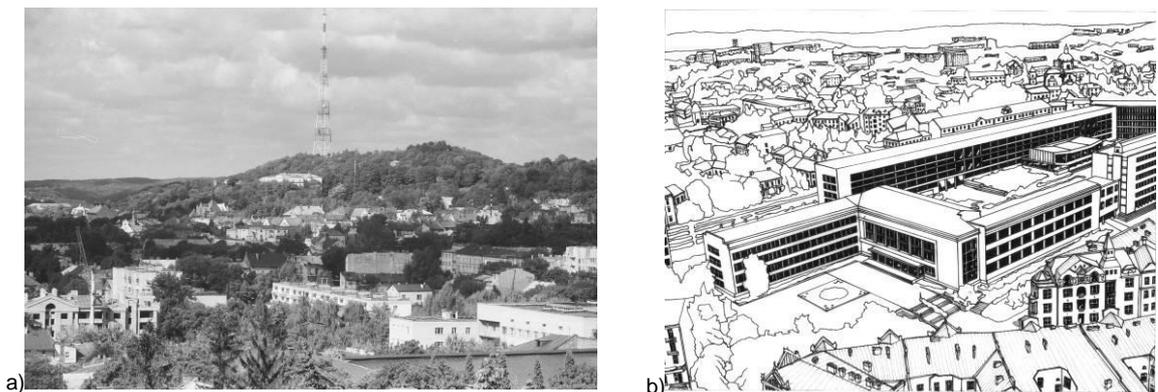


Fig.22 a) Panorama of the central part of Lviv with TV tower. Source: Photo by B. Posatskyi, 1997; b) General view of the quarter of new buildings of Lviv Polytechnic. 1965 - 1978. Source: Drawing from the photo of RATAU, 1980.

Ryc. 22. Panorama centralnej dzielnicy lwowa z wieżą telewizyjną na wzgórzu Wysokiego Zamku. Foto B- Posatskyi. 1997. b) Widok ogólny kwartalu nowej zabudowy Politechniki Lwowskiej. 1965 – 1978. Źródło: Rysunek według foto RATAU, 1980

Historically, the function of science and higher education in Lviv was developed (Jesuit College - 1661, Greek Catholic Seminary - 1783, University - 1784, Academic Gymnasium - 1785, Polytechnic School - 1816, Veterinary Academy - 1881, High School of forestry - 1894). Therefore, according to the needs of the national economy, the development of existing and the creation of new educational and scientific complexes became logical during the 1960s-1980s.

The largest amount of construction was made in 1963 - 1974 by the Lviv Polytechnic Institute (now Lviv Polytechnic National University) in the quarter between Stepan Bandera and Metropolitan Andrey Streets, St. George Square and Karpinskyi Street (fig.22 b, fig.23). A large training complex was built there, which included a 4-storey building on St. George's Square (1963, architects M. Mykula, V. Sagaidakovskiy), a four-storey auditorium building at the corner of Bandera and Karpinskyi Streets with a hall for 1300 seats (1965, architects R. Lypka, A. Rudnytskyi, M. Mykula), building of the engineering and construction faculty at Karpinskyi St. (1972, architects I. Rusanova, I. Bukovynskiy), a general technical educational building with remote audiences on Metropolitan Andrey Street (1972, architect P. Mariev), 9-storey building of energy faculty on angular completion of Metropolitan Andrey and Bandera Streets (1972, architect M. Konsulova). The complex of educational buildings complements the new building of the scientific and technical library for 1, 2 million books at the Metropolitan Andrey St. (1971, architect P. Mariev) and the catering complex for students with a total capacity of 850 seats (4 large dining rooms for 780 seats, a cafe for 70 places and a summer cafe-terrace) on Karpinskyi Street (1974, architects I. Petryshyn, V. Kravtsov, R. Grom, Yu. Hilobok) (Cherkes, Linda, Bohdanova, 2016, p.61-75, 84-99, 118-123, 255-261).

It should be noted that in all buildings a design scheme of a prefabricated reinforced concrete frame with mounted wall facades from keramzit concrete panels manufactured at the housebuilding plant was used. Panels of facades of general technical and energy faculty buildings are covered with small mosaic tiles; the panels of the engineering faculty building received a geometric relief.

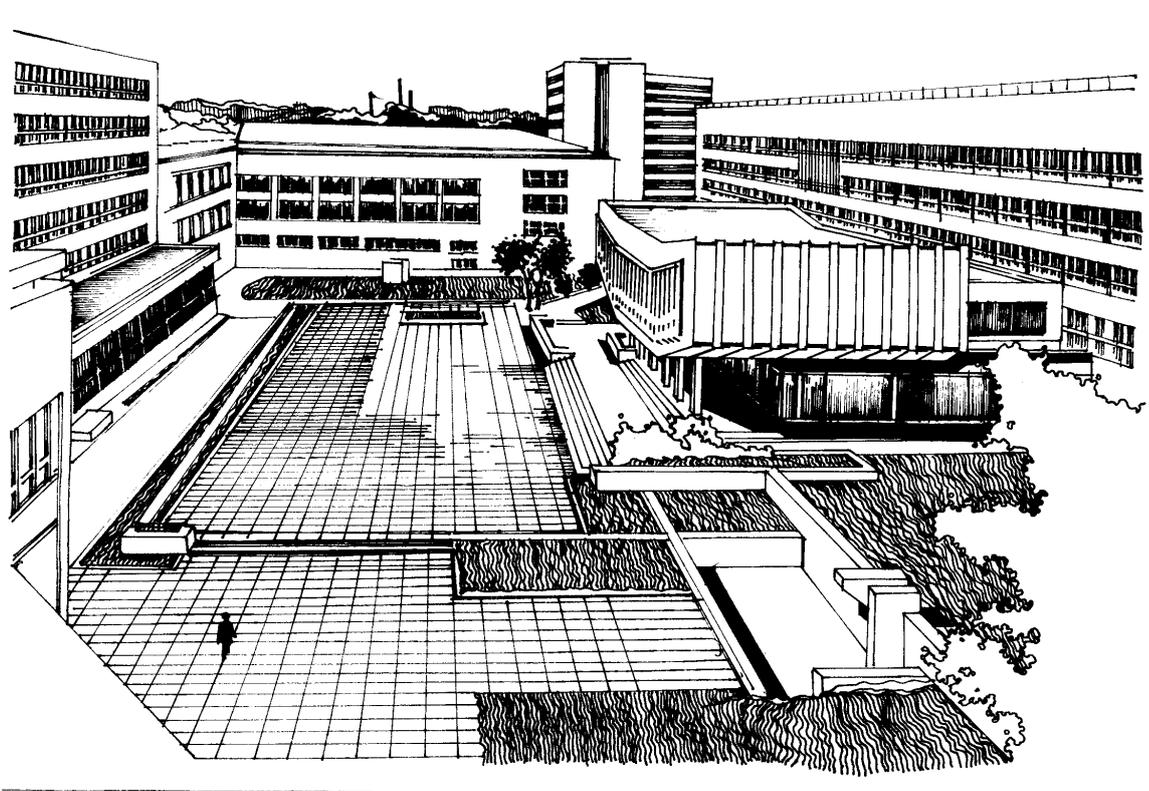


Fig.23. Internal space of the block of new buildings of Lviv Polytechnic. 1965 - 1978. Source: Drawing from the photo of RATAU, 1980.

Ryc. 23. Przestrzeń wewnątrz kwartału nowej zabudowy Politechniki Lwowskiej. Źródło: Rysunek według foto RATAU, 1980

New buildings were connected with the main building by the ramified system of underground passages. For the convenient ground pedestrian communication of new buildings with the main building part of Karpinskyi Street was turned into a pedestrian with an underground passage to serve the food plant. The buildings of the educational complex of the Lviv Polytechnic have formed a large quarter of the new public building in the central part of the city near the block of buildings of Polytechnics from 1877 to 1932 on Bandera, Profesorska and Ustijanovych Streets.

During the 1970s, new buildings were built in the vicinity of existing ones for the needs of other educational institutions of Lviv. The training building of the Faculty of Physics of the Ivan Franko National University (1979, architect M. Vendzylovych) was built on Drahomanov Street, and on Pekarska Street - next to the main building constructed in the 1950s, the new large building of the Academy of Veterinary Medicine was built (1980, architect O. Gukovych), its street facade adorns a large mosaic composition. The Lviv Academy of Arts, on which territory on Kubiyovych Street a new building was constructed (1973, architect M. Vendzylovych). New educational buildings are characterized by laconic architectural forms that are commensurate with the surroundings (Trehubova, Mykh, 1989, p. 240). The building of the new administrative-educational block claimed to be the spatial dominant, built in the campus of the Lviv Forestry Institute on Chuprynka St. in 1977 (architect V. Kuzubov). The main facade of a 10-storey building is solved in the form of stained glass with a clear separation of metallic vertical elements (Vuitsyk, Lypka, 1987, p. 154) (fig.24 a,b, fig.25 a,b).



Fig.24 a) Academic Building of the Academy of Arts. 1973. Source: Photo by I. Cherniak, 2019. b) Educational building of Lviv Forestry University. 1977. Source: Photo by I. Cherniak, 2019.

Ryc. 24. . a) Budynek Akademii Sztuk Pięknych. 1973. Źródło: Foto I. Czerniak, 2019.; b) Budynek Główny Uniwersytetu Leśnictwa. 1977. Źródło: Foto I. Czerniak, 2019.

Among the constructed cultural institutions, one can distinguish the famous Lviv circus on Gorodotska Street (1968, architects A. Bakhmatov, M. Kanevskyi) near the hill of St. George's Cathedral, its silhouette is competing with the silhouette of the monument of Baroque architecture of the XVIII st. In 1979, in the park of culture and rest named after Bogdan Khmelnytskyi, the dance hall "Romantic" (architects M. Trach, V. Blyusyuk) was built, its contrasting architectural forms stand out against the background of the green slope (Biryulyov, 2008, p.629). The new cinema for 800 people was built in the Southern region on Lyubinska Street (typical design project, architect L.Nivina). The cultural complex of the dual cinema, a small exhibition space, and a cafeteria was built in 1987 in the public center of Sykhiv residential area (architects V. Kamenschyk, O. Bazyuk) (Trehubova, Mykh, 1989, p.250).

On the outskirts of Pohlyanka Park in the eastern part of Lviv in 1984, a Palace of Schoolchildren (architects A. Vaschak, M. Smetana, Z. Pidlisnyi) was built. The structure of two-three floors height consists of three interconnected parts: spectacular, for engagement circles and sports one. The spectacular part is the main and consists of a theatrical hall for 500 seats, a cinema hall for 130 seats and a theater of dolls for 140 seats. A small pond is located near the complex, where children learn to swim in canoes.



Fig.25 a) Development of the Academy of Veterinary Medicine. 1980. Source: Photo by B. Posatskyi, 1985.; b) Cinema named after Dovzhenko in Sykhiv residential area. Source: Photo by B. Posatskyi, 1990.

Ryc. 25. a) Rozbudowa Akademii medycyny weterynaryjnej. 1980. Źródło: Foto B. Posatskyi, 1985., b) Kino imienia Dowżenka w dzielnicy mieszkaniowej Sychiw. Źródło: Foto B. Posatskyi, 1990.

Among the sports facilities built in the 1960s - 1970s, it is necessary to note Druzhba Stadium (now stadium is called "Ukraine"), located in the newly created park on the site of the former clay quarries of brick factories. Artificially created bulk ground bowl of the stadium with a football field and with a built-in housing service for athletes (architects Y. Nazarkevych, Y. Porokhnovets, L. Skoryk, V. Blyusyuk) was designed for 45 thousand spectators on the stands. By that time it was the largest stadium in Lviv (fig.26 a).

At the breakthrough of 1970-1980 on Kleparivska Street, a large complex of sports facilities of the Sports Club of the Soviet Army was built. Now it belongs to the Armed Forces of Ukraine. The complex consists of a football stadium with tribune for 15 thousand spectators, open and closed swimming pools, shooting rooms, all-round, horse riding and cycling track (fig.26 b).

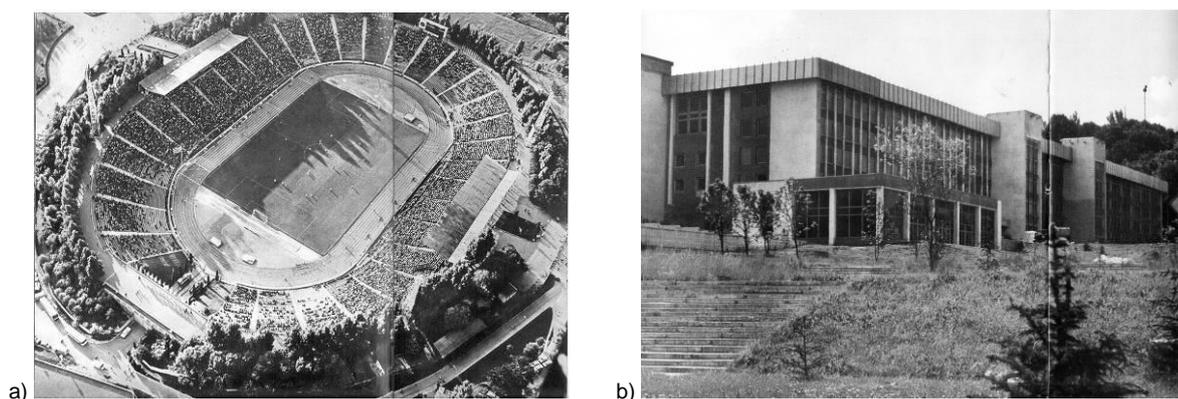


Fig.26 a) Stadium "Ukraine". Source: Internet; b) Sports hall in the sports complex of the Armed Forces of Ukraine (formerly - the Soviet Army). Source: Lviv is being built, young. - Lviv: Kamenyar, 1982.

Ryc. 26. a) Stadion „Ukraina”. Źródło: Internet b) Hala sportowa w kompleksie sportowym Sił Zbrojnych Ukrainy (dawniej – Armii sowieckiej). Źródło: Lvov stroitsia, molodiyet.. - Lvov: Kamenyar, 1982.

For the students of the Ivan Franko University on Cheremshyna Street, a training field, a gym for sports games, and a closed swimming 25-meter swimming pool were built (Biryulyov, 2008, p.63, 632). In 1986, on Melnyk Street, covered tennis courts with tribune for 350 seats (architect M. Trach) were constructed. The relatively small building has an original architectural and design solution due to the use of large-scale metal arches, the shape of which forms the main facade view from the street (fig.27 a).



Fig.27 a) Hall for tennis courts. 1986. Source: Drawing from the photo of B. Posatskyi, 1985.; b) Sports hall of Lviv Polytechnic (former building of Ratslavitska panorama). Source: Photo by B. Posatskyi, 2010.

Ryc. 27. a) Hala kortów tenisowych. 1986. Źródło: Rysunek według foto B. Posatskyi 1990. b) Hala sportowa Politechniki Lwowskiej (dawniej budynek Panoramy Raclawickiej). Źródło: Foto B. Posatskyi, 2010.

For sports for students of Lviv Polytechnic, two buildings were reconstructed on the upper part of the Stryiskiyi Park in Lviv on the territory of the former Regional Exhibition in 1894. The Former Palace of Arts was constructed as one of the main pavilions of the exhibition (architects F. Skovron, G. Peszhanskyi, M. Luzhetskyi). In 1950, the building was transferred to Lviv Polytechnic Institute. At the same time, work was begun on adapting the interior space to the needs of the sports building (architect, professor of Lviv Polytechnic Institute - I. Bagenskyi) with gyms for sports games and swimming pool.

The second reconstructed object was destroyed during the time of the Second World War. Previously it was rotunda, built in 1894 (architect L. Baldwin-Ramult) for exposing the panoramic image of the battle of Ratslovitsy. In 1794, during the battle the Polish rebels, led by Tadeusz Kostyushko, won the Russian army.

In the 1960s, the building was transferred to the Lviv Polytechnic and in 1972, after the reconstruction (architect P. Mariev), it became a 4-storey sports facility with five sports halls. The main sports hall with an arena measuring 32 x 20 m, stands for 200 spectators, a cabin of judges and a radio station was designed on the fourth floor (fig.27 b). The enclosing structures of the building are stained glass, made in glass and metal (Cherkes, Linda, Bohdanova, 2016, p. 210-217).

One of the important transport constructions of Lviv was the bus station built in 1980 on Stryiska St. (architects V. Sagaidakovskiyi, M. Stolyarov). According to the general plan of the city, it was located on the southern outskirts near the detour road and was expected to serve the southern direction of suburban bus connections (Transcarpathia, Hungary, Slovakia). The plan of the building is a shamrock that forms three functional zones: the area from Stryiska Street, the zone of departures, and the bus arrival area. Using the elevation difference in the ground floor bus poles, storeroom storages and auxiliary services are situated (fig.28 a). On the first floor, there is a cash desk, connected with open terraces, on the second floor there are hotel, waiting room, cafe (Trehubova, Mykh, 1989, p. 254).

In the early 1980s, several large commercial objects were built in the new districts of Lviv, in particular, in the South. First of all, it should be said about the large department store "Lviv", which became the main object and spatial accent in the public center on Knyahynya Olga Street (1985, project "LenProtorg", Leningrad). The pyramid-shaped structure of its silhouette is somewhat reminiscent of historical fortifications, its inner planar construction is organized around the main staircase with the upper light. Stair cell combines floor-tiers with a height difference of 1.2 m, on each of the tiers there are trading rooms (boxes). With mobile partitions, you can change the configuration of retail space in each tier according to the needs of customer service (fig.28 b).

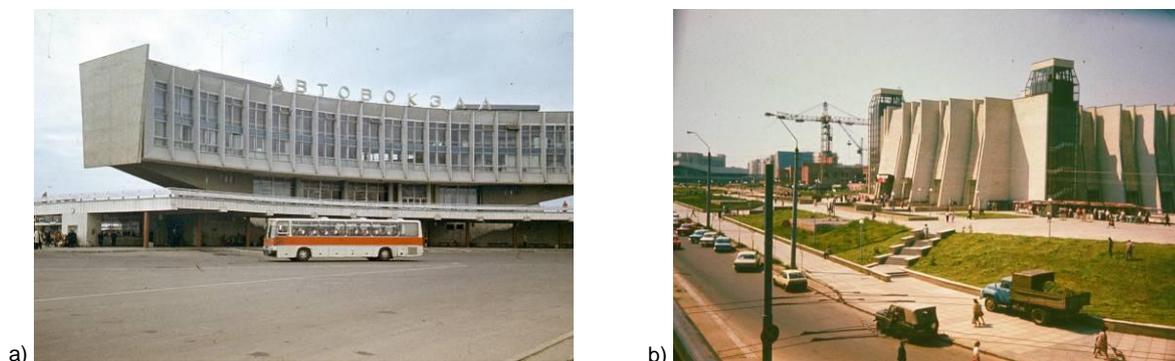


Fig.28 a) Bus station on Stryjska Street. Source: Photo by B. Posatskyi, 1985. b) Department store "Lviv". Source: Photo by B. Posatskyi, 1995.

Ryc. 28. a) Dworzec autobusowy na ulicy Stryjskiej. 1980. Źródło: Foto B. Posatskyi. 1985. b) Dom towarowy "Lwiv". 1985. Źródło: Foto B. Posatskyi. 1995

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A building of a furniture store on Lyubinska Street is also the spatial accent (1985, architects S. Zemyankin, M. Stolyarov). The basis of the complex construction plan is a two-story demonstration hall with overhead illumination, which is adjacent to the three-story building of auxiliary premises. The composition of the facade includes vertical elements that spatially accentuate the intersection of Lyubinska and Yavornytskyi Streets (fig.29 a).

An interesting architectural and artistic solution attracts the attention of the fish shop "Ocean" on Volodymyr Velykyi Street (1982, architect V. Kamenschyk, Y. Mastylo). The main facade of a one-storey building is decorated with a large mosaic panel executed in deep relief technique (painter V. Patyk). The panel in allegorical form recreates the marine element and is marked by a bold combination of shapes and colors (Biryulyov, 2008, p.631) (fig.29 b).



Fig.29 a) Building of furniture on Lyubinska St. Source: Photo by B. Posatskyi, 1987.; b) Shop of marine products "Ocean" on Volodymyr Velykyi Street. Source: Photo by B. Posatskyi, 1987.

Ryc. 29. a) Dom towarowy Meble na ulicy Lubinskiej. 1985. Źródło: Foto B. Posatskyi, 1987. b) Supermarket produktów morskich „Ocean” na ulicy Wołodymyra Welykoho. 1982. Źródło: Foto B. Posatskyi, 1987

5. URBAN RECONSTRUCTION

The problem of reconstruction in the central part of Lviv became especially relevant in the second half of the twentieth century. The rapid growth of the city during the 1950s and 1980s led to the reconstruction of Lviv's historic core, the spatial environment of which was formed in the XIV-XIX centuries. The historical center of Lviv is marked by a very dense urban block building and there are few vacant lots on its territory. In particular, the square at the intersection of Pidvalna and Ruska Streets, where a monument to the first printout Ivan Fedorov in 1977 in commemoration of the 400th anniversary of printing in Ukraine was erected, belongs to them. At the same time, the territory of the square received a new type of planning with two pedestrian terraces and fragments of internal and external defensive walls of the XV-XVIII centuries that were opened for exposition (fig.30 a). The convenient location of the monument near the tram and bus stops caused the emergence of a popular book market here, where there are always many visitors, like real book lovers and ordinary passers-by or tourists, who were randomly interested in some kind of publications.

At the same time, an underground passage on the Mytna Square was built, which connected Soborna Square with Lychakivska Street through the territory of the Bernardine Monastery. Here the defense wall has been restored and an open passage through Glynyanska defensive tower with a gate has been restored; pedestrian terraces were arranged, connected by staircases (fig.30 b). Also, the building of the city arsenal was restored with its adaptation for the museum of antique weapons; during the works partially reproduced Shevska defensive tower (Trehubova, Mykh, 1989,

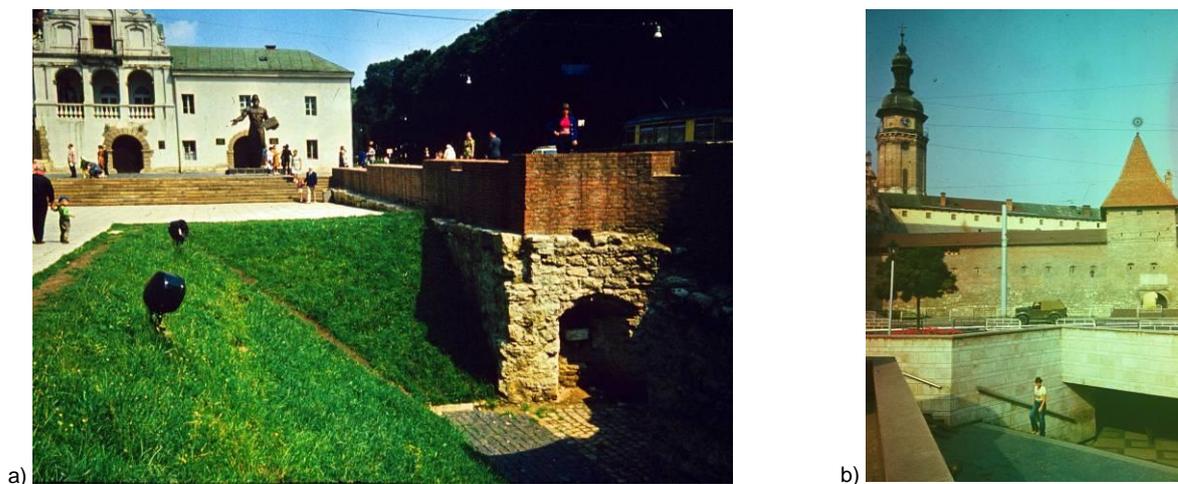


Fig.30. a) Monument to first printout Ivan Fedorov on the square in front of the Royal Arsenal, 1978.. Source: Photo by B. Posatskyi, 1982.; b) Underground transition on Mytna Square, 1978. Source: Photo by B. Posatskyi, 1982.

Ryc. 30. a) Pomnik pierszodruearza Iwana Fedoriwa na rekonstruowanym placu przed Arsenalem królewskim. 1978. Źródło: Foto B. Posatskyi, 1982.] b) Przejście podziemne pod placem Mytnym. 1978. Źródło: Foto B. Posatskyi, 1982.

In the early 1980s, several projects were developed to separate the pedestrian and traffic movement in the central part of Lviv using underground space. These included the project of reconstruction of the crossroads of Gorodotska and Chernivetska Streets, a complex transport hub near the main railway station. According to the project (in 1983, architects M. Obidnyak, I. Hnes), the traffic movement was proposed to be organized at the ground level on the principle of circular traffic area. The space was crossed by tram tracks and in the middle of the square. There was a tram stop connected by a staircase with an underground pedestrian level. In the underground level, there were trade and service facilities. The existing quarterly construction of the square (residential 2 - 3 storey houses of the 19th-20th-century fracture) was supplemented by the 6-office building of the Lviv railway, which was assigned the role of spatial dominant. However, the project was not implemented (fig.31 a).

Studies conducted at the Department of Urban Planning of Lviv Polytechnic National University (at the request of the State Reserve) showed that streets and squares in the historic core of Lviv are overloaded with traffic and pedestrian traffic, their space is used irrationally, traffic safety conditions are violated due to constant contact and intersection of streams of transport and pedestrians.

The historic city center was seen as a large pedestrianized space with the necessary transport services. Such an approach allowed the city planners to increase the functional capacity of the historical city center and organize a full-fledged public space. A general scheme of pedestrian connections was drawn up taking into account the effective use of the old street network and internal quarter spaces.

Two directions of reconstructive measures were outlined: 1 - the transformation of some old streets in the pedestrian with the necessary ordering of objects of trade and cultural and domestic services; 2 - adaptation of interior spaces of districts for transit pedestrian traffic with appropriate improvement.

An example of the first is the proposal for the reconstruction of Halytska Street. A comprehensive reconstruction of the street and its transformation into a main fully pedestrian shopping street were planned. The project included measures to replace the paving, reconstruction of the building, the detection and reproduction of fragments of defensive structures.

The second direction is reflected in the reconstruction project of the block between Doroshenko and Sichovi Striltsi Streets (former passage of Hausman). To unload the sidewalks of transport streets from the pedestrian traffic, it is proposed to form a system of internal quarterly pedestrian passages with a reconstruction of the building to accommodate service facilities (Posatskyi, Bevz, 1983, p.1-4). Here one can notice that the before mentioned project concepts were implemented at the beginning of the XXI century in the process of intensifying the use of Lviv's historical center territory due to the development of tourism services.

Between 1956 and 1990, the building of the 19th-20th-century fractures continued to be completed by new buildings, mostly for office or service purposes. The question of the compositional combination of the "new" with the "old" was important in that time and architects had to constantly solve this problem.

One of the first new buildings located in the formed spatial environment in the central part of Lviv became a 9-storey typical residential building among low-rise buildings of the early twentieth century in the upper part of Lychakivska Street, built in 1963. Its massive volume contrasts sharply with surrounding buildings and is a random dominant in the building of the street (fig.31 b). Another similar house was built at the same time on Krupyarska Street in the same area.

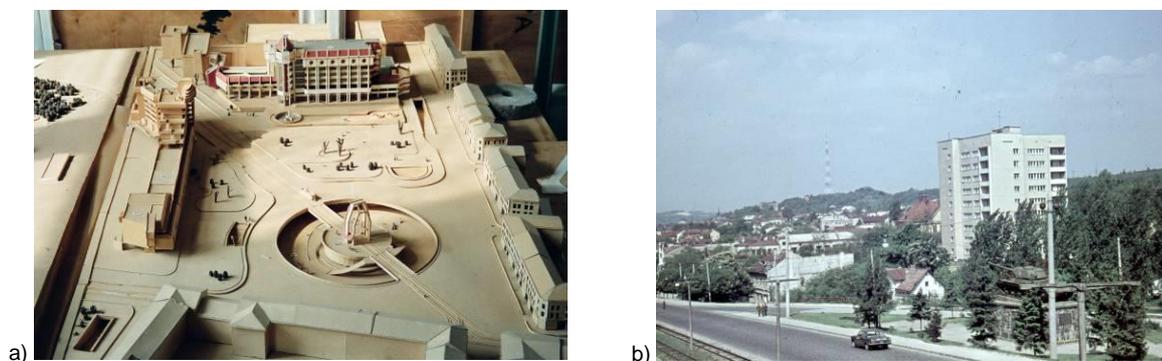


Fig.31 a) Project of the crossroads of Gorodotska and Chernivetska Streets reconstruction. Model. 1983. Source: Photo by B. Posatskyi, 1995.; b) A typical 9-storey residential building in the panorama of Lychakivska Street. Source: Photo by B. Posatskyi, 1964.

Ryc. 31. a) Projekt rekonstrukcji skrzyżowania ulic Horodockoji i Czerniweckoji. Makieta. 1983. Źródło: Foto B. Posatskyi, 1995. b) Typowy 9-kondygnacyjny budynek mieszkalny w panoramie ulicy Łyczakiwskoj. 1964. Źródło: Foto B. Posatskyi, 1964.

In 1964, the street facade of a relatively small house of a design organization on Lychakivska Street was designed in simple geometric forms with horizontal stripes of large windows (architect A. Bakhmatov). The volume of the house is located intended from the old line of building of neighboring houses, which made it possible to create a small flowerbed in front of the main facade (fig.32 a).

Similarly, at the same time, an office building on Vitovskiy Street deviated from the old building line. In both cases, the height of new houses is matched to and does not exceed the neighboring houses. The planes of the new facades are characterized by simple geometric shapes, stand out among the surrounding buildings with large windows of horizontal proportions and the lack of decorative elements.

Building of the hairdresser and beauty salon "Charodiyka" with contrasting architectural forms stand out at the building front of Ivan Franko Street, built in the mid-1970s. The height of the insert is slightly higher than the surrounding houses, but the attic floor is designed without windows and visually separated from the lower floors by the horizontal draft of the decorative balcony, the active facade plaster of the new insert is achieved by using vertical sunshine ribs with a height of three floors, which are the accents of the facade. To the positive features of the composition of the volume of the new building should include the retreat of the facade in depth from the existing line of development, which allows you to visually reduce the height of the building (fig.32 b).



Fig.32. a) House of the project organization on Lychakivska Street. 1964. Source: Photo by B. Posatskyi, 1980.; b) Cosmetic salon on Ivan Franko Street. Source: Drawing from the photo of B. Posatskyi, 1980.

Ryc. 32. a) Budynek biura projektowego na ulicy Łyczakivskij. 1964. Źródło:Foto B. Posatskyi, 1980. b) Salon kosmetyczny na ulicy Iwana Franka. Źródło:Rysunek według foto B. Posatskyi, 1980 .

In the late 1970s it was mentioned in the Soviet architecture about *the raising of the artistic qualities of residential, public and industrial buildings - all this is connected with the work of architects* (Bylinkin, p.35). Accordingly, architects began to pay more attention to the current context when designing building-inserts. The situation changed in the early 1980s under the influence of the critique of functionalism and the transition to postmodernist conceptions of the creation of architectural and urban-type forms. A wide variety of stylized architectural forms became more popular, which were called for "decorating" and "regionalizing" the image of the building.

An example is the car salon on Tchaikovsky Street, built in 1986 (architect M. Trach). The volume of the new building is proportional to the environment, the house somewhat deviated from the existing line of construction, which is logical for a narrow street. The three-dimensional interpretation of

architectural forms of the facade placed as if it was in three planes deserves attention. Although the building of the car salon and its environment are divided by centuries, one can speak about the harmonious complement and development of the existing composition of the formed environment (fig.33 a).

A slightly different picture is observed in the area of Ivan Franko Street, where the building of a design organization was built (1983, architects V. Sutz, A., Symbirtseva). The building of the street was formed at the beginning of the 20th century from residential buildings with a height of 3-4 floors with fairly rich decoration in forms of historicism. The new insertion with the length of the front of the street far exceeds the adjacent houses, although it is dimensional with them in height (fig.33 b). The insert facade is divided into three parts: the middle one - the 7-storey and the most extended and deepened, and the two lateral - 6-storey risalites support the existing line of development. Thus, the new building became dominant in the fragment of Ivan Franko Street (Posatskyi, Buksa, 1988, p.12).

A similar characteristic deserves the house of the project organization "Mistoproekt" on General Chuprynka Street, built in 1988 (architects Z. Pidlisnyi, V. Kamenschyk, M. Stolyarov). Its facade is highlighted by vertical pylons and a horizontal completion in the form of tiled roof, as signs of regional architecture (fig.34 a)

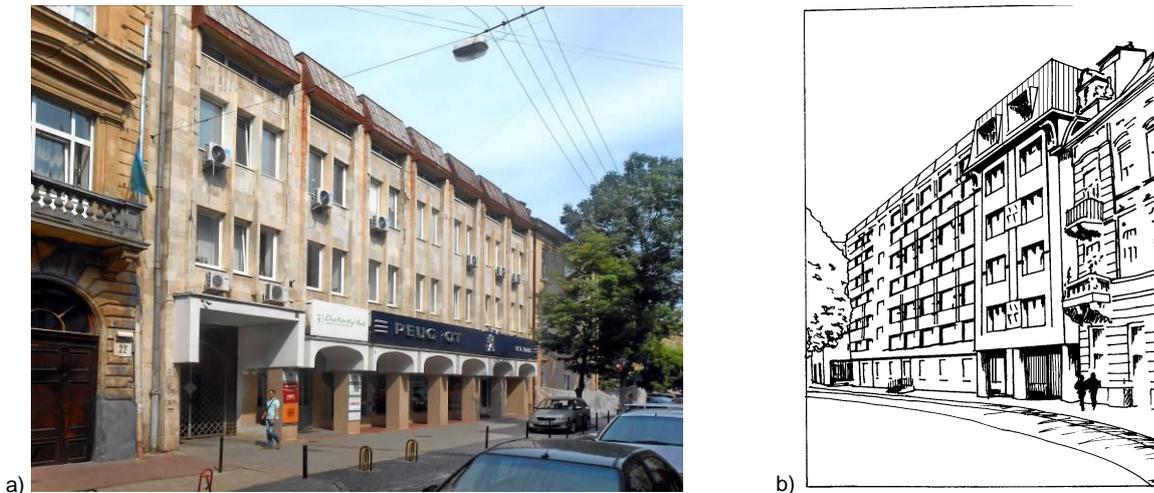


Fig.33. a) Salon of cars Peugeot on Tchaikovsky Street. Source: Photo by I. Cherniak, 2019. b) House of a design organization on Ivan Franko Street. 1983. Source: Drawing from the photo of B. Posatskyi. 1997.

Ryc. 33. a) Salon firmy Peugeot na ulicy Czajkowskiego. 1986. Źródło: Foto I. Czerniak, 2019; b) Budynek biura projektowego na ulicy Swana Franka. 1983. Źródło: Rysunek według foto B. Posatskyi, 1997

The successful architectural decisions of the house insertions in the central part of Lviv include the engineering building of the Lviv Railway Administration, annexed to the old building of the Lviv Railway Administration, built in 1978 at Lystopadovyi Chyn Street (architect R. Syvenkyi). The expressive, underscored by the vertical pillars of the facade, placed on the outside of the facade, facade division, on the one hand, distinguishes a new building among the building of the street, and on the other, rhythmically combine the division of the facades of neighboring houses (Biryulyov, 2008, p.636) (fig.34 b).

After the predominance of simple geometry in the form of the buildings' facades of the 1960-1970s, new house insertions of the 1980s in Lviv are more diverse and plastic in composition of the fa-

acades and volumes in general, which allows to greatly preserve the compositional unity of the architectural environment of the historically formed cities.

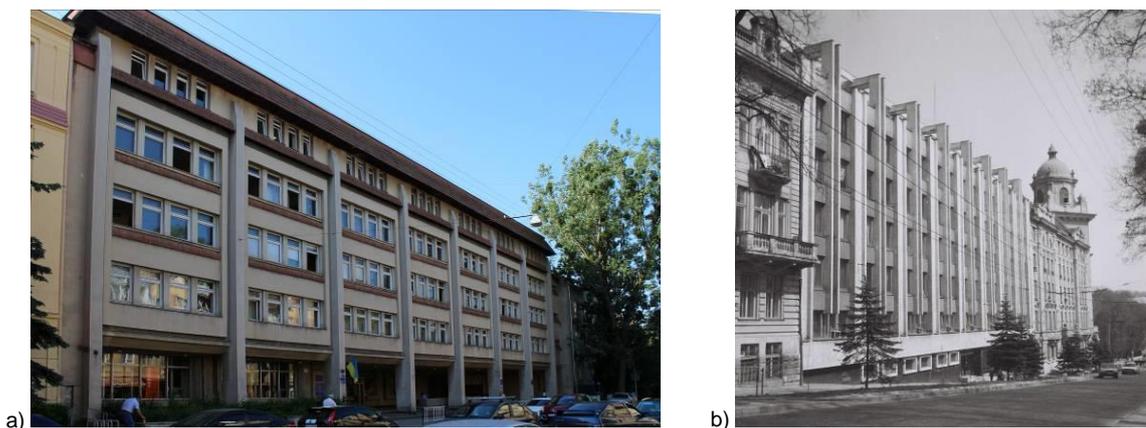


Fig. 34 a) Building of the project organization "Mistoproekt" on Chuprynka Street. 1988. Source: Photo by I. Cherniak, 2019.; b) The building of the Lviv Railway Administration at Lystopadovyi Chyn Street. 1978. Source: Photo by B. Posatskyi, 1997.

Ryc. 34. a) Budynek biura „Mistoprojekt” na ulicy Czuprynki. 1988. Źródło: Foto I. Czerniak, 2019. b) Budynek administracji Lwowskiej kolei na ulicy Łystopadowego Czynu. 1978. Źródło: Foto B. Posatskyi, 1997.

6. GREEN AREAS

Despite the high density of population and development in the space of Lviv significant place belongs to green areas. In 1990, green areas (parks, forest parks, squares, gardens) occupied 34 km², which was 22.4% of the city's total area. In Kyiv, green areas occupied than 69% of the city's territory, in Kharkiv - 48.2%, in Odesa - 23.7% (Kovtun, Stepanenko, 1990, p.144).

In the system of green areas of Lviv, the "green diameter", which stretches from west to east from the forests of Bryukhovychi urban village through the oldest territory of the city (today the "High Castle" park), and further through the hills of Roztochchya (forest park "Shevchenkivskiyi Gai") to the suburbs forest in Vynnyky, is important.

In the 1970s-1980s, a considerable amount of work was done on the improvement of the "High Castle" park's territory, accidentally grown trees and bushes were removed, a new cover of pedestrian paths was arranged. The lower and upper terraces of the park were connected by a metal staircase, a pedestrian serpentine with cobblestone paving is constructed to the viewing platform on the barrow of the park (the highest relief point in the territory of Lviv, 411 m above sea level). From the viewing platform opens a panoramic view of the city, there are always many tourists.

To the east of the park "High Castle" on Roztochchya hills (on the territory of the former Tsisarskyi Forest - Kaiserwald) in the 1950's the installation of the "Shevchenkivskiyi Gai" forest park with an area of 200 hectares with an open-air museum of folk Ukrainian architecture on the area of 60 hectares began (Posatskyi, Cherniak, 2018, p.173). The design concept of Shevchenkivskiyi Gai was executed in the form of a 3D model at the Department of Architectural Design in Lviv Polytechnic Institute in 1964 (supervisor: the assistant professor, Ph.D. A. Rudnytskyi), several years later the architect N. Dzyadyk completed the working project and in 1971 the Museum of Folk Architecture and Life (Skansen) received the first visitors (Kucheryavyi, 1972, p.50).

Lviv's Skansen is located on a diverse complex relief, cut by deep ravines, which allowed the planners to point out ethnographic zones and insert exhibits of wooden architecture into the landscape

(fig. 35 a,b). The museum was created according to the ethnographic principle and is divided into five zones: Boykivshchyna, Hutsulshchyna, Lemkivshchyna, Podillya, Polissya, Bukovyna, Volyn, Lviv region and the complex of old town architecture called "Old Town" (Danylyuk et al., 1980, p.10). It should be noted that now the territory of "Shevchenkivskiy Gai" is located in the northern sector of the central part of Lviv and is very popular among the city's residents and tourists.

On the eastern border of the central part of Lviv during 1959 -1963, between Zelena and Vasyl Stus Streets, the park "Ukraine" (then "Druzhba") was built on an area of 60 hectares. The territory of the park is divided into zones of regular (large area of lawns) and landscape style and planned with terraces, from which the views of the city center are revealed. The dendrological peculiarity of the park is the garden of continuous flowering on the area of 6 hectares, the stadium "Ukraine" was built on the territory of the park (Kotlobulatova, 2009, p.190). Today, the park belongs to popular holiday destinations for residents of the upper part of Zelena Street.

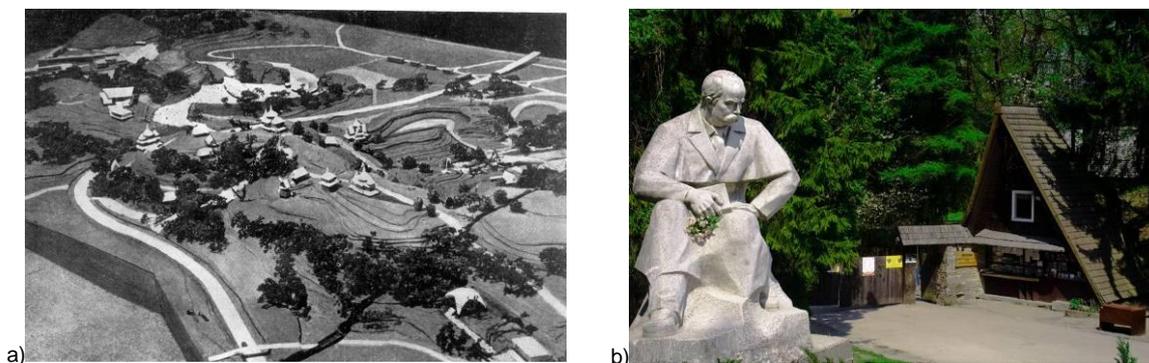


Fig.35 a) Project of the Skansen "Shevchenkivskiy Gai". 3D Model. 1968. Source: Construction and Architecture. 1969, No. 11.; b) Entrance to the skansen "Shevchenkivskiy Gai". 1985. Source: Internet.

Ryc. 35. a) Projekt skansenu „Szewczenkiwskij Haj”. Makieta. 1968. Źródło: Stroitelstvo i Architektura. 1969, No. 11. b) Wejście do skansenu "Szewczenkiwskij Haj". 1985. Źródło: Internet

7. CONCLUSION

In retrospect, it can be argued that most of the postulates of Lviv's general plan for 1966-1990 were implemented. Lviv became the largest city in the Western Ukrainian region with a population of 750 000 people and turned into a large industrial, educational, scientific, and cultural center.

The city's territory received zoning and was divided into production, residential, and landscape-recreational areas. Around the central historical part of the city, production areas consisting of industrial areas and units with engineering and electrical engineering enterprises grew up. The residential areas, consisting of micro districts of multi-storey buildings, were built nearby the production areas.

The postulate of the creation of the radial-ring system of the street network was implemented only partially, the new ring-streets were constructed mainly in the southern part of the city.

The historical center of Lviv has retained the role of the core of the city public center. Today the works on reconstruction and restoration of architectural monuments are held there. The formation of the polycentric system of the city center was started, and the southern administrative center was created.

New residential areas have new city parks and forest parks, including the Skansen "Shevchenkivskiy Gai" - a museum of wooden folk architecture of the Ukrainian Carpathian Region.

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