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**A friendly city: public space accessibility in Kielce**

*Introduction: A friendly city – accessible and sustainable*

“A friendly city”, i.e., one that is attractive to residents, tourists and investors, influences people’s comfort of living and is of interest to many researchers. One of its key elements comprises spaces designed for everybody, i.e., prepared in such a way that they can be accessed and used by all people regardless of age, ability or individual constraints.

The statement that [...] design for everyone is one of the elements of sustainable development [1, pp. 22, 23] and [...] a public space that meets the requirements of residents, that is adapted to their needs, including those arising from physical and sensory limitations, creates an image of a city that is friendly to all was put forward by Marek Wysocki [2, p. 39].

It is estimated that by 2050 the share of people over 65 and people with disabilities within the population will significantly increase worldwide [3]. This data supports the statement that a “friendly city” should be both sustainable and accessible.

The aspect of accessibility of buildings and spaces in Poland is regulated by legal acts and regulations, including the Rozporządzenie Ministra Infrastruktury w sprawie warunków technicznych, jakim powinny odpowiadać obiekty budowlane metra i ich usytuowanie [Regulation of the Minister of Infrastructure on the technical conditions to be met by metro structures and their placement] [5]. The current Prawo budowlane [Construction Law Act] explicitly states the need to provide access to buildings for persons with disabilities, considering persons with disabilities as defined in the Convention on the Rights of Persons with Disabilities [6, 7]. However, it appears that universal design implementation needs to be examined more closely. The minimum guidelines proposed in the regulations are often insufficient and a case-specific approach and consideration of all users’ needs are necessary. The regulations are complemented by other documents and popularisation or educational campaigns. Such documents include the so-called accessibility standards, intended to improve accessibility

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1 Article 5 of the Construction Law Act states that a building, together with its ancillary equipment, should [...] be designed and constructed in a manner prescribed by regulations, including technical and construction regulations, and in accordance with technical knowledge principles, ensuring the necessary conditions for the use of public facilities and multi-family residential buildings by persons with disabilities, including the elderly [6, Article 5].

2 Article 9 of the Convention, which deals with accessibility, obliges states that ratify the Convention to ensure that persons with disabilities have access to the physical environment on an equal basis with others, and is therefore significant.

3 Universal design is the philosophy of designing products and environments so that they can be used by everyone, as widely as possible, without the need for adaptation or special design. The seven principles of universal design are: 1. Equitable use. 2. Flexibility in use. 3. Simple and intuitive. 4. Perceptible information. 5. Tolerance for error. 6. Low physical effort.

4 The accessibility standards contain a set of information for the design and modernisation of public spaces according to universal design principles, with the aim of implementing user-friendly solutions for all users, including people with disabilities and seniors.
and education [8], [9], or the Wytwarzanie w zakresie realizacji zasady równości szans i niedyskryminacji [Guidelines on the implementation of the equal opportunity principle and non-discrimination] [10]. Accessibility of space is a topical and in-demand issue in the light of the Ustawa o zapewnianiu dostępności [Accessibility Act] entering into force, as this act aims to improve the living conditions and functioning of citizens with special needs [11].

At present, the biggest changes in accessibility are observed in areas related to public facilities and their surroundings, as well as public spaces such as city and garden squares, which were selected as the subject of this study.

According to the Ustawa o planowaniu i zagospodarowaniu przestrzennym [Act on Spatial Planning and Development], a public space area is to be understood as […] an area of particular significance for satisfying the needs of residents, improving their quality of life and fostering social contacts due to its location and functional and spatial characteristics […] [12, Article 2]. In the most general terms, a public space is a collection of places that are generally and freely accessible and are used to meet the needs of its users. This raises the following question: to what extent and how the urban environment enables free access to them and how it meets human social needs, including the needs of people with disabilities.

Public spaces should fulfill a number of conditions, including the condition that general accessibility should be their essential feature. In Poland, this view has not become part of the public consciousness yet, but the associated issues are being analysed by specialists. When talking about the design of a public space, it is important to realise that the problem of shaping it is more complex than that of building design. Cities are built over centuries, at different times, on lands with different properties and for different uses, many of which evolve over the years. The complex network of roads, streets, crossings, squares, parks and promenades is a conglomeration of places designed and built largely separately by entities with different objectives. Ensuring the consistency and accessibility of these sites is therefore not an easy task. The proper design of not only each structure that co-creates a given public space, but also their interfaces and their proper connection with the surrounding buildings and circulation and transport solutions, is a serious problem. Therefore, the universal design of public spaces applies equally to the scales of buildings, road infrastructure, planning and urban policy [13].

It can be assumed that the essence of a public space is based on its three basic characteristics: ownership (preferably public), broadly understood accessibility, and fostering communication and interaction [14]. Accessibility is a very complex issue and architectural and urban design is a multi-faceted process that relies on the intuition, knowledge and experience of the designer to consider the needs and expectations of people as the users of the space [15]. Architects should aim to shape the form, aesthetics and function in a way that takes into account accessibility, while at the same time being respectful of human dignity and equality [16]. The idea behind contemporary design is to shape the space with the needs of all people in mind, both those who are fully physically fit and those who have problems with things like mobility, or suffer from visual or hearing impairments [17].

### Subject and aim of the paper

The subject of this paper is an architectural and urban analysis of selected public spaces in Kielce (Fig. 1), modernised as part of the Revitalisation of the Historical City Centre of Kielce – Phase I programme in terms of accessibility. Based on a set of selection criteria, three urban spaces, considered to form the greatest joint asset of the urban space, were selected for analysis. The spaces were analysed against criteria that verify solutions that favour general accessibility, meaning not only easy reachability, convenient access on foot or by vehicle, but also openness to all groups of residents and visitors. The characterisation and analysis of spaces aimed to assess whether the spaces under study were attractive, sustainable and accessible, with solutions that enhance the functionality of the city space at the level of physical, psychological and emotional needs.

### State of research

The subject matter of accessible cities, as outlined in this paper, concerns broadly understood space design that aims to create a “welcoming city”. The range of literature that discusses these issues is exceptionally extensive. Urban public spaces, design trends, sustainability, accessibility and safety aspects are a multifaceted area of research engaged in by researchers from various academic disciplines. Authors associated with architecture include Grażyna Schneider-Skalska [18] or Lucjan Kamionka [19].

City planning that considers the needs of persons with disabilities has been present in the literature since the 2nd half of the 20th century [20]. In the late 1980s, with the establishment of the Center for Accessible Housing and later the Center for Universal Design, the concept of universal design was formulated and developed in further research [21]. In Poland, the study of accessibility issues appeared in the literature in the 1980s and included housing forms adapted to the needs of seniors [22] and the design of disability-friendly environments [23]. Architectural accessibility is an endless and ever-present topic. Despite growing public awareness of the necessity to adapt buildings and public spaces for people with disabilities, there is still a need for research in this area. Over the past decade, research has been conducted on accessibility in terms of the needs of specific user groups, such as seniors [24], [25] or the blind [26]. On the other hand, the need to take into account the aspect of universal accessibility of towns

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5 Lokalny program revitalizacji obszarów miejskich, poprzednich i popowojewskich w mieście Kielce [Local Revitalisation Programme for Urban, Post-industrial and Post-Military Areas in the City of Kielce], Kielce City Hall, 2007, including Revitalizacja zabytkowego Śródmieścia Kielce – etap I [Revitalisation of the Historic Downtown of Kielce – Phase I], whose main objective was to increase the socio-economic and spatial attractiveness of Kielce and to preserve and strengthen its role as a regional centre.
and cities and their public spaces already at the planning phase is signalled by, among others, Marek Wysocki [27] and Krystyna Solarek [28].

**Methodology**

Based on an analysis of selected Kielce spaces, an in situ investigation was performed. The study was based on an analytical method and grounded in extensive academic literature. In order to properly assess the spaces, analysis criteria were adopted to verify the broadly understood accessibility of space and a number of other factors, including location, transport accessibility, safety of movement, form, shape and composition as well as identity of the place.

*Criteria for the selection of urban spaces for analysis*

Three sites (Rynek, Stefana Żeromskiego Garden Square, and Castle Hill, all revitalised in Phase I of the programme) were selected for the analysis, based on the following criteria:

1. Location. Placement within the urban fabric and in close proximity to other facilities important to users and links to other community spaces, public transport, and vehicular and pedestrian linkages.
2. Upgraded spaces included in Phase I of the Revitalisation of the Historical City Centre of Kielce programme.
3. History of the place. Places that represent the greatest shared value in the urban space, with special cultural, historical and architectural values, that inspire a wide range of emotions and provoke deeper reflection.
4. A diverse functional and use programme that contributes to popularity.

*Criteria for analysis*

The sites selected were analysed in terms of general accessibility, meaning not only good reachability, but also convenient pedestrian and vehicle-based access for people of different ages, each with different needs, abilities and limitations due to possible dysfunctions, but also in terms of openness to all groups of residents and visitors. The following were investigated:
– accessibility in terms of transport (municipal, vehicular, pedestrian, etc.),
– the form and shape of the space,
– place-based identity,
– programme – its accessibility and diversity,
– solutions that facilitate spatial orientation.

Results

The Kielce public spaces selected for analysis are characterised below.

Rynek

Rynek [Market Square] (no local spatial development plan in effect, a spatial development conditions and directions study is in effect, Figs. 2, 3) is one of the oldest city squares in Kielce. Its modernisation (along with street fragments) was carried out in the years 2010–2013, as part of the Revitalisation of the Historical City Centre of Kielce – Phase I programme. The most important change was the reconstruction of Rynek’s surface and constraints on vehicular traffic. Previously, the space was inaccessible primarily because of a pre-existing roundabout located there.

Rynek is located in the central part of Kielce, in the immediate vicinity of the city’s main streets. It is accessible from all parts of the city in terms of municipal and individual transport. There is segregation of vehicular and pedestrian traffic in the space of Rynek and the streets connected to it. Car traffic is slowed down (20 km/h) and limited to emergency vehicles, residents and taxis, which promotes safe movement (Fig. 4). The bus stop space has facilities for persons with blindness and visual impairments, for instance in the form of voice signalling and textured pavement markings. In the circulation space of the Rynek stop, there are no physical barriers in the form of significant differences in terrain elevation, external stairs or obstacles such as thresholds that may restrict the movement of a wheelchair user. However, the space requires markings and signage for the blind and visually impaired to assist them in the correct perception of the space and to correctly locate and find Rynek. There is a paid parking zone along the streets leading to Rynek. A municipal car park, private car parks, bicycle racks and a taxi rank are located in the immediate vicinity. The nearest public transport stop is 100 m away from Rynek (near the main entrance to the City Hall building), while one of the largest stops in the city (IX wieków Kielc Avenue) is located 200 m away.

Rynek’s surface is uniform, with no significant slope or differences in elevation, and is accessible to seniors, people with disabilities or with wheeled luggage. It consists of large stone slabs with smooth joints. There are no external stairs, major differences in elevation or curbs. The spatial layout ensures safe movement through the area via the proper placement of elements like street furniture, benches, landscaped greenery, water features, recreational features, etc. The existing fountain was replaced by around a dozen water jets. The jets are located beneath the surface and are not barriers to movement.

The physical shape of the designed space and the positioning of the various elements allow the Market Square to be viewed in all its glory from every corner, which positively influences perception. The buildings that form each of Rynek’s frontages are mostly two and three storeys high and therefore relatively low compared to the dimensions of the square’s surface, which means that the human scale is preserved and this contributes to the positive perception of architecture.

The composition’s legibility and the clarity of the layouts related to Rynek’s place-based history positively contribute to its place-based identity and to the safety of movement related to the space’s correct perception. A trace of the outline of the former town hall has been left in the surface, as well as a section of the wall which was converted into seating. This is a mark that references the past, but has been given a modern character.

A varied use programme allows for satisfying essential human needs – including physiological needs, the need for rest, stimulation, hygiene and safety. There are many restaurants, cafés and clubs. Public toilets were placed in the place were Rynek widens. Outdoor terraces are also in operation during the summer. In winter there is an ice rink. Following a joint initiative of the city and the Institute of Design in Kielce, Rynek was arranged with street furniture elements that can be used for recreation (hammocks, wooden benches, seating, potted plants). Outdoor exhibitions and concerts are held there.

The above-described elements of the space have a positive impact on its accessibility. Rynek’s space influences emotions and invokes positive associations, which is key in the context of accessibility and, consequently, generally understood safety and lack of social exclusion.

Stefana Żeromskiego Garden Square

This area is the public space of a small urban park – a garden square that acts as a pedestrian circulation and recreational green space (Figs. 5, 6).

The poor technical condition of the surface of the paths and the square, the dilapidated wall and stair elements, the need to infill and landscape the greenery for the new spatial arrangement related to the placement of the Home Army monument required a comprehensive design for the reconstruction of the park as a project intended to solve the compositional and functional problems of an important urban public space.

The garden square is located between Jana Pawła II Street and Wesoła Street. Vehicular access to the site is from both streets. The nearest bus stop is in Jana Pawła II Street, right at the entrance to the garden square from the side of the cathedral. A municipal car park, private car parks, bicycle racks and a taxi rank are located not far from the area. The garden square is completely closed to traffic. Only pedestrians can use it. There is a 30 km/h speed limit on both streets between which the square is located, along with numerous speed cushions (Fig. 4).

The entrance to the space in question, both from Wesoła Street and Jana Pawła II Street, is barrier-free – the surfaces of the pedestrian paths have also been remodelled.
to allow people in wheelchairs and with prams, among others, to move around. Landscaping elements were restructured and placed in barrier-free areas. The garden square’s space is illuminated with street lamps and pavement lights along the seating walls. The lighting was designed to improve mobility safety, the space’s accessibility and its correct perception, especially for the blind and visually impaired. The existing spatial layout of the garden square is based on a central piazza with a diameter of 40 m, located at the intersection of the main axes of the 8 m wide park avenues, at the extension of the axis of Mickiewicza Street and the gate leading to Jana Pawła II Square in front of the cathedral. The composition of the garden square is clear and the layouts related to the history of the site are clear. The circular form and scale of the central piazza are a remnant of the grounds of
an Orthodox church that existed here in the years 1870–1934, as well as of a circulation link that connected the Castle Hill area with a new residential district for governorate officials, established in 1874 at the present-day Wolności Square. The main avenue with a circular piazza is a historically based layout. The radial alleys, created spontaneously, are natural shortcuts that lead to the corners of the garden square.

The formal and educational use is defined by the Monument to the Soldiers of the Home Army of the Radomsko–Kielce “Jodła” District, designed by outstanding sculptor Professor Wincenty Kućma and erected here in 2005 on the central piazza. The monument was left unchanged. Only the high plinth of the monument has been remodelled. It is now no longer an architectural barrier.

The space of Stefana Żeromskiego Garden Square is universally accessible. Although the landscaping design was not implemented as originally envisioned, the green natural setting positively affects emotions, encouraging relaxation and contemplation. Low and tall greenery provides shelter in the shade of trees on hot days and enables contact with nature in the city centre.

The buildings under analysis had housed a prison since the tsarist era. The prison complex operated up to 1980. Today, the complex serves as the Ośrodek Myśli Patriotycznej i Obywatelskiej [Centre for Patriotic and Civic Thought] and a Galeria Współczesnej Sztuki Użytkowej [Gallery of Contemporary Applied Art]. The space under analysis is located in the historical part of Kielce – on the Castle Hill (Zamkowa Street). It is directly adjacent to the City Park and the pond. The immediate surroundings of the analysed prison facilities is the Baroque Palace of the Bishops of Krakow – the best-preserved original palace residence from the 17th century in Poland, together with its garden, and the Baroque Cathedral Basilica. The revitalisation project was selected through a competition in 2010 (Fig. 7, 8).

The nearest public transport stop is a considerable distance away. All bus stops are located within a radius of approximately 900 m. The site is located on a hill and surrounded by a park complex which precludes public transport units from reaching it. Direct access to the site is available by car or taxi. Parking spaces, bicycle racks and a taxi rank are located in the vicinity of the area. The courtyard space, which is part of the building complex, is open and universally accessible (Fig. 4).
A historical cobbled street leads to the courtyard and navigating it may cause some difficulties for people in wheelchairs or with inappropriate footwear. The courtyard entrance and access, on the other hand, are free of architectural and urban barriers in the form of stairs or protruding curbs. The surface of the courtyard is uniform – in places it contains strips filled with loosely piled stones. The incline of the courtyard surface is significant, but it allows for safe movement, even in a wheelchair. The use of slope negated the need for external stairs, drops or curbs. The combination of different pavement types was designed without thresholds. The way in which the space is laid out influences its accessibility through the appropriate placement of, for example, street furniture, greenery, and water and recreational features.

The clarity of the composition and the explicitness of the features related to the area’s place-based history positively influence the place’s identity and the perception of the space. The structures have been given a modern form that does not overshadow the historical setting, so as to create a backdrop for the history of the site. A number of contemporary references to the past, which are symbolic in nature, have been used, i.e., a concrete wall with holes in it, a steel grating in the wall – signifying captivity, an apple
is no longer completely closed to the street. Linked by a sequence of openings in the wall, the courtyard engages in a dialogue with the street. It invites one to enter. Thus, the street is no longer completely closed to the courtyard. The street faces a new quality, the interior of the National Remembrance Museum, whose interior opens towards it. The tragic history of the street and the prison is separated only by a set of bars. The space positively affects emotions and produces positive associations, despite the dramatic events associated with the site.

The varied functional and use programme provides significant potential for the use of the space in question and for interpersonal contact. As already noted, there is the Centre for Patriotic and Civic Thought, the Gallery of Contemporary Applied Art or the headquarters of the Kielce Design Institute.

The quality of architecture is of a high standard here. Modern material solutions were used, such as concrete – the stone of contemporaneity – steel and stone. The courtyard tree in the central part of the courtyard referring to a prison yard, etc. The new form clearly allows the user to travel back in time to the events that took place there. The introduced elements stimulate the imagination, even of people who are not exactly familiar with history, as they suggest many correct interpretations of the symbolism featured.

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Materials provided by Autorska Pracownia Projektowa [Author’s Design Studio] Regina Kozakiewicz-Opałka. Revitalisation was implemented according to the studio’s design.
Summary and conclusions

Universal accessibility is a factor that has a significant impact on the attractiveness of the city space. An accessible city starts with proper planning, accessible infrastructure, and accessibility of circulation and transport, up to the absence of physical or architectural barriers in a space or building. Public spaces that represent the greatest common value, with special cultural, historical, architectural values, should be accessible to all people, regardless of their ability or age. An accessible space is easy to reach and has convenient access both on foot and by vehicle. It is a place one wants to return to and does not cause a mental barrier associated with moving. It is also a place that is associated with broadly understood safety and lack of social exclusion.

On the basis of the analysis presented, it can be concluded that Kielce’s public spaces under study are places that feature solutions that improve the functionality of the city’s zones at the level of not only physical, but also psychological and emotional needs, enabling rest and various forms of activity for all social groups, including people with disabilities. The squares in question allow easy reachability, foster a proper perception of space, develop and enable various forms of social life and the initiation of human contact. As a result, they are universally accessible and thus have a positive impact on the perception of Kielce as a friendly city.

Acknowledgements

This article is funded from the project Accessibility Hub – Centre for Practical Accessibility Learning, POW.03.05.00- IP.08-00-CWD/20, implemented as part of the Operational Programme Knowledge Education and Development 3.5 Comprehensive Funded of Higher Education Institutions, Higher Education for Economy and Development; co-financed by the European Social Fund – co-financed by European funds.

References


Abstract

A friendly city: public space accessibility in Kielce

The universal accessibility of public spaces is one of the factors that contribute to the image of a friendly city, understood as a place that meets the needs of all social groups, including people with disabilities.

The aim of this study was to analyse the public spaces of Kielce in the context of accessibility. The spaces selected for the study are located at the intersection of different structures, constituting a public space in the traditional sense together with a network of streets and squares, a collection of important buildings, monuments, street furniture and urban greenery. The discussion covers the verification of circulation and transport solutions, the form and shape of the designed space, their place-based identity, programme and spatial orientation. Space characteristics and analysis were used to assess accessibility.

The characterisation and analysis of spaces aimed to assess whether the spaces under study were attractive, sustainable and accessible due to solutions that enhance the functionality of the city space at the level of physical, psychological and emotional needs. The analysed public spaces of Kielce, thanks to their universal accessibility, guarantee easy accessibility, safety of use, promote proper perception of space, interpersonal contacts, as well as various forms of social life, thus positively influencing the perception of Kielce as a friendly city.

Key words: city, public space, accessibility, universal design, friendly city