

Kelenföld Housing Estate, Budapest, 2015  
Sídliško Kelenföld, Budapešt, 2015



Photo Foto: Hanga Tóth

# THE LIFESPAN OF LARGE PREFABRICATED HOUSING ESTATES IN POST-COMMUNIST CITIES: AN INTERNATIONAL COMPARISON

## ŽIVOTNOSŤ VEĽKÝCH PREFABRIKOVANÝCH SÍDLISK POSTKOMUNISTICKÝCH MIEST: MEDZINÁRODNÉ POROVNANIE

Budúcnosť veľkých prefabrikovaných sídlisk je v postkomunistických krajinách jedným z kľúčových problémov udržateľného mestského rozvoja. Zatiaľ čo v západnej Európe sa nachádza len 1,8 milióna takýchto bytov, v krajinách ležiacich medzi bývalým východným Nemeckom a ruským ďalekým východom, je viac než 53 miliónov podobných panelových bytov, ktoré obýva približne stosedemdesiat miliónov ľudí. Ako globalizované produkty urbanizmu 20. storočia majú tieto sídliská výrazne odlišné životy v závislosti od ich situácie v rámci ekonomickej a humánnej geografie (v globálnych, národných, regionálnych a lokálnych mierkach) a dokonca aj z hľadiska ich zastavaného, ako aj prírodného prostredia.

Väčšina štúdií zaoberajúcich sa prefabrikovanými sídliskami sa zameriava na ekonomické a sociálne aspekty, preto je zámerom tohto príspevku nazerať na tento subjekt z hľadiska urbánneho priestoru; teda prostredníctvom analýzy mestského plánovania a navrhovaných riešení, pokúšajúc sa súčasne porozumieť a prehodnotiť túto modernú mestskú štruktúru. V postkomunistických krajinách nie je ani iné riešenie na výber, keďže budovy samotné stále pevne stoja a ešte na dlhý čas zostane tento typ bývania dominantným. Ich odhadované množstvo v rámci národného bytového fondu jednotlivých krajín sa pohybuje medzi 15 – 70 %, v závislosti od komunistickej bytovej politiky (napr. len 20 % v Maďarsku, ale viac ako 65 % v Litve). Podobne majú jednotlivé mestá rozličný pomer „panelákov“ aj podľa svojich minulých rozvojových politík (napr. 30 % v Budapešti, 40 % v Prahe, 50 % vo Vilniuse a vyše 80 % v niektorých priemyselných mestách) a každé panelové sídlisko má svoju vlastnú životnosť.

### INTRODUCTION

The future of large prefabricated housing estates is one of the key problems of sustainable urban development in post-Communist countries. In Western Europe, there are only 1.8 million such flats; in the countries, however, which lie between the former East Germany and the Russian Far East, there are more than 53 million panel flats, inhabited by approximately 170 million people <sup>1/1</sup>. As globalised products of 20th century urbanism,

Hoci sa veľké sídliská zdajú byť z vonkajšieho pohľadu identické, ich individuálne príbehy a budúcnosť sú čoraz odlišnejšie. Práve na ozrejenie týchto vzájomných rozdielov (na úrovniach EÚ, národnej, mestskej a realitnej) porovnáva príspevok tri konkrétne príklady. Porovnanie vybraných prípadových štúdií nám dáva príležitosť definovať spoločnú a súčasne odlišnú minulosť sídlisk, globálne (medzinárodné a sovietske) a lokálne (národné a mestské) faktory ich vývoja, ako aj ich život dnes, keď čelia špeciálnym výzvam.

Jednotlivé prípadové štúdie predstavujú tri paralelné možnosti ich životnosti v rôznych postkomunistických končinách Európskej únie: ako prvé sídlisko Žirmūnai v litovskom hlavnom meste Vilnius, ktoré bolo jedným z prvých veľkých prefabrikovaných sídlisk realizovaných v Zväze sovietskych socialistických republík (ZSSR) na konci šesťdesiatych rokov; druhým je sídlisko Havanna v maďarskom hlavnom meste Budapešť, ako výsledok masovej produkcie sedemdesiatych rokov; a tretie je jedno z posledných sídlisk postavených pred zmenou politického a ekonomického režimu v Nemeckej demokratickej republike, Neu Ovenstedt v Magdeburgu. Používajúc dĺžku ľudského života ako analógiu pre urbánne procesy, poukazujú tieto paralelné histórie z krajín strednej a východnej Európy na rozdiely skrývajúce sa za stereotypnou podobnosťou prefabrikovaného masového bývania. Zdôrazňujú tiež dôležitosť lokálne zmysľajúcich intervencií a usilujú sa doplniť medzinárodnú diskusiu o modernom urbánnom dedičstve, ktoré v súčasnosti čelí problému udržateľného rozvoja.

these housing estates have widely different lives thanks to their position in economic and human geographies (on the global, national, regional and local scales), and even due to their built-up and natural environments. The majority of studies on large prefabricated housing estates focus on their economic and social aspects <sup>1/2/</sup>; this paper, therefore, intends to approach the subject from the vantage point of the built-up environment, analysing the urban planning and design solutions while

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also attempting to understand and re-evaluate this modern urban fabric. In post-Communist countries there is often no other housing choice, since the buildings themselves stand up well; this type of housing remains predominant for a long time. The estimated proportion of prefabricated housing to the national housing stock varies between 15 and 70 % in view of the various Communist housing policies (for example, only 20 % of overall housing stock in Hungary, but more than 65 % in Lithuania). Also, cities have a different “panel” ratio according to their previous development policies (for example, 30 % in Budapest, 40 % in Prague, 50 % in Vilnius, and over 80 % in some industrial cities). Although large housing estates appear to be identical from an exterior point of view, their individual stories and futures are ever more divergent.

This paper compares three concrete examples – at the EU, national, city, and estate levels – in order to make the differences plain. The comparison of case studies allows us the opportunity to define the common and various pasts of these locales, their global (international and Soviet) and local (national and city) factors of development, as well as their existence today, confronted with special challenges. The case studies represent three parallel post-Communist lifespans from three different corners of the European Union: firstly, the Žirmūnai Housing Estate in the Lithuanian capital Vilnius, which was one of the first large prefabricated estates to be built in the Union of Soviet Socialist Republics (USSR) at the end of the 1960s; secondly, the Havanna Housing Estate in the Hungarian capital Budapest, a result of the mass-production of the 1970s; and thirdly, one of the last housing estates to be constructed before the political and economic changes in the Democratic German Republic, Neu Ovenstedt in the city of Magdeburg.

Beyond the stereotypic dissimilarities that exist between Western and Eastern European mass housing, our research is concerned with the actual situation within these post-Communist estates. Is it possible to define urban and architectural components in order to re-evaluate them while acknowledging the necessity of integrated regeneration that focuses on economic and social aspects?

The study is based on the relevant international literature, corresponding data generated by inter-

national projects <sup>13/</sup>, site visits in 2013/14, historic and contemporary project analysis, and interviews made with actors in the renewal process <sup>14/</sup>.

#### CHILDHOOD: ATTACHMENT

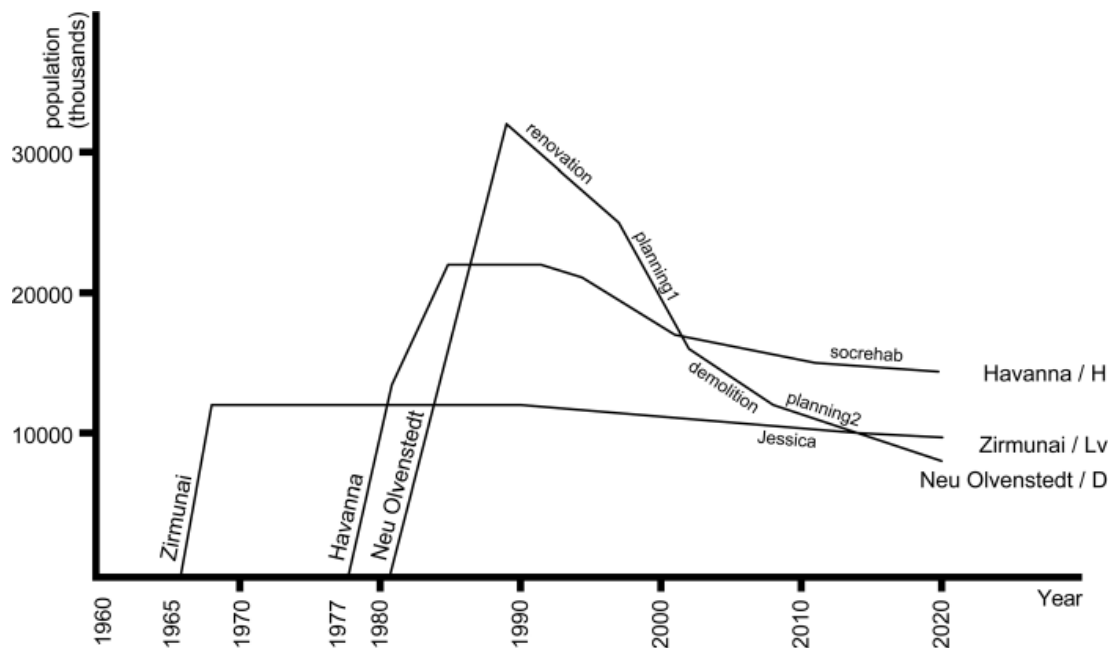
The standardisation and industrialisation of apartment buildings and the construction of large housing estates or new towns were global phenomena that seemed an efficient solution to the post-war housing shortage <sup>15/</sup>. Not only the politicians, but also the majority of engineers and urban planners were enthusiastic about utilising and developing modern international architectural and urban theory. The first technical experiments on concrete large-panel housing construction had already been proven successful in the 1920s, but it was only after the Second World War that this technology provided a real opportunity for mass housing. At that time, several large-panel systems were developed simultaneously in both Western (mainly in French, British and Scandinavian) and Soviet industry. Nikita Khrushchev began a large-scale housing program for Moscow in 1950; the Institute of Construction Engineering of the Academy of Architecture in the Soviet Union realised the first four-story frameless large-panel apartment buildings in Magnitogorsk by 1952. In the USSR, only 2 % of the housing construction was comprised of panel buildings in 1960, but ten years later, this ratio reached more than 40 %.

In addition to the developing housing industry based upon this technical innovation, the combination of modern architecture and urbanism provided a stable theoretical background for the construction of housing estates. The CIAM, or International Congresses of Modern Architecture, which operated between 1928 and 1959, defined architecture as a social art, held discussions on the fundamentals of the modern functional city, and documented their ideas in the La Sarraz Declaration (1928) and in the Athens Charter (1933). Team 10, a group of architects that both developed and simultaneously criticised the work of the CIAM during the large-scale housing period between 1953 and 1981, stood at the vanguard of professional theory. Europe, was though, by that time, divided; certain architects from the Eastern Bloc could nonetheless remain active members in international projects. For example, the Hungarian

architect and professor Charles Polónyi <sup>16/</sup> was one of the ten professionals in Team 10. Moreover, delegations from Communist countries participated in international conferences organised by the International Union of Architects (UIA), and libraries within Central and Eastern European universities acquired all the important journals (*Architecture d'Aujourd'hui*, *Urbanisme*, *Carré Bleu*, *Domus*, *Architectural Design*, etc.). Apart from this, dissident professionals strove to maintain their network of contacts in-country: planners and architects from Central and Eastern Europe obtained internships and grants – in other words, possibilities to work and travel in Western Europe <sup>17/</sup>. Despite, after WWII, a politically and economically divided Europe, professional reflection on modern housing design and planning solutions remained fully international <sup>18/</sup>.

After WWII, every country developed a large-scale housing construction program. In Communist countries, where everything was nationalised, new national planning, design, investment and construction entities were es-

tablished. Developments followed the common Soviet system of five-year-plan project periods. For example, in Hungary, the beginning of the realisation of large prefabricated housing estates is related to the second five-year-plan development project (1961 – 1965), the fifteen-year housing policy (1961 – 1975) and the new master plan of Budapest (completed in 1960). Everything was coordinated at the national level. Optimal density was defined between 300 – 500 residents per hectare to make urban infrastructure construction and maintenance costs efficient. Cities were planned and divided into modern functional zones. After the decision to adopt the methodology of the Soviet housing factories (the first began to produce in Budapest in 1965), planning and design were directed by norms, panel-house technology and national economic requirements <sup>19/</sup>. The results were homogeneous – in general, between 4- and 10-storey buildings with linear slabs or vertical towers containing small flats (the average size was approximately 48 m<sup>2</sup>), organised around by the 3.20 m panel structure. The



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Timeline and demographic change  
Author's diagram based on local statistical data.

Časová os a demografické zmeny  
Autorkin diagram vychádzajúci z lokálnych štatistických dát.



Žirmūnai in Vilnius, 1970  
 Žirmūnai vo Vilniuse, 1970

Source Zdroj: Retrieved January 11, 2015, from <http://www.miestai.net/forumas/showthread.php?t=816&page=6>



Havanna in Budapest, 1978  
 Havanna v Budapešti, 1978

Source Zdroj: Tomory Lajos Pedagógiai és Helytörténeti Gyűjtemény



Neu Olvenstedt  
 in Magdeburg, 1985  
 Neu Olvenstedt  
 v Magdeburgu, 1985

Source Zdroj: Retrieved January 11, 2015, from <http://www.buergerinitiative-olvenstedt.de/wp-content/uploads/2014/02/img473.jpg>

period's best planners and architects participated in the process, and the majority believed in this international modernity. They were satisfied with the result, creating modern homes for the human beings of the future.

Besides the Zeitgeist, it is important to recognise the differences that characterise the large prefabricated housing estates within post-Communist countries. Just like the city as organism, housing estates share similar backgrounds, but their lives are varied. To reiterate, this paper is based on three examples: Vilnius, as part of former USSR with its first estate from the 1960s; Budapest, as the capital of "Goulash Communism" with one problematic mass product of 1970s; and Magdeburg, on the Western border of the former Communist bloc with one of the last prefabricated housing estates from the 1980s. And every child is beautiful...

At the beginning of the panel story in the Communist Bloc, planners and architects were awarded both political and professional prizes. The architects of the Žirmūnai micro-district in Vilnius, the capital of Lithuanian Soviet Socialist Republic between 1945 and 1990, were the first winners of the USSR State Prize for the design of a large-scale housing estate in 1968. The aim of Communism was to create a homogeneous society: compulsory education and work with similar incomes, living conditions and lifestyles for everybody <sup>10</sup>. At the same time, the Žirmūnai Triangle seems heterogeneous, its specialty being that new prefabricated buildings were integrated into the former Paneriškės settlement (Figure A, on the page 189). In that area, as a result of initial and perhaps cautious intervention, the planners did not demolish everything. Several detached houses with small, fenced-in private gardens survived the new construction. There was no unconditional replacement, no strict geometry and no hierarchy. Thus, modern urban composition co-exists with older built-in and natural elements. The urban fabric seems haphazard, since old wooden family houses live side-by-side with the 47 prefabricated panel slabs (between 4- and 9-storeys high) and 12 twelve-storey housing towers. This estate is characterised by state-owned rental buildings, public institutions and well-maintained open spaces with Soviet standard micro-architecture. In addition, non-figurative artistic details are used

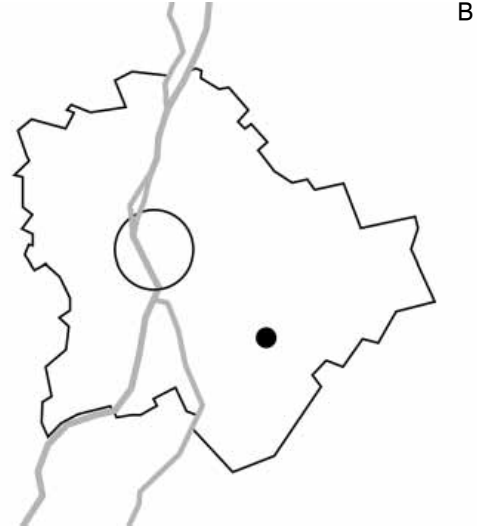
to decorate the concrete surface of doorways and staircases. This new city for approx. 15,000 residents is located well in relation to the city, situated near the Neris riverbank and about one kilometre from the historic centre, which became a Unesco World Heritage Site in 1994 (Figure A on the page 186). In the Žirmūnai Triangle, the built-up area comprises only 25 % of the whole. At the time of its construction it was a car-free, safe neighbourhood where new residential buildings were organised around an institutional core (health centre, nurseries, primary and secondary schools), elementary alimentation being served by small shops and a marketplace. Many residents worked on-site in the industrial area that operated in the western portion of the micro-district (Figure A on the page 190). Thus, a new lifestyle was made accessible for the typical young Communist family. Two parents and two children lived, on average, in a two-room panel flat organised in a space of 56 m<sup>2</sup>. In addition to this social stereotype in the USSR and also in Vilnius, it is important to note the new estates were multi-ethnic, as well as the cities and countries where they were located. Today, 60 % of the residents of the Žirmūnai Triangle are Lithuanian; the others are Russian, Polish and other ethnicities arriving from various parts of the former Soviet Union.

After the initial trials, a period of mass production was inaugurated in every Communist country. Our Hungarian case, for example, the Havana Housing Estate in Budapest, was just one of many other similar large-scale housing developments built in the 1970s. The name “Havana” seems curious, but it reflects the global nature of the former Communist community. The World Federation of Democratic Youth, a festival of the left-wing youth organisation of the same name, was held in the Cuban capital Havana in 1978, so the new large prefabricated housing estate development on the outskirts of Budapest was named after this event. Easily identifiable, Havana became a stigmatised concept among Hungarian Communist estates. At the time, more than 85 % of housing developments in Budapest were realised using prefabricated technology. Four housing factories operated in the city: three employed Soviet and Hungarian technology (beginning operation respectively in 1965, 1969 and 1974); and one employed the Danish

Larsen-Nielsen adaptation (it was established in 1968). The mass production of panel buildings reached its apex in 1979 <sup>/11/</sup>; Havana, though, was only one of the fruits of this process. The new urban fabric replaced a former state colony. It is interesting to note that, in an interview Csaba Virág <sup>/12/</sup> the urban designer of this estate, claimed he was too young and timid to preserve several former small detached houses (as happened in Vilnius). Designers could use only the panel elements that were available in the warehouses of factories supplying housing materials, and only a maximum of 10 % could be coloured. For these reasons, the entire estate is formed from three different 10-storey high prefabricated building types, home for approx. 17,000 residents. Similar buildings, similar flats – the majority had two rooms about approximately 54 m<sup>2</sup> in size, so there was no real variety in living opportunities. The 36 blocks of flats are organised in a linear manner. The geometrical reference of composition – the main axis – is one of the former streets defined by tree lines (Figure B on the page 188). Along the pedestrian longitudinal axis there are new primary public institutions; behind this axis, long prefab residential buildings create a massive inner border. Green open space, free of cars, was created between the double walls of the buildings, topographically articulated. The huge parking areas are situated at the exterior limit of the estate (Figure B on the page 190). This monumental, inhuman and homogenous product of mass-housing production appeared on the outskirts of Budapest, approx. 15 km from the historic centre as a typical new neighbourhood surrounded by the infinite tissue of detached houses (Figure B on the page 186).

In addition, the Hungarian People’s Republic introduced a new economic mechanism in 1968: eventually Hungary became the home of what was known as “Goulash Communism”, a coulisse country to the West. As a result, the housing stock was of mixed status was made up of social, co-operative and owner-occupied dwellings. The privatisation process began in 1969, and the new prefab panel flats were not constructed exclusively for social housing. From a social aspect, bureaucrats and intellectuals were generally over-represented among the residents of new large prefabricated housing estates in Hungary <sup>/13/</sup>. For example, in

Location of the examined housing estates within the city: city border, river (grey), historic centre (inner contour) and the housing estate (black point)  
 Illustrations based on city maps; same scale, orientation to the north.  
 A – Žirmūnai; B – Havanna; C – Neu OIvenstedt



Prieskum umiestnenia sídlisk v rámci mesta: hranica mesta, rieka (sivá farba), historické centrum (vnútorný obrys) a sídlisko (čierny bod)  
 Kresba podľa máp jednotlivých miest; jednotná mierka a orientácia na sever.  
 A – Žirmūnai; B – Havanna; C – Neu OIvenstedt

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the Havanna Housing Estate, approx. 30 % of the flats were in private ownership, and inhabited by the owners in the 80s.

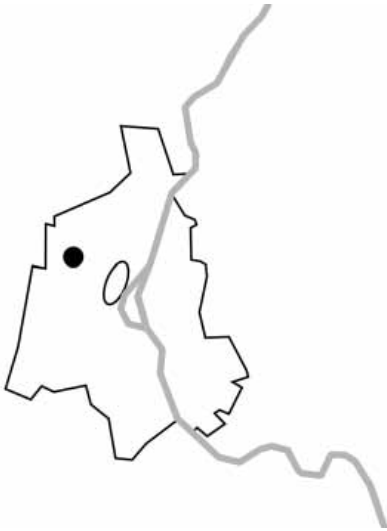
Magdeburg, situated 120 km west of Berlin near the former inner-German border, was an historic city that began a new life after WWII. It became an important industrial city in the former German Democratic Republic (GDR). New OIvenstedt on the Eastern outskirts of Magdeburg is one of the last “children” of the Soviet panel family. It was a new city for approx. 32,000 residents, rising up in the 1980s on what once had been agricultural land (Figure C on the page 187 and C on the page 189). Neu OIvenstedt also represents of the last experiments with prefabricated estates; at the same time, though, it is one of the first postmodern urban design experiments (created simultaneously in Magdeburg and in the Russian city of Gorky, today Nizhny Novgorod). For these reasons, this home for future generations received several professional awards. Based on global criticism of modern urbanism and architecture, in order to redefine urbanity, postmodern urban design essayed to reinvent all the traditional components of urban fabric: streets, courtyards, community building, human scale, the symbiosis of natural and built elements, and so on. Hence, in Neu OIvenstedt there

are no more massive prefab slabs, only blocks of flats that are 3 to 6 storeys high that form small, well-identified units around semi-common gardens (Figure C on the page 191). The street and the courtyard sides of the buildings can be differentiated. Colourful non-figurative details, typical of the GDR, ornament the doorways, staircases and balconies. In addition to the elementary facilities of the estate, small community buildings were constructed to facilitate the needs of everyday life, as well as communication and connections among the residents. The new typology of these flats appeared in the form of traverse apartments (averaging 60 m<sup>2</sup>), and half of the new homes had three small rooms to ensure private living conditions among family members. Urban space is always differentiated by demographic characteristics, and Neu OIvenstedt became the youngest part of the city with a dynamic, hopeful, idealistic, modern lifestyle. Living in a large prefabricated housing estate was just the norm.

#### ADOLESCENCE: CRITICISM

The first enthusiastic and unconscious period of life of the prefabricated panel estate was followed by criticism. This chapter summarises the conflicts and criticism in relation to large prefab-

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ricated housing estates that appeared before the fall of the Berlin Wall. In 1972, Newman analysed the public and semi-public space of the Pruitt-Igoe neighbourhood in St. Louis <sup>/14/</sup>, an anonymous no-man's land. That same year, American policy-makers applied a radical solution for social problems by demolishing this housing estate that had been built only 18 years previously. The architecture critic Jencks declared the death of modern architecture based up this event <sup>/15/</sup>. Hence, Pruitt-Igoe became a well-known and commonly used reference designating the failure of mass housing ideas. Nevertheless, in 1991 a research article by Katharine Bristol <sup>/16/</sup> attempted to change this analytical point of view by focusing on the political and social context that led to crucial problems: "By continuing to promote architectural solutions to what are fundamentally problems of class and race, the myth conceals the complete inadequacy of contemporary public housing policy." Reflections multiplied, and approaches to housing estates became increasingly complex. Papers, books and documentaries appeared seeking to understand and re-evaluate this global urban product of modernity in the Western World.

Nevertheless, until the changes of political and

economic regimes in 1990, the nations of Central and Eastern Europe were authoritarian societies with a centrally-planned economies and housing policy. Totalitarian systems, regulations and norms were employed for the realisation of the ostensible goal, the creation and management of a socially just society. The historic city centres, inhabited by an ageing and segregated population, became neglected, while the housing estates corresponded to the modern Communist lifestyle. In these city districts, new units for 10,000 – 60,000 residents were differentiated not only by their urban form and modern infrastructure, but also by demographic characteristics. Professionals discussed the problems recognised in large housing estates, but with no real hope of any radical change. In 1969, just after the first prefabricated housing developments were completed, two young sociologists from the Hungarian Academy of Sciences published a book on the social problems of the new housing estates <sup>/17/</sup> that became an internationally well-known reference text on this theme. Since then, numerous studies have attempted to explain the social and economic context of the decline of the housing estates <sup>/18/</sup>; this paper, however, endeavours to focus instead on urban design and architectural questions.

In Hungary, as in every country of the former Communist world, the large-panel system of prefabricated housing seemed to be the best technology to eliminate the housing shortage and construct efficiently. The planning and construction process was indeed short. First, at the local political level, new development sites were determined. Second, a nationwide urban design competition was established with the exact parameters and norms of the new housing estate provided. The main concerns of the planning were the road network, the relationship between the existing and new, natural and built-in elements; the interior organisation of the estate; and the urban form created by strictly determined prefabricated buildings. Then, based on the concepts of the competition winners, the masterplan was designed directly in the state offices specialising in urban development (VáTI on the national level, BuVáTI for Budapest). Simultaneously, the other state office for housing (Lakóterv in Budapest) developed the residential buildings with the available technology and the



Old (grey) and new (black) built-up components of the housing estates at the time of construction. Illustrations based on the master plans; same scale, orientation to the north.

A – Detached houses and industrial buildings as old elements in Žirmūnai Triangle; B – School and two churches as old elements in Havana Housing Estate; C – Nothing old in Neu Olvenstedt.

Staré (sivá) a nové (čierna) zastavané časti sídlisk v čase ich výstavby. Kresba podľa celkových plánov; jednotná mierka a orientácia na sever.

A – Rodinné domy a industriálne budovy ako staré časti Žirmūnaiského trojuholníka; B - Škola a dva kostoly ako pôvodné elementy sídliska Havana; C – Nič pôvodné v Neu Olvenstedt.



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available stock of prefabricated panels in mind.

As for the location of large prefabricated housing estates in Budapest, some of them were erected on non-urbanised land within the city (Kelenföld, Újpalota, Káposztásmegyer, and so on.); the majority, however, replaced the former urban fabric, in the course of which district centres situated in the transitional belt and on the outskirts of the city (Újpest, Pesterzsébet, Kispest, etc.) were demolished to create a new modern and homogeneous image. Fortunately, the politics of urban planning neglected the historic city centre, and only a few panel interventions were realised there. Nevertheless, a permanent tension arose between architects and the representatives of the state investors, as cost considerations influenced all aspects of planning and implementation: the demolitions, the technology used, the vastly limited design choices, mainly 10-storey slab buildings with a strictly determined structure of large panels, 3.20 m in size. There was also very little opportunity for variation in the building composition, interior organisation, flats and details<sup>19/</sup>. Criticism on the part of architects slowly materialised during the 1970's, and gradually techno-

logical concepts were overshadowed by urban, architectural and cultural concerns. The large prefabricated housing estates ensured housing quantity, but the quality of living conditions for the population at large became an enduring topic of discussion<sup>20/</sup>. The preparation of the second fifteen-year-long housing policy (1976 – 1990) lent timeliness to architectural initiatives. The political aim was evident: prioritise the use of efficient technology, increasing the panel fabrication factories' capacity by 30 %. After 1971, when Hungary halted its free social housing system for everyone, it began to introduce a new housing policy based on social conditions, promoting the construction of co-operative and private dwellings within large prefabricated housing estates as well. The first real discussion about the aesthetics of panel housing occurred in 1975; it was practically necessitated by the so-called Tulip Houses in Paks<sup>21/</sup>, where architects wanted to decorate the concrete surface with schematic traditional floral motifs. In 1976, a new catalogue for panel buildings was published that contained a few minor opportunities for innovation. The manufacturers of components for prefabricated housing proposed corner sections and



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other connecting elements to allow more complex compositions, not just linear slabs and vertical towers. It was then that a dialogue began about the importance of 4-storey buildings in order to maintain a human scale, ensuring that people would have some co-existence with the surrounding vegetation. Society itself became more differentiated, and flats followed this phenomenon: flats for multi-generational families, flats for large families, flats for single people. All users required different surfaces and organisation and to insure flexibility, thus a new panel system, the “E” family, was designed with a 5.40 m panel structure in 1982. This was truly a definitive change which led toward the final phase of large housing estate constructions in Hungary. In the last experiments of the 80s, large prefabricated housing estates sprung up in the Communist countries of Central and Eastern Europe incorporating international postmodern urban theory.

Housing estates represent the modern ideology of the 20th century, and the fundamental differences between the traditional historic city and the modern city are visible in terms of urban design and architecture. The theoretical founda-

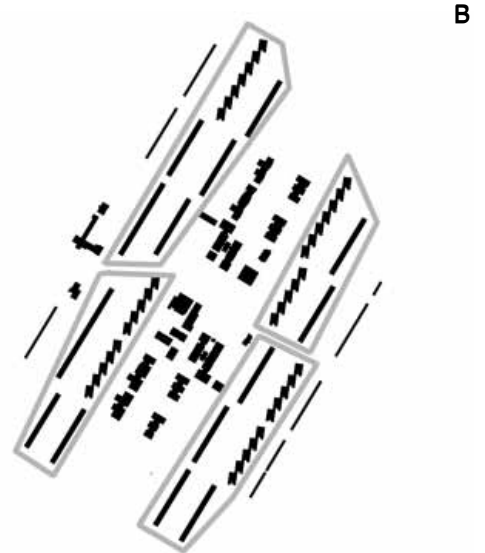
tions of a radically new urban design rejected the city of the past and replaced former design principles with something utterly new. Closed effect and multiplicity were replaced by an open quality and standardisation. In this new typology, buildings were autonomous, free-standing masses in a continuous space. Public spaces outside the blocks flowed in and through the visually and physically open urban fabric. There was no traditional urban context anymore; there were no streets or blocks, no public or private areas, no exact building locations. An old desire of social and architectural utopia was realised (u-topos – “placelessness”) where architectural creation was liberated and became independent of its environment. Urban morphological studies published by architect researchers analyse these urban forms of large prefabricated housing estates, this occurs in the Central European literature as well. In Hungary, linear structure, courtyard organisation, open framework, superblock, plastic and romantic composition are mentioned <sup>/22/</sup>; a Czech paper uses rows, fields, pseudo-perimeter blocks, superblock, free compositions and superstructure concepts for differentiation <sup>/23/</sup>; Slovak researchers prepared the complete atlas of the Bratislava’s large prefabricated housing estates with comparative plan illustrations <sup>/24/</sup>; a Serbian article analyses the housing mega-blocks forming the centre of New Belgrade <sup>/25/</sup>; and so on. Despite the morphology, in actuality a city’s physical structure is perceived as closed or open. This closed or open nature is the most important qualitative dimension of urban form, where space use and space experience come to the fore <sup>/26/</sup>. In order to understand the large prefabricated housing estates, which created a new urban culture of openness, one needs to employ a multidimensional approach. The method of analysis can be based on the closed/open duality of the urban form – but not only on the visual level as the result of constructed reality (e.g., the range or degree of enclosure), also physically as a framework for space use possibilities (e.g., the range or degree of public use). This method can aid in the reevaluation and redesign of this global urban fabric, which eventually became old-fashioned and problematic from the vantage point of 21st century urban life.

Morphological units of the housing estate  
 Illustrations based on the master plans; same scale, orientation to the north  
 A – Heterogeneous urban form in Žirmūnai Triangle;  
 B – Strict linear structure and functional zoning in Havana Housing Estate;  
 C – Postmodern courtyard system in Neu Olvenstedt.

Morfologické jednotky sídliska  
 Kresba podľa celkových plánov; jednotná mierka a orientácia na sever.  
 A – Heterogénna urbánna forma Žirmūnaiského trojuholníka; B – Striktná lineárna štruktúra a funkčné zónovanie sídliska Havanna; C – Postmoderný systém dvorov v Neu OVENSTEDT.



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QUARTER-LIFE CRISIS: CHANGE AROUND 1990

The modern urban fabric created by the Communist period was similar everywhere. Meanwhile, cities, with their social, economic and institutional differences, gave rise to drastically different lifestyles. Additionally, in Central and Eastern part of Europe, the change of political regime in 1989 – 1990 arrived simultaneously with the global transition to post-industrial culture. As François Ascher has noted, after the industrial and modern 20th century, humanity entered the third phase of modernisation <sup>[27]</sup>, where new types of individualisation, digital rationalisation and social differentiation appeared. For post-Communist cities, this represented a double transition period <sup>[28]</sup>, marked by the transition from totalitarian to democratic political regimes and from centrally-planned to market economies, yet also fraught with unknown global challenges that are inextricable from local ones. After the fall of Berlin Wall, the countries of the former Communist bloc introduced liberal capitalism. They became free-market on the global level, consumption began to determine everyday life, and opportunities for privatisation cleared new paths. Everything changed in a

matter of months and years, so the quarter-life crises analogy can be used to describe this doubtful and stressful period of rushed decisions bearing upon the future.

Among all the usual post-Communist city phenomena (lack of social safety, motorisation, suburbanisation, deindustrialisation, etc.), the strategy to restore the dominance of private ownership is the most relevant factor which led to divergence in development patterns. The new governments' controlled reform had its own immediate process to privatise the national assets in every post-Communist country. Focusing on the privatisation of housing stock, several states choose restitution as an ethical solution to past historical injustices (e. g., the Czech Republic, Poland, Estonia). Other measures were functional (i.e., in Germany), attempting to realise a more efficient milieu for development <sup>[29]</sup>.

Based on the three examples of this study, privatisation had differing effects on the large prefabricated housing estates. After the collapse of the USSR in 1991, Lithuania initiated a mass privatisation of flats. Today more than the 97 % of the housing stock is privately owned. In prefabricated



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buildings only the apartments were privatised, so the common components (such as doorways, staircases, elevators, roofs, facades, and so on) remain in collective ownership. The owner-residents were not nonetheless obligated to form a legal association to ensure management. Condominiums do not exist anymore, and so consequently, the owners of the flats have no responsibility for the maintenance of common spaces in the buildings.

In Hungary, the situation is a little different. Thanks to the privatisation initiatives that began in 1969, roughly half of the housing stock was privately owned when Communism collapsed; the state immediately handed over the other half of the housing stock to the new local governments. So that in the case of Budapest, it was not the city that received this property, but the new 23 district governments. Nevertheless, dramatic privatisation did occur at the beginning of 1990s, as the goal of the districts was to sell these new properties as soon as possible. A national system was introduced of privatisation of flats, with the establishment of condominiums on a building-by-building basis. All tenants had the right to buy their flats as a part of the building including common spaces, sold

for app. 15 % of their estimated market value <sup>130/</sup>. A new long-term mortgage system eased the process, and owners were also obliged to pay a monthly common charge for the condominium. The housing, including the responsibility for maintenance and development, was transferred from the central to the local governments, and afterwards to the resident-owners; this also occurred in the case of prefabricated housing estates.

Just after the fall of the Berlin Wall, GDR became part of a unified Germany under the West-German legal and political system creating an utterly new social and economic context. There were no doubts and no questions as the privatisation of the former Communist housing stock. Large prefabricated housing estates became privately owned by existing or new housing cooperatives and the residents remained tenants. At the same time, Germany made and realised the central political decision to renovate all panel buildings within 10 – 15 years, based on the new ownership and supported by a new national funding system.

#### ADULTHOOD: SURVIVAL AND STRATEGIES

In the years following the political changes of 1989 – 1990, the post-Communist housing market was completely transformed thanks to new global trends, modified by local conditions. There was neither a centrally-planned housing policy, nor an obligation to live and work in a specific locale, and the old safety net in terms of a secure social position was gone. The free market, in response to new housing preferences, devaluated the privatised flats in large prefabricated estates. Detached houses on the outskirts or in the suburbs became in demand; in the post-Communist world, however, new opportunities to own property (flats, houses, cars, and so on), as well as nationwide communication and financial support for self-construction only added impetus to the urban sprawl already underway. Apart from this phenomenon, a new form of housing following American investment trends – the gated community – appeared, and the inner-city neighbourhood took on an altered role through the help of urban regeneration process, too. (Among the three examples, Budapest and Vilnius city centres are Unesco World Heritage Sites.) In Hungary, in the new competitive context, flats in large prefabricated housing estates

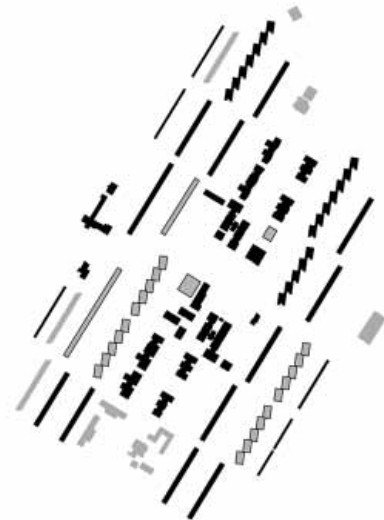
Components of the actual urban renewal process: renovated or transformed (contoured grey), demolished (contoured), intact (black) prefabricated buildings and new constructions (grey), 2014. Author's illustrations based on the master plans; same scale, orientation to the north

A – Few physical changes in Žirmūnai Triangle; B – One third of the prefabricated residential buildings technically renovated in Havana Housing Estate; C – Half of the prefabricated buildings demolished in Neu Olvenstedt.

Súčasti aktuálneho procesu mestskej obnovy: renovované alebo zmenené (zvýraznené sivou), zbúrané (zvýraznené), prefabrikované budovy bez zásahu (čierna) a nové konštrukcie (sivá), 2014. Autorčina kresba podľa celkových plánov; jednotná mierka a orientácia na sever. A – Len pár fyzických zmien realizovaných v Žirmūnaiskom trojuholníku; B – Jedna tretina prefabrikovaných bytových domov sídliska Havana bola technicky renovovaná; C – Polovica prefabrikovaných bytových domov v Neu Olvenstedt bola zbúraná.



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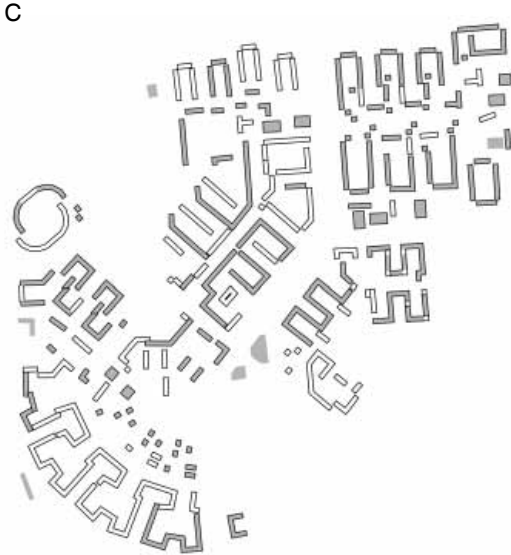


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became increasingly unpopular. They are stigmatised as a hallmark of the “Communist” lifestyle, bad living conditions, high utility payment costs, social alienation, and criminality. In addition, the population of the Central-Eastern post-Communist countries has declined over the last two decades, mainly due to changing fertility rates and emigration, and this shrinkage has a strong impact on the life of housing estates<sup>31/</sup>.

The Žirmūnai micro-district in Vilnius is strategically located next to the historic city centre and the riverbank. Nevertheless, more than two decades after political change and privatisation, the housing estate seems untouched and everything is characterised by amortisation. Lithuania introduced a technical renovation policy with 40 % financial support for housing in 2004, but over ten years, only 3 % of panel building stock has been renewed (Figure A on the page 192). Only one building in Žirmūnai, became a pilot project of the EU-financed Jessica Program, and none have made use of the national fund. Residents have no legal association for house management; hence, the entrances, staircases, facades and roofs are in very bad condition. The former detached houses

of the Paneriškės settlement exist as “islands of luxury” or nostalgic homes in this milieu. The open spaces alongside these plots, are state-owned land, so they are managed and maintained by the city municipality. The area has plenty of vegetation, but the quality of the open space – its urban furniture, playground, pavement, lighting, and so on – still dates from the 1960s. In addition, parking is one of the main issues. Cars occupy open space everywhere, because the housing estate was planned as a car-free neighbourhood, with narrow service streets and limited parking spaces. The population is ageing dramatically; however, the schools are well recognised and attended by children of residents from other districts as well. The National Education Centre has functioned for years in the middle of the estate, and a new public library opened in 2014. Yet the former industrial site is closed, and the few commercial facilities are outdated. In addition to a new restaurant realised in a countryside dacha-type building, there is no other private investment in the housing estate. Nevertheless, the Žirmūnai Housing Estate could serve as a Lithuanian pilot projects for integrated urban development – building upon



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knowledge gained from international cooperation, the ideas and goals of the Vilnius new master plan (designed between 2007 – 2014), and several European financial programs<sup>132/</sup>

In Hungary, a special ministry coordinated national spatial planning and building constructions until the economic and political changes of 1990. Since then, the site of this professional competency has changed several times due to political reorganisations. Moreover, there is no specialised institutional background for the regeneration of prefabricated housing estates. Flats became privatised at the beginning of the 1990's. Those who had the chance to sell or exchange their flats quit the housing estate, and the younger generation tried to live elsewhere. Utility and maintenance costs rose dramatically; the ageing and segregation of the population became a factor; and finally, the physical and social environments of large prefabricated housing estates deteriorated. Hungary established a national "Panel Program" in 2000. The first phase began in 2001, focusing only on technical renovations to prefab buildings, in order to achieve energy efficient solutions. Condominiums could participate in this program

– co-financed by the state, the city and the owners – to construct colourful exterior insulation and to change windows and some parts of the technical installation. Between 2001 and 2007, the Panel Program (I) was implemented for roughly one fourth of the prefab flats, and Hungary had spent 100 million Euros on this phase of renovations. When the country joined the EU in 2004, several municipalities (within Budapest, the 23 districts) and prefab buildings immediately found other opportunities for regeneration. In each case, the goal was not merely the reduction of carbon dioxide emissions and the use of renewable energy but social implications as well. Between 2007 and 2011, the national Panel Program (II) continued the use of European funding. Public tenders sought to support a more complex approach to renovation, not just technical interventions of housing buildings, but renewal of open spaces and some public institutions within the estates. In 2011, the Panel Program was suspended, and the third phase has not yet been announced.

The Havanna Housing Estate – that is, one of the most stigmatised estates in Budapest with the lowest flat prices – was able to initiate renewal thanks to an "integrated social urban rehabilitation program," co-financed by the EU and the state in 2009. Roughly 40,000,000 Euros of public money was spent on the renewal of the physical and social environment. The condominiums applied for technical renovation: the heating system and windows were changed, and instead of the former general grey concrete surfaces colourful exterior insulation covered the panels. Nevertheless, the renovation did not extend to the ground floor or the common vertical circulation spaces within buildings. A section of the main pedestrian axis was renovated, and EU-conform playgrounds and sports facilities were developed (Figure B on the page 192). The municipality manages and maintains the open spaces, as well as the inherited public institutions: nurseries, schools, senior day-care centre, cultural centre, etc. Meanwhile, the position of the Havanna housing estate in Budapest's real estate market did not change after this renewal process; private investors display little motivation to invest there due to the location on the periphery of the city and the image problems of the neighbourhood. Image is generally more important than reality,

unfortunately <sup>/33/</sup>. The municipality, however, is ambitious; it drew up a local action plan to change the built-up and social environment of the Havana estate, seeking out public, national and European support to facilitate the complex renewal process.



Žirmūnai in Vilnius,  
January 2014  
Žirmūnai vo Vilniuse,  
január 2014

Photo Foto: Melinda Benkő



Havana in Budapest,  
September 2013  
Havanna v Budapešti,  
september 2013

Photo Foto: Melinda Benkő



Neu Olvenstedt in  
Magdeburg, October 2013  
Neu Olvenstedt  
v Magdeburgu, október 2013

Photo Foto: Melinda Benkő

The situation of Neu Olvenstedt is quite different, because Germany, just after the reunification in 1990, made a decision to renovate all housing stock within 10 – 15 years. As new owners in housing estates, the housing companies were responsible for realisation; however, this was only a physical intervention without any long-term urban development or vision. Be that as it may, albeit with a similar political and financial system, certain post-Communist cities (such as Magdeburg, Leipzig, Halle, etc.) entered a very difficult development phase. Neu Olvenstedt, as the youngest neighbourhood of Magdeburg, lost approximately 40 % of its residents in the 1990s. This might have been due to internal migration West Germany for better jobs and living conditions; or it could also simply have been the changing housing market that stigmatised living conditions in large prefabricated housing estates <sup>/34/</sup>. Meanwhile, the buildings were technically renovated, the postmodern urban fabric allowed was liveable, and the city constructed new facilities for all generations at high European standards of quality. In 1997, the city of Magdeburg planned a new dialogue-based integrated strategy, as a survey completed in 2000 showed that the image of the place had little relation to real conditions there. The population continued to shrink dramatically, and the vacancy rate (40 % in 2004) was the highest in Neu Olvenstedt's history <sup>/35/</sup>. As a new solution, in 2002, Germany introduced "Urban Redevelopment East", a specific policy outlining the demolition of panel buildings. The main actors in this process are not only from the public sector (regional, central government and municipalities), but also the private housing companies, as well as owners and tenants. Today, the majority of the dwellings are in the rental sector. City social housing, Magdeburg housing associations and international investment funds own the buildings and the open spaces. This situation and the German economic background facilitated the planning and management of housing estates, ensuring creation of long-term value. The actual master plan of Neu Olvenstedt identifies five districts within the neighbourhood: total demolition, partial demolition or renovation of buildings are planned (Figure C on the page 194). The housing estate has been completely reorganised with increased density, and the new location of

facilities seeks to integrate the area into its surroundings. The character of the buildings is altered by adding new roofs, colours, exterior materials, terraces, lifts, and so on. Moreover, transparent fences make property divisions within the open spaces apparent. By 2016, half of the original prefabricated buildings will be demolished, and the owners will realise contemporary constructions for intermediate and detached houses. These new elements will co-exist with the other half, made up of completely renovated and transformed panel buildings. Thanks to this radical process, the physical, social and economic status of Neu Olvenstedt has slowly begun to change in recent years.

#### CONCLUSION

According to the lifespan analogy for the buildings' physical environments, today, these large prefabricated housing estates are experiencing a mid-life crisis. This paper demonstrates that this stereotypic modern urban fabric is not a homogeneous unit in Europe, even in the post-Communist Central and Eastern countries. The conditions of

the construction (location within the city, accessibility, urban form, spatial organisation, technology, etc.); the political, economic and social changes; the privatisation process; the regeneration initiatives – all of these form, transform or deform the original urban project ideas. Different scenarios exist for the future<sup>36/</sup>, so the question is how opportunities can be provided for a normal lifespan. In the post-Communist cities, large prefabricated housing estates make up a dominant part of the living environment. A true understanding of them, a re-evaluation and image campaign could provide the basis for their complex regeneration. There is no single European solution. Through a multidisciplinary approach based on the sustainability criteria of environmental, economic, social and cultural components, it is important to create, realise and maintain a locally-minded, problem-oriented intervention to assist in the transition. Thus, every lifespan is different.

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<sup>4</sup> The author was a “knowledge ambassador” responsible for the built environment representing the Hungarian Lead partner of the URBACT Re\_Block Project, the 18th district municipality of Budapest. She has conducted interviews with Stephan Westermann

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