

## PUBLIC SPACE IN THE HOUSING ESTATES OF POZNAN METROPOLITAN AREA: DESIGN STRATEGY

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The article was prepared on the basis of research conducted at the Faculty of Architecture at Poznan University of Technology. It constitutes an introduction to the subject of regeneration of housing areas in the Poznan Municipal Area in order to familiarize the reader with the method of socio-spatial analysis in relation to public space in housing estates.

**1. Introduction.** Public space is the primary component of urban structure. It creates a matrix that binds the physical structure of urban fabric with its social organization.

The appearance of public space is the result of a combination of architecture, social standards and customs as well as investment activity.

The unique nature of public space originates from “the urban planning process”, which through complex social, political and technical relationships, together with the creativity of residents, generates the form of the city [1].

The planning process runs with variable intensity. Sometimes it is driven by coordinated planning activity, sometimes it is the result of spontaneous development. Nevertheless, regardless of whether it results from spontaneous undertakings or from the work of urban planners, it creates the specific form of public space. In contrast to individual buildings, which have very specific (determined) forms and functions, public space is as changeable as is the life of the residents. We are dealing with constant adaptation to the constantly evolving needs and aspirations of residents. This changeability makes it difficult to systematise public spaces in cities in an unambiguous way, both in historical and geographical terms. Attempts to demarcate different types of public spaces can be found in many studies [2]. They are most often correlated with the functions played by public space in the city. Therefore, one can distinguish between public spaces associated with, amongst others: housing, service, commercial, administra-

tive, recreational and transport functions. Many authors emphasize the specific characteristics of public spaces in the city, paying attention to the multifaceted meaning of the term. Four main trends can be observed in the analysis of public spaces:

- pertaining to nature and landscape,
- cultural,
- social,
- pertaining to planning and economy.

The common feature linking all of these trends is the art of urban design, associated with the ability to adapt the environment not only to functional and economic needs, but also to the desire to find beauty in human surroundings.

**2. The purpose of the study** The aim of this study is to present the method of social-spatial analysis of public spaces in housing estates.

The method was designed to identify:

- how to formulate a strategy to improve the quality of public spaces in housing estates,
- how to take into account the specific social determinants that are associated with public space in a planning design (land development plan).

The current condition of public spaces in housing estates is highly unsatisfactory. This is due to the following reasons:

- faulty use of existing public spaces,
- low quality of public spaces,
- inadequate size of public spaces for the number of residents,
- bad maintenance and conservation of public spaces,
- mismanagement of public space,
- improper standards and design methods for new public spaces.

Most of these problems arise from a lack of insight into the needs of the residents and awareness of the importance of public space for the community living in a given estate. As such, the starting point of the method

presented here is to analyse the social determinants that are related to the needs of residents.

**3. Social Analysis.** At the root of the analysis is the claim that public space plays an important role in the lives of its residents. It provides the chance for a wide range of social interactions, contributes to the development of neighbourly bonds and creates a sense of satisfaction in both the individual and collective dimension. In this approach, the basic rules describing the relationships between a community of residents and a public space include:

- the residents' sense of identity [3],
- the determination of territoriality [4],
- the personalisation of the environment [5],
- the creation of prestige and image [6],
- increasing the "legibility" of the spatial structure of the estate [7],
- the reflection of the residents' culture [8],
- succumbing to fashion [9],
- the sense of rootedness in the neighbourhood [10].

**4. Spatial analysis.** The planning and design of public spaces in new and existing housing complexes should begin by noting that high quality public spaces are rare in housing estates and are an exception rather than a rule. They are usually poorly managed and poorly maintained. There is a tendency to reduce the surface of these spaces due to the pressure of the developers to form new residential areas in attractive locations.

The regeneration of housing estates based on the formation of a sustainable housing environment significantly depends on the quality of public spaces. It does not automatically mean lower development density. On the contrary, greater density in the case of proper public space use provides better accessibility to pedestrian and cycling traffic as well as public transport. The network of safe (separated from streets) footpaths, cycle routes and greenery motivates walking and cycling as it links residential areas with other urban functions such as workplaces, recreation areas and service points.

Undeveloped areas in the city should have a network structure. This means that the public space of housing estates must be connected with major destinations by means of *green corridors*. Green corridors:

- encourage walking, cycling and reduce car use,
- provide opportunities for rest and recreation,
- contribute to the improvement of the environment in housing estates,
- improve visual and landscape quality,
- increase the use of cultural resources by the residents because of their greater accessibility.

### **5. Design strategy.**

#### 5.1. Social goals:

- Building neighbourly bonds, integration of residents.
- Activation of creative people.
- Reduction of antisocial behaviour.
- Improvement of safety in the area (reduction in road accidents, reduction of risks in terms of crime, improvement of the safety of children playing in open spaces in the housing estate).

#### 5.2. Environmental objectives:

- Improvement of the natural structure and landscape quality of the housing estate.
- Providing sports and recreational facilities, playgrounds for children, leisure facilities for the elderly.
- Inclusion of green corridors in the city network.

#### 5.3. Economic objectives:

- Increasing investment attractiveness through well-designed and safe public space.
- Attracting creative business (freelancers, artists, designers, advertisement and fashion designers, etc.) combining housing functions with work in the SOHO style (Small Office Home Office), particularly attractive to women and freelancers.

Well-designed and well-managed space can increase investment attractiveness, boost rental rates and real estate prices, attract business, create an area that is more attractive for the residents and customers. High quality public space in a housing estate

brings about attachment to the place, builds a sense of identity and makes the area more attractive to live in, work in and pass the time in.

#### 5.4. Residential network of public spaces.

Residential public spaces should be part of a network. This helps in making the functional structure of the city more legible and facilitates the movement of people in the city. One of the tasks included in the planning process is to incorporate as many residential public spaces as possible in a network.

A proper network design should meet the following criteria:

- Limit the use of cars by the residents and at the same time facilitate pedestrian and bicycle traffic. The design should be coordinated with the city's public transport strategy.

- Create better conditions for rest and recreation.

- Improve the safety of the residents, especially by lowering the number of road accidents.

- Improve the visual quality of housing estates.

- Stabilize the natural balance and improve the quality of the natural environment.

- Improve the accessibility of city's cultural resources for pedestrians.

5.5. The quality of public spaces. Public space designed in accordance to the above criteria should be:

- well-connected (to the network) which facilitates the movement of residents, improves safety, facilitates contact with nature and access to the city's cultural resources,

- well-maintained and well-managed,

- easily adaptable (adaptability to various functional requirements and to the needs of diverse groups of users).

Design strategy combines four elements:

- a) Audit, b) The evaluation and control of the current situation and the requirements of residents, c) Functional-operational programme with clear definition of priorities, d) Monitoring the use and maintenance of public spaces.

**6. Audit.** The main task of the audit is to determine the type, size, condition and maintenance requirements of the public space in a neighbourhood and to gather information related to its current use. The audit should identify the main functions of the housing estate. It should also account for ownership issues and issues related to the site manager.

The audit should take into account:

- the surface area of the public space and its facilities,

- the use of public space in the neighbourhood,

- the intensity of its use by the residents,

- the annual cost of maintaining the public space in the neighbourhood.

The involvement of residents, who should participate in the creation of the database (e.g. through surveys sent to the residents), is very helpful. It is very important to disseminate the basic information widely among residents after its processing. It is worth placing noticeboards in visible spots indicating the current cost of maintenance of public space in the neighbourhood together with the names of the persons responsible for the maintenance of public space.

**7. Evaluation and control.** This strategy has multiple advantages:

- a) It strengthens public awareness of the resources in the neighbourhood and the problems associated with their maintenance, protection and management.

- b) It boosts rationality in spending and the accuracy of investment decisions.

- c) It gives the basis to seek public funding (local funding or EU programmes) to improve the quality of public spaces in housing estates.

- d) It facilitates public control over the distribution of the money for the maintenance, management and design of public spaces.

The planning process and the development strategy should be connected with the control of the implementation of current tasks and investment plans. Control is essential for the credibility of the process of the management of the quality of public spaces.

The loss of credibility discourages the residents from activity for the public space in the neighbourhood.

The right to control in relation to the design and management as well as ongoing maintenance give residents a sense of real influence on their immediate environment, trigger a sense of pride and satisfaction with the outcome, reduce vandalism and anti-social behaviour. This strengthens neighbourly ties. It should be noted that social participation applies not only to the residents of the housing estate. It can also involve local businesses, sports clubs, community and environmental organizations, schools, and other services.

#### **8. Functional-operational programme.**

The audit is the basis for determining future requirements and standards contained in the functional-operational programme. The requirements and standards contained in the functional-operational programme should include:

- The surface area of public space per capita or family.
- Equipment - with quality specifications according to which the standard will be measured.
- Accessibility - the number of planned uses with distance thresholds for different types of activity (recreation, sport, playgrounds, housing estate services, etc.).

**9. Monitoring.** Constant monitoring of use and maintenance are the basis of the management of public space in a housing estate control system. The analyses should include data on the number of people using it throughout the year as well as their age, social characteristics, their type of activity and main wishes of the residents regarding improvements. Attention should be directed to the needs of the whole community, including the most vulnerable groups: children, the elderly and the disabled.

Quality and equipment condition ranking must be confronted with the intensity of use and ongoing maintenance costs. This data is used as the basis to determine the optimal budget that must be provided and systematically adjusted.

**10 Summary.** Public spaces in residential areas should be identified on the basis of a socio-spatial analysis. This analysis is a prerequisite for the initiation of the design and planning procedure. Conclusions contained in these documents define the role and place of a public space, the scope of the necessary investments, the type of management and maintenance and the annual budget. The successful regeneration of existing housing estates and the design of new public spaces in residential areas should give the following effects:

- the improvement of visual standards and landscape quality,
- the improvement of access to transport - mainly pedestrian, cycling and public transport,
- the improvement of the state of the environment in residential areas (reduction of pollution and noise),
- social stabilization, minimization of social exclusion, strengthening of neighbourly bonds,
- reduction of social pathology, antisocial behaviour and crime.

It is important to draw attention to the interaction between the quality of public spaces and social groups living in housing estates. The quality of public spaces largely shapes the spatial behaviour of their residents. It is therefore important to attach significance to the undeveloped spaces of within a housing estate. Unfortunately, the value of this space, from an economic point of view, is still incalculable, and the manner of its shaping is mostly accidental.

The presented methodological approach is based on a broad comprehensive account of social conditions. It refers to the inhabitants' sense of identity, the personalisation of the environment and the sense of rootedness in the neighbourhood. These social needs must be translated into the language of architectural forms that organize space in a housing estate.

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### **HELIOPLASTYKA FORM ARCHITEKTONICZNYCH W RYSUNKU ODREČNYM**

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*Rysunek architektoniczny jest podstawowym środkiem wyrazu przestrzeni i tradycyjnym narzędziem projektowania architektury. Oddanie rzeczywistości świetlno-barwnej w rysunku odręcznym jest warunkiem odwzorowania istotnego komponentu kontekstu miejsca jakim jest oświetlenie w architekturze.*

**Wstęp.** Rysunek architektoniczny jako graficzny zapis projektu nowego obiektu lub przekształcenia istniejącego fragmentu przestrzeni [1] jest podstawowym, tradycyjnym środkiem odwzorowania otoczenia architektonicznego i urbanistycznego. Przez bardzo wielu architektów, uważany za istotny i kluczowy etap każdego procesu projektowego, przez wieki stanowił metodę komunikacji architekta z otoczeniem i był podstawowym narzędziem umożliwiającym notowanie pomysłów, koncepcji i projektów oraz ilustracji kontekstu przestrzennego. Rysunek jest techniką opierającą się na indywidualnym, manualnym przełożeniu myśli na papier. Do dziś uważany jest za podstawę edukacji architektonicznej, ze względu na rolę, jaką odgrywa w reprezentacji dzieła architektonicznego. Jako szczególnie okres kształtowania

poglądów na temat relacji pomiędzy architekturą i umiejętnością wyrażenia przestrzeni za pomocą szkicu, można wskazać lata czterdzieste XIX wieku. Wiele przekonań i postulatów opisanych w tym okresie ma zastosowanie i funkcjonuje w świadomości architektów i szerokiej świadomości społecznej do dzisiaj. Główna związana z kształceniem architektonicznym kładła nacisk na korzyści płynące z poznawania przestrzeni ze szkicownikiem i ołówkiem w dłoniach. Zwracano uwagę na wyrobienie umiejętności manualnych, lepsze rozumienie formy architektonicznej, wrażliwość na kontekst, wzmocnienie indywidualnej ekspresji i stworzenie własnej biblioteki odniesień. W artykule opisano obserwacje zjawisk świetlno-barwnych w architekturze, dokonanych na podstawie autorskich opracowań szkicowych i rysunkowych.

#### **Studia zjawisk świetlno-barwnych w rysunku architektonicznym**

Światło buduje formę, decydując o percepcji przestrzeni architektonicznej; tworzy atmosferę, wydobywa barwy i faktury. Może podkreślić najpiękniejsze elementy