

# Creating Public Space in Wroclaws Urban Housing Environment

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**Abstract.** Despite the passage of time the polands housing built in panel technology is not modernized sufficiently. More and more interesting examples from abroad appears, which shows how this kind of housing can be transformed. Actions should be carried out in three areas, starting from town-planning and architectural transformations (macro scale), thru the neighborhood spaces transformation (mezo scale) to the individual functional-spatial flats transformation (micro scale).

**Keywords:** concrete slabs technology, estate environment, housing.

## 1 Introduction

Wroclaw (Poland) is a mid-sized city with a population of 636,268. The average population density is 2,173 people per square kilometer. Czech, German, and Polish influences are vividly recognizable throughout the history of Wroclaw. The city has changed hands many times. Wroclaw was devastated during the carnage of the World War II. It was declared to be a fortress-city and it was under siege for four months. During that time the city was practically razed to the ground and fierce fighting caused damage to 90% of all the existing buildings.

After the World War II Wroclaw underwent a slow reconstruction and rebuilding process. The first priority was to rebuild the city center. In the coming years subsequent investments spread out to the further districts of Wroclaw. The most strenuous time in multi-family housing development took place in the 1970's and 1980's when cheap, affordable, panel technology housing estates were built.

They were mostly built in the 1970's with the development decline observed in the 1980's. Their design was based on simplified normative standards regulating the size of each flat, height of the buildings, exposure towards the sun, transportation infrastructure, distance from the street, and the size of the unit. Such an approach resulted in the creation of concrete jungles- standardized eyesores that don't give their users chances for improvement of their standard of living and contribute to the rise of social dysfunction.

Examples of arrangement of such housing estates in Wroclaw is shown in fig.1. Most such housing estates were located in the Fabryczna district where the biggest

industrial plants prevailed. The choice of Wrocław housing estates for theoretical studies on its modernization was based on the following elements:

- Implementation period - the 1970's and 1980's,
- Technology used for task completion – large panel technology buildings,
- Variety of forms and urban arrangements – arrangements expanding possibilities of alternation throughout the variety of modernization activities,
- Location of housing estates – estates located in the eastern part of the city,
- Transformation possibilities.

Considering the above-mentioned, the following districts were chosen: Bartoszewice, Krzywoustego (Psie Pole), Jana III Sobieskiego (Psie Pole-Zawidawie) and Huby (Huby). Selected housing estates have some certain characteristics (attributes) which reflect their influence on the quality of residence. They were attributed with some significance and based on that it was concluded that these housing estates have the most beneficial potential of transformation possibilities (tab.1). The following features of the housing estates were selected and they were attributed the following significance, tab.1:

- Location – very good (3), good (2), poor (1), very poor (0)
- Neighbourhood – very good (3), good (2), poor (1), very poor (0)
- Urban solutions – very good (3), good (2), bad (1), very bad (0)
- Architectural solutions – very good (3), good (2), bad (1), very bad (0)
- Green Amenities – very good (3), good (2), moderate (1), none (0)
- Technical condition – very good (3), good (2), bad (1), very bad (0)



Fig. 1. Wrocław's panel technology housing estates location

For the selected housing estates a course of action was adopted to improve their reputation and the quality of life of their residents. Such activities were carried out in three areas, starting from urban-architectural modifications of the whole housing estates (macro scale), through modifications to the smaller areas which can be described as community space (mezo scale), up to individual modifications comprised of functional and special changes to the flats (micro scale). It has to be taken under consideration, of course, that marking definite boundaries between such spaces is very difficult because they are inter-influential.

**Table 1.** The following are the characteristics influencing the choice of housing estates for modernization

Housing estates characteristics	Bartoszowice	Jana III Sobieskiego	Bolesława Krzywoustego	Huby
Location	3	2	2	3
Neighborhood	3	2	2	3
Urban solutions	0	1	1	1
Architectural solutions	1	1	1	1
Green Amenities	1	2	1	2
Technical condition	2	2	2	2
Potential modifications	10 – very big	10 – very big	9 – big	10 – very big

The first step in the design procedure was to carry out detailed analyses of four selected housing estates. The analyses conducted were based on my own experience together with some questionnaires and interviews with the residents. All four housing estates presented the same downsides and inconveniences.

Due to the limited size, only one of the four housing estates mentioned above – Huby – was submitted for analysis in this paper.

## 2 Housing Estate Characteristics

Housing estate described here consists of multi-family buildings with a regular layout of composition. It includes 21 simple and identical 5 – and 11- story block of flats forming 5 urban spaces (each space consists of 2 low, 5-storey buildings orientated east-west facing the sun and 2 high 11-storey buildings orientated north-south facing the sun. Low buildings have 5 staircases and the tall ones 3. These buildings form square of the buildings and are located in the northern part of the plot. Between these square of the buildings, in the central part of the plot we can find a school building and a kindergarten. In the northern part of the plot, however, there are four 11-storey buildings with a varying amount of staircases– 11, 7 and 8 located in a linear, east-west distribution alongside Śliczna Street – three of them in the northern part of the street and one in the southern. In between the quarter development in the north and the linear development in the south there is an open lawn for community recreational purposes. This housing estate can be characterized as a relatively big land development, fig.2.

The housing estate layout is not rooted in the architectural-urban tradition. It was based on the panel-technology building.

While characterizing the housing estates the following should be mentioned:

- All buildings are covered with a flat roof
- Infrastructure: all the buildings are equipped with: water and sewage system, gas-fittings, electrical installation, central-heating, central hot water, phone division, diversity TV antenna, heat distribution units.
- Particular buildings are, when using horizontal projection, rectangular divided into lots with 3 flats on each floor.
- The layout of housing estate comprises of two, clearly separate parts. In the northern part there are 5 open urban interiors with shared zone and a line of 4 buildings along Śliczna Street located in the southern part.
- The estate is equipped with many amenities like a school, a kindergarten, dispersed little local shops and a bigger, self-service chain supermarket - Biedronka.
- Proximity to public transportation cannot be easily described since it is quite unclear and confusing. The predominant means of transportation are shared zone and local streets (pedestrian networks). The interior sidewalks are characterized by through-traffic. Bicycle traffic was introduced making the area less pedestrian friendly and changing it into car parks. External car parks were introduced only by Śliczna Street as two sets of car parks but they do not meet the needs of their residents.
- The housing lacks urban management plans and spatial conception such as: public spaces, semi-public spaces, semi-private and private spaces. It is strictly related to the fact that there is a lack of home gardens, front gardens, utility spaces and green belts.
- The housing estate lacks functional and assumption values of its sport and recreation areas. Community green spaces, playgrounds, recreational areas for senior citizens need more care and attention.
- Functional and spatial lay-out of the flats does not make it easy for the families with many children and extended families to function properly. The flats are standardized and identical; predominate with little, two-roomed flats. Floor space of the rooms measure from 9 m<sup>2</sup> to 16 m<sup>2</sup>. The flats do not comply with contemporary standards of living.
- The flats are equipped with little loggias or balconies which, due to their size, cannot serve for recreational purposes and are often built up for storing purposes.
- The housing is accessible for both: people with disabilities and mothers with strollers.
- The buildings are characterized by poor architectural detail which is very typical for panel technology developments. Each floor of the building has the same, monotonous façade. Entrance halls need some arrangement solutions.

Since the end of the 1990's the buildings have been modernized. They are successively thermo insulated and on this occasion the façade was painted in abstract color and design which do not truly reflect the individual character of the façade and do not make it individual.

### Social issues:

The housing estate is under housing co-operative "Huby". There are two types of flat ownerships: cooperative member's right of ownership and cooperative member's right of tenancy. The residents commute to work by bus, cycle, or go on foot. These are mostly middle-aged people (30-49) with secondary education whose life is stabilized. The families consist mostly of four members and have low income. Among them there are blue-collar workers and white-collar workers with secondary school or university degrees. This type of housing is characterized, due to a large number of residents, variety of social groups, and spatial arrangement by specific social situation.

The residents do not know each other, there are very limited neighborhood ties. The community spaces are shared by all residents but at the same time they do not have one owner; they are no one's. These elements contribute to the limitation or even elimination of social control over community spaces resulting in increased organized crime, vandalism, and numerous transportation offenses. Having consulted the residents and evaluated the questionnaires, the following social problems arise:

- Lack of car parking spaces, malfunctioning motor-vehicle communication system, heavy traffic on one of the access streets (Śliczna Street).
- Playgrounds lack aesthetic values.
- Recreational and green spaces and spaces between the buildings lack land development which instead are used as car parking spaces.

Some residents complained about:

- Their flats being too little forcing them to build up the balconies.
- Isolation of the flats from green areas. To change this situation, the residents adopt the green areas close to their balconies and change them into home gardens.
- Noise and air pollution as a result of being located in the city center, in close proximity to busy traffic roads.
- Poor urban planning which they would like to improve.

The residents would really welcome: sunny terraces, home gardens and renovated elevation. Generally speaking, the residents are quite happy living in this area which largely results from their attachment to this particular housing since they have been living here for so long. Most residents have been living in this housing estate since it was built.

## 3 Modernization

In the light of the analysis carried out above, it has to be stated that the housing estate requires modernization in order to improve the quality of life of its residents, community spaces and their aesthetic. Urban-architectural improvements are also needed. In the housing modernization project various forms and schemes of development were used which were adapted to the existing geometry of the development, walkways, and effectiveness of the street network, fig.3.

### **Urban-Architectural Transformations – Macro Scale**

Development transformations cover both northern and southern part of the land. In the northern part of the housing, the buildings are grouped around courtyards. The main shortcoming of such solutions is a lack of intimacy since the corners are too open and the residents do not perceive them as closed urban interiors. That was the reason to transform the existing development and to create more closed and clear urban interiors.

The height of all the 11-storey buildings was changed since they were considered too high for the development and infrastructure of the housing development on the analyzed area because the neighboring, old buildings, are much shorter. Another reason for that decision was the arrangement of the group of buildings located in the southern part of the land which cast a shadow over the recreational areas. The buildings were lowered to five and in some parts to six floors. In some buildings the inside parts were removed to shorten their length and enable yard lighting. Glazed elements designed on the roofs lead to the commercial terraces. Previous flat elevation got extended sculptures by means of introducing front-ended elements, loggias, green rooms, and portfenetr. The ground floor flats were equipped with window balcony doors overlooking the terraces and gardens.

The traffic route was redesigned in line with the principle of the steady traffic so that it would be located outside the housing estate and city blocks without any disruptions to the urban interiors.

An important issue is the fact that the housing development lacks space that could be used to build car parking spaces so needed in the area. The problem was solved by:

- Using the existing reserves of spare land
- Introducing underground car parks

The recreational area located between the northern and southern built-up belt has been divided into smaller parts to give it more intimate character and to create the possibility of developing and adapting it for individual needs of different social groups. Sports and recreation grounds for mothers with children and senior citizens will be located here.

The façade was changed in the spirit of contemporary modernism, adding some postmodernism details. Flat roofs have been designed. Elevation combines plaster, wood and facing clinker which are enriched with glazed loggias of the living areas. Architectural monotony has been corrected by:

- Introducing architectural detail, changing colors, and diversifying elevation materials: plaster, wood, tiles. The changes concerned mostly higher floors of the buildings where a completely different elevation material was introduced to visually lower their height.
- Introducing in some parts of the development lean-to roof which helps to obtain extra living areas (they can be easily extended or reduced)

### **Housing Estate Space Transformation – Mezo Scale**

The primary task of the housing estate space transformation was to create conditions that would facilitate social relationships and community building which would

encourage cooperation mentality between the residents, and thereby would improve living safety. The following project activities were undertaken:

- The housing estate space was divided into the following commercial use zones: public, semi-public, semi-private and private. Land division was clarified in a way that a particular user (a family, social group) would know what it is designated for.
- Hierarchy of accessibility and land development was introduced: from widely accessible public areas, through group areas with limited access, to isolated private areas belonging to only one family. Many spatial and system changes were introduced to encourage different free-time activities (entertainment, recreation, neighbor ties). Separation of front gardens, gardens and terraces on the ground floor was also introduced. Private gardens constitute ground flat extension and face south, east or west.
- Different premises were divided with green belts, noise-reducing and trespasser-reducing fencing, elements of landscape architecture, developments e.g. utility or ancillary rooms. Special attention was paid to isolating the housing area from the neighboring, busy Kamienna Street. The isolating green belt was introduced alongside the street.
- The entrances to the housing development and individual units were clearly marked by speed limit signs, trees forming entrances, and elements of landscape architecture. Clear entrance indications make it easier to identify and limit the trespassers.
- The area around the building entrances was made more attractive by making it more diversified in comparison to the techniques used in German housing estates by introducing bicycle parking zones, information notices, mail boxes, aesthetic canopy roofs and front doors.
- To create intimate, attractive, and enjoyable meeting areas, courtyards and elements of landscape architecture were introduced (pergolas, walls, gates, benches, canopy roofs, utility rooms).
- Safety was improved by introducing appropriate lighting, providing adequate green areas and using natural topography which makes the area more easily monitored. Cameras monitoring the most important areas for the residents send images to a chosen TV channel were also introduced.
- Some parts of the ground floors were redesigned to introduce some community facilities like:

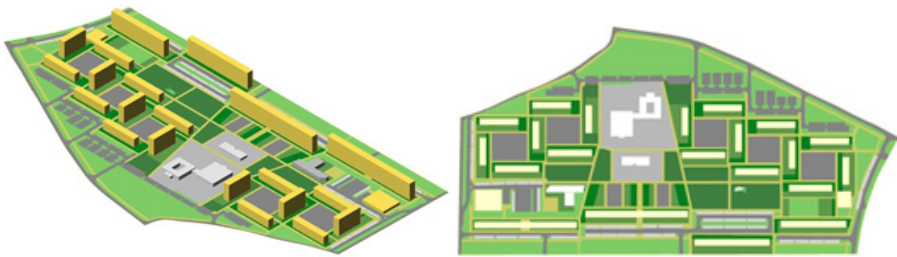
### **Flat Transformation – Micro Scale**

As part of the housing modernization changes of the flats were included. The following are the proposed solutions:

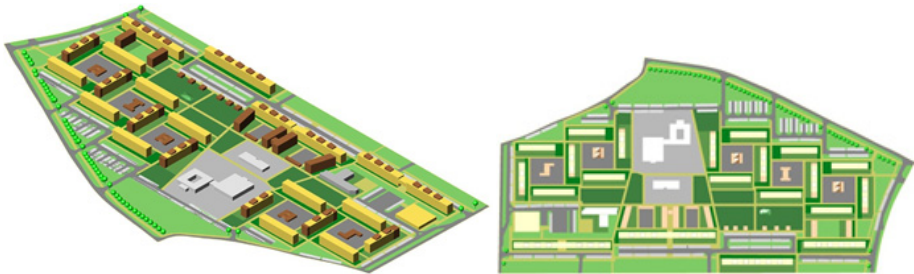
- Extending the flats with new elements that would be front-ended from the wall face and adding balconies, loggias, or other elements of horizontal communication elements.
- Redesigning the interior layout of the flats by adding built up elements, such as: roofs, balconies, green houses, penthouses, and loggias by introducing moissonnette type of flats.

- Rebuilding the flats by: extending or reducing them, connecting or dividing them within the existing outline of the buildings in order to adjust them to the changing needs of the residents. On the last floors the bigger, dual-level flats were introduced to meet the expectations of larger families, those consisting of four or five people. The lower floors include one-level flats. The pictures 2 and 3 present the housing before and after the modernization.

The results of all the studies, analysis, surveys, and site inspections carried out indicate that the housing estate described in this paper should undergo wide modernization process. Built in the 1970's and 1980's, they serve as a perfect example of prefabricated technology and struggle with the typical problems connected with this type of housing development (social, architectural and urban problems). As a result of my considerations, sociological research, psychological analysis and the overall analysis of the resident-friendly contemporary housing developments, the preferences and systems of values were identified and they serve as the basis for housing developments modernization.



**Fig. 2.** Huby, housing estate before modernization



**Fig. 3.** Huby, housing estate after modernization

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