

FACTORS AFFECTING ACTIVE PUBLIC SPACE

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ABSTRACT: The paper contains the creation, form and results of a quantitative questionnaire survey. The content of the questionnaire managed to define the basic factors that make living and active space. In addition to the most basic characteristic of public space, which is unrestricted public access, in our opinion, the most fundamental factors of public space are important. There were 18 questions written in the questionnaire, which are built on the theoretical basis of public space by Ben Rogers, John Montgomery and Ján Gehl - see Research theory. Using the questionnaire, respondents chose the most important factors that should contain active and lively public space. The data were subsequently evaluated and compared between the lay and professional public.

KEYWORDS: questionnaire; factor; public space; principles of public space; quality; participation; evaluation; city

INTRODUCTION

Coexistence between individuals makes urban space and its municipal spaces the basic framework for the functioning and quality of life, contributing to the improvement of economic development, health, socialisation, sustainability, ecology and biodiversity, ... The city and its parts, as a living and constantly changing organism, has been adapting to the various elements and changes since the first sign of settlement in the countryside. "History can point to two ways of developing a city: evolutionary and revolutionary. Evolution can be seen as a transformation of the urban form without significant changes in its patterns, ... In the case of an urban revolution, even if the form looks only a little changed, its pattern or genotype demonstrates fundamental changes." [1, pp. 1]

The first homogeneous settlements, slow development and changes in society provided easier connections between different social, economic and cultural situations. [1] The development of urbanism from ancient structures to the present has undergone several significant changes, which have been typical of different historical periods. We can consider among the more radical interventions the Renaissance period, the Industrial Revolution and the direct reaction to urbanisation, population growth and worsening sanitation - modernism and functionalist urbanism. The transition from traditional shared space streets to multifunctional uses, the segregation of pedestrians and traffic into dedicated lanes, functional segregation within a city, the emphasis on sanitation, lighting and separate point development and the emergence of micro-neighbourhoods has led to a distinct lack of human scale and connection to the surrounding context. [1; 2; 3; 4] The current rapid development and climate change, the still high impact of pollution and overpopulation are the main challenges for today's approach to urban planning and the creation of public space. "Today, more than half of the world's population lives in cities, and it is projected to be 68% by 2050." [5, pp. 19] The still ongoing massive urbanisation requires the design of cities that meet current conditions and requirements without compromising development opportunities for future generations. Criteria such as sustainability, viability, resilience, participation, ecology, emission reduction and environmental impact are a necessary part of EU, UN and other international agreements. [3]

PUBLIC SPACE

"Public spaces means all squares, streets, marketplaces, pavements, public green space, parks and other spaces accessible to everyone without restriction, i.e. serving for general use, regardless of the ownership of the space." [6, Section 34] One of the few definitions of public space. From the viewpoint of Czech legislation, the definition is enshrined in Act No. 128/2000

Coll.: Act on Municipalities (Establishment of Municipalities). In addition to national regulations, we may encounter definitions in regional and supranational directives, decrees and other documents. "The term public space is used to refer to a publicly accessible, complex physical part of the environment, which, in addition to municipal spaces, includes, for example, the publicly accessible space of the exterior of a city, courtyards and the interior of buildings. Public accessibility also precludes a restricted-use regime except for a time-limited regime. At the same time, the term public space is used for the immaterial level of the environment, including relationships, ideas, events, media, etc. The term public space can also be perceived as a whole or a continuum," [7, pp. 16], says the Manual for Public Space Creation, published by IPR Prague in 2014. The United Nations Human Settlements Programme UN HABITAT (2015) states, "Public spaces are all places publicly owned or of public use, accessible and enjoyable by all for free and without a profit motive. Public spaces are a key element of individual and social well-being, the places of a community's collective life, expressions of the diversity of their common, natural and cultural richness and a foundation of their identity." [8, pp. 6]. Most of the available definitions of public space assume that public accessibility is the main factor. On deeper examination and awareness of all the variables that may be present in public, the definition seems rather more complicated, especially in terms of the needs of individuals or different groups. The public's needs are constantly changing and therefore public spaces must accommodate all kinds of users, different situations, feelings and perspectives. Just as definitions of public space vary, so too do approaches to the creation, restoration and sustainability of public spaces from the perspective of the landscape, city governments and the inhabitants themselves. In his book *Městský veřejný prostor (Urban Public Space)*, Petr Kratochvíl describes definitions and different approaches to the understanding and creation of public space and argues that the most interesting and fundamental approaches to public space are those that deal with three basic factors linking philosophical, sociological, and political science issues, the use of public space and the form of public space itself - the meaning, activities and form of public space. [9]

THEORY OF RESEARCH

Defining the ideal public space is based on theoretical and empirical research and preferred focuses, ranging from aesthetic layout and cognitive relations to direct activities and interaction between people and space, ... Some of these include research and works by authors such as Hanna Arendt, Kevin Lynch, Christian Norberg-Schulz and a number of studies and research projects by the Danish architect Jan Gehl. [9; 10] "When we talk about streets and other public spaces in the city, we are really talking about the city's own identity. It is in these spaces that human exchanges

and relationships, a variety of uses, conflicts and contradictions in society are manifested.” [11]

The works of Jan Gehl, Ben Rogers and John Montgomery were essential to our research and the construction of the questionnaire content. The works of all three authors define the characteristics and parameters of “ideal” public space. In one of his articles: “In defence of the realm: 10 principles for public space,” Ben Rogers defined 10 principles that public space should contain. [12] On the other hand, John Montgomery, with a similar approach, divided public space according to the activities that the public performs in it – primary and secondary activities, identified 3 components through which public space influences feelings – activity, form, and image, and then established twelve identifiers of successful public space. [13] Subjective perception of space, interaction with space, defining 3 groups of activities – necessary, optional and social, the necessity of human scale, “eye-level city”, “a city for people” are just a few of Jan Gehl’s [14] fundamental contributions, which he has described in several key publications such as *Life between Buildings*, *Cities for People* and *How to Study Public Life*. [15; 16; 17]

By researching and studying works by more than just these authors, we developed questions that formed the basis for our observations and form of research: What does the “ideal” public space contain? Does it have to consist of all the elements listed? Is the view of the general and professional public on the issue of public space fundamentally different?

RESEARCH METHODOLOGY

One of the research methods was a quantitative questionnaire survey, which was completed by 94 respondents. The questionnaire was published online with free access. Data collection took place over a period of 2 months, with it being published on 8 April 2023 and withdrawn on 8 June 2023. The questionnaire was also created in Slovak and English versions. We did not influence respondents’ opinions or responses in any way when they were completing the data. The questionnaire was designed to be anonymous. The questionnaire had 18 questions, which are built on the theoretical basis of active public spaces developed by Ben Rogers, John Montgomery and Jan Gehl, see *Theory of Research*.

Almost every question was asked in such a way that the answer could be rated on a scale of 1 to 5, with 1 always being the least and 5 the most. In addition to questions about public space, we asked respondents about their gender, field of study and level of education. These supplementary questions were essential for comparing the views of the professional public on the issue of active and complete public space with the views of the general public with education outside the fields of architecture, urban planning and related disciplines, and also for comparing the perception of public space from the perspective of women and men. Respondents had the option not to answer these additional questions.

Questionnaire questions:

1. How do you most often move around public space? (walking, bicycle, scooter, skates, car, public transport)
2. On average, how much time do you spend actively using public space during the day (on a square, on a residential street, in a park, ...)? (up to 10 minutes, 10–30 minutes, 30 minutes–1 hour, 1–2 hours, 2 or more hours)
3. VARIETY OF USE: Do you think that public spaces offer a wide variety of uses to the public?
4. VARIETY OF USE: What elements of variety of use do you think are most important for vibrant and active public space? (long-term housing, short-term housing,

offices, local/traditional shops, crafts, civic amenities, cafés, barbers, bars, refreshments, restaurants, leisure activities, playgrounds, urban furniture, shopping malls, artworks)

5. ACTIVE PARTERRE: Do you think that an active parterre (linking the ground floors of buildings to public space - shopfronts, interesting building façades, ...) has a significant impact on lively and active public space?

6. HUMAN DIMENSIONS AND SCALE: Do you think it is important for urban life to happen at eye level? (As far as possible, activities take place from the ground floor to the second floor for the best possible contact between the space and the visitor)

1. Akým spôsobom sa pohybuje vo verejnom priestore najčastejšie? *

	najmenej často	2	3	4	najčastejšie
Chôdza	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bicykel, kolobežka, korčule,...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Auto	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MHD	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. Koľko času priemerne strávite aktívnym využívaním verejného priestoru počas dňa (na námestí, pobytovéj ulici, v parku,...)? *

do 10 min

10-30 min

30 min-1 hodina

1 - 2 hodiny

2 a viac hodín

3. ROZMANITOSŤ VYUŽITIA: Myslite si, že verejné priestory ponúkajú verejnosti širokú rozmanitosť využitia? (1 najmenej - 5 najviac) *

	najmenej	2	3	4	najviac
Škála rozmanitosti využitia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. ROZMANITOSŤ VYUŽITIA: Aké prvky rozmanitosti využitia sú podľa Vás najdôležitejšie pre živý a aktívny verejný priestor? *

	najmenej dôležité	2	3	4	najviac dôležité
Dlhodobé bývanie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Krátkodobé bývanie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Kancelárie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Miestne / tradičné obchody	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Remeslo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Občianska vybavenosť - kaviarne, holičstvo, bary, občerstvenie, reštaurácie, ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Voľnočasová aktivita - ihriská, ...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mestský mobiliár	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nákupné centrá	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Umelecké diela	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Fig. 1.: Questionnaire Image.

7. HUMAN DIMENSIONS AND SCALE: What elements do you think are most important to create human dimensions and scale in public space? (buildings with an average height of 5–8 storeys, the ratio of the height of the building to the width of the public space is 1:1 to 1: 3, walking distance to services, public transport, ... up to 10 minutes, more smaller blocks = more side streets, corners and crossing possibilities, development defines the shape of public space = defined street line, more frequent articulation of building façades e.g. entrances, windows, variety of architectural styles, accessibility = number of roads leading to/ from the site)

8. SAFETY: Rate how safe you feel in public space.

9. SAFETY: Rate how safe you feel in public space at different times of the day.

10. LIGHTING: Do you think that public lighting is appropriately selected and placed in public space?

11. STIMULATING THE LOCAL ECONOMY: Do the public spaces support the local economy – small businesses, markets, traditional local shops, ...?

12. LOCAL IDENTITY: Please rate how important you think it is to create a strong relationship between the public and public space, e.g. by supporting local businesses or using traditional and local elements.

13. STREET COMPLETENESS: Are there elements in public spaces that are necessary for complete, lively and active public space? (Pavements, benches, bike racks, information boards, infrastructure, green space, bus stops, ...)

14. SHARED SPACE: In your opinion, is it important that public space serves pedestrians, cyclists, traffic, ... or should it be reserved for pedestrians only?

15. GREEN and BLUE AREAS: Do you think there is enough green space and water features in public spaces?

16. SOCIAL PARTICIPATION: Do you think that the public's views and comments should be taken into account when planning and designing public spaces?

17. Which of these elements do you think are the most important for lively and active public space?

(VARIETY OF USES, ACTIVE PARTERRE, SOCIAL DIMENSION AND URBAN VITALITY, HUMAN DIMENSIONS AND SCALE, SAFETY, LIGHTING, STIMULATION OF THE LOCAL ECONOMY, LOCAL IDENTITY, STREET COMPLETENESS, GREEN AND BLUE SPACES, SOCIAL PARTICIPATION)

18. What do you think is lacking in public space? What do you perceive as the biggest deficiency in public space?

19. Your gender

20. Your education

DATA, COMPARISON AND RESULTS

A total of 94 respondents completed the quantitative questionnaire, independently completing the anonymous online questionnaire without their responses being influenced by members of the research team. The issues and concepts addressed were partly presented to the respondents in the wording of a question. The questionnaire was general and the questions were not directed at a specific public space. Respondents expressed their subjective view of public space they know and move in on a daily basis. In addition to the 18 questions focusing on public space issues, respondents were given the opportunity to voluntarily answer questions on education and gender. These voluntary questions show that the questionnaire was completed by 55 women, 34 men and 6 respondents who did not want to answer this question. Of the 94 responses, 21 people were recorded as having an architectural or related degree, with 2 respondents unwilling to state the level of education completed. The

initial questions were aimed at defining the method of use of public space. The most common way of moving around in public space is the most natural way - walking, followed by public transport and car transport. Bicycles/scooters came out as the least used mode of transport. From the answers we conclude that the majority of respondents live in regions where cycle routes are not well developed. Respondents spend 30 minutes/day actively using public space on average. When asked about variety of uses, 50.5% responded neutrally, with 29.5% indicating that public space does not offer enough variety of uses for active public space. The most desirable types of variety of uses were selected as - leisure activity (playgrounds, ...), civic amenities, urban furniture and local/traditional shops.

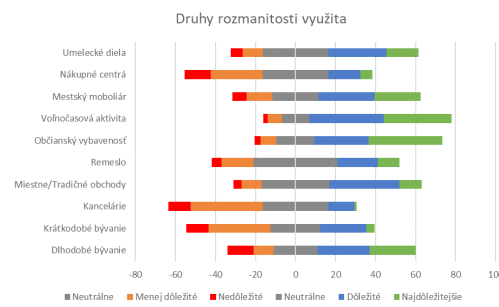


Fig. 2.: Types of Variety of Use Chart.

The influence of an active façade emerged from the questionnaire as one of the most important factors in public space, with the majority of respondents (62.1%) stating that an active façade was important to them. 49.4% of respondents are inclined to the view that human dimensions and scale are important in public space, 31.6% of respondents are neutral. Respondents considered the most important human scale factors to be - walking distance, accessibility and built-up public space.



Fig. 3.: Human Scale Elements Chart.

The question of stimulating the local economy came out with a more or less neutral result. On the other hand, the influence of local identity came out as an important factor in public space (70.6%). The majority of respondents regard the demarcation of public space separately for pedestrians as important.

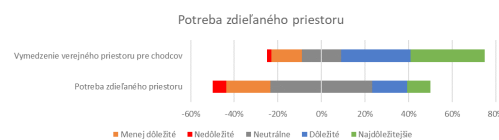


Fig. 4.: Need for Shared Space Chart.

47.3% of respondents reported that there is a lack of green and blue spaces in public space, with 26.3% responding neutrally. The majority of respondents believe that citizen participation in the creation of public space is necessary. Only 11.6% of respondents answered that participation was unimportant. The results of the individual questions were confirmed by question 17, where the respondents had the opportunity to select the 3 most important elements for public space. Green and blue areas, safety and variety of use were the most frequently chosen.

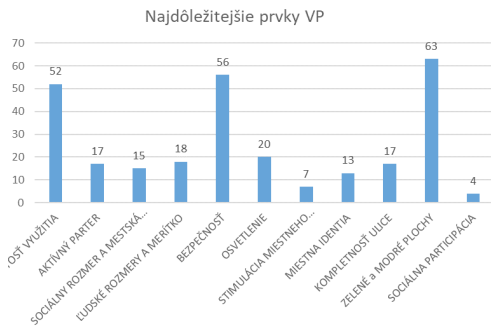


Fig. 5.: Most Important Elements of PS Chart.

In question 18, the respondents had the opportunity to volunteer their own opinion and name what they think is most lacking in public space. Of the 50 responses, the most common answer was lack of green space, water features, furniture, cleanliness and the overall quality of public space. 44 respondents did not answer this question.

CONCLUSION

Despite the effort to create a simple questionnaire, the average time taken to complete it was about 11 minutes. Based on feedback from respondents, who acknowledged the complexity of the questionnaire, we agree that it would be more beneficial in the future if a quantitative questionnaire without direct contact with the respondent was developed and composed of more simply worded questions. On the other hand, the professional public criticised the over-generalisation of the questions. Based on the feedback, we consider that it might be more advantageous in the future to create 2 separate questionnaires designed separately for the general public and professional public.

The difference between professional and lay public opinions on the completeness of public space was not significant, with almost every question showing similar percentages on the importance or unimportance of each factor, with a 5-10% difference. The only exception occurred on the question of human scale. The difference was in the range of about 20%, with the lay public leaning towards a lower importance compared to the professional public, which gave human scale an important position in public space. This more pronounced difference in a single question may have been due to the complexity of the questions asked, focusing on human scale issues.

Questions directed at safety and lighting should not be asked in general terms as they are site-specific. In a possible future questionnaire survey or similar research, we would not include a question about safety in a general way. Safety in public spaces almost always exists when the condition of an active and vibrant public space - collective safety - is met. Having gained experience, we think it would be more beneficial for the research to examine specific safety features or to focus on specific locations in public space. It is easier to directly find and verify the reasons for danger in a particular location.

The results of the questionnaire survey point to the need to adapt public space to a human scale.

It is important to ensure not only the necessary activities, but also the forms of optional activities and their variety, which will subsequently lead to an increase in social activities - spaces for leisure activities, a variety of civic amenities, well-maintained urban furniture and the overall multi-functionality of an area, i.e. variety of use. The main factor affecting the quality of the public environment is the amount and condition of blue and green infrastructure, which influences the

micro-climatic conditions of a location.

The results of the questionnaire survey are not the final output. The results of the research and its subsequent use will be known after the overall completion of the individual parts. The research will continue by directly following on from the questionnaire survey, the data and information collected will be observed in specific localities. Observations will take place in the central parts of Ostrava and its partner cities, Košice, Katowice and Dresden. Attention will be focused, in particular, on historic centres, squares and areas within a 10-minute walking distance of them. The data and information collected will be applied to a case study - the revitalization of a central public space. The output will be a guide/manual that will help to create active public space in terms of functional use and amenities.

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