

## SAFETY NEEDS MANAGEMENT FOR PEOPLE WITH DISABILITIES IN CONTEMPORARY CITIES

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**Abstract:** Adapting city space to the needs of disabled people is an increasingly important area of activities of local government authorities. Well-thought-out architecture of buildings, road construction and adaptation of broadly understood urban transport ensure free use of city life for all users. The aim of this study is to analyze chosen urban planning solutions tailored to the needs of disabled people. Research methods of this paper are problem-oriented theoretical studies, case studies.

**Keywords:** persons with disabilities, city, management, sustainable development

### 1. INTRODUCTION

Persons with disabilities constitutes approximately 15% of the global population, and it is 20% in low- and middle-income countries. Approximately 50% of all people with disabilities live in cities, that are more designed according to the needs of people without disabilities and people using mostly motor vehicles than walking, cycling, or using public transportation. It means that there is significant need to implement universal design in the urban planning in the context of people with disabilities (WHO 2011, Artieda et al., 2022). According to the United Nations Convention that concerns Rights of Persons with Disabilities and following definition of the World Health Organization (WHO), 'persons with disabilities', 'people with disabilities', and 'people with disability' are associated with key word 'disability' that is an element of being human and it is one of the integral human experience. It is also defined as a result of the interaction between the health conditions and a range of environmental and personal factors. Specialist and experts defined problem of the disability in the terms of the extent to which one's involvement in nature or economic affairs. For example, Crane and Warrens have defined the disabled as those who have physical limitations on the activity (Crane et al., 2001).

According to statistics and global worldwide trends, it is suggested that in 2050 cities will be home for two third of humanity that includes 15% of people with disabilities. It is underlined that growing cities have to concertante and exacerbate overwhelming challenges in terms of poverty, inequalities, safety and pollution (UNDESA 2014). These factors engender additional exclusion of the most marginalized and vulnerable members of communities, including persons with disabilities; all the more in developing countries. According to the World Bank report (2018), traveling safely will be a great challenge for people with disabilities who often have a problem with getting to school or university. Safe

mobility is fundamental to equitable access and inclusion for all persons in the economic, social, cultural, and political spheres of life in cities. Cities have to be changed in the transformation process that is based on the reduction of inequalities in society according to Convention on the Rights of Persons with Disabilities and Sustainable Development Goal 11. It is possible owing to national and local policies and strategies that integrate solutions within mobility and disability (Humanity & Inclusion 2018).

Critical for urban development according to sustainability approach is changing cities into accessible and inclusive places for all people, in particular for persons with disabilities (DIAUD 2016). Majority of local politicians and urban planners concluded that representatives of people with disabilities should have a serious role to play in the urban planning process and management. Many theoretical discussions were also undertaken to create a cultural context for the participation of the disabled in the cities development. As the first discussion that was published in the international journal was registered as the debate in England and the United States and it was called debate on Urban Planning. Today fundamental issue in building sustainable, resilient, humane, and disabled-oriented cities is wise urban land-use policies (Barton 2009, Dannenberg et al., 2003). Urban development is ready to be implemented when it is based on the land use policy. Urban land use planning is associated with a process of land use regulating according to spatial distribution conditions to build sustainable functional place for living (Chen et al., 2014, Bennett et al., 2008, Brow 2015, Aravot 2002).

## **2. STATUS OF PERSON WITH DISABILITIES IN LAW REGULATIONS**

On July 19, 2019, a new, ground-breaking act on ensuring accessibility for people with special needs entered into the Polish legal system. It creates a legal and organizational framework for implementing the idea of accessibility in our country, imposing obligations on all public entities to ensure accessibility in the architectural, digital and information and communication aspects. Most of the provisions of this Act have been in force since September 30, 2019, the remainder entered into force gradually over the next two years. In the same year, Directive (EU) 2019/882 of the European Parliament and of the Council of 17/04/2019 on the accessibility requirements for products and services (OJ EU L 151, p. 70) (European Accessibility Act) was also adopted, the aim of which is approximation of the laws of the Member States as regards the accessibility requirements of certain products and services, in particular by eliminating and preventing barriers to the free movement of certain accessible products and services which result from divergent accessibility requirements in the various Member States. The obligations set out in this Directive, subject to certain qualifications (in particular Article 4(1) in conjunction with Article 14(6) of Directive 2019/882, should apply to the same extent to economic operators in the public sector and to economic operators in the public sector private sector (recital 57 of Directive 2019/882).

Directive 2019/882 indicates that accessibility should be achieved by systematically removing and preventing barriers, where possible by using a "universal design" approach, which will contribute to ensuring that people with disabilities have access to products and services on an equal basis with others. According to the Convention, this approach "means the design of products, environments, programs and services so that they are useful to all, to the greatest extent possible, without the need for adaptation or specialized design." According to the Convention, universal design "does not exclude technical aids for special groups of disabled people where appropriate." Furthermore, accessibility

should not preclude reasonable accommodations being made where required by Union or national law.

The Act of July 19, 2019 on ensuring accessibility for people with special needs specifies measures to ensure accessibility for people with special needs and the obligations of public entities in this regard (Article 1(1) of the Act on Public Health and Safety). In the justification for the government bill, "Removing barriers and ensuring accessibility for all citizens, including primarily people experiencing difficulties in mobility or perception, is one of the key tasks of a state implementing the principles of social justice." According to the Act, everyone may have special needs - this results from a specific situation, a specific person in a specific environment. People with special needs include, for example, elderly people, people with disabilities or other people who have permanently or temporarily impaired mobility or perception (e.g. people who use crutches, prostheses, wheelchairs, the weak, the sick, the deaf, the visually impaired, the manual and cognitive skills, people with strollers, heavy luggage, etc).

The aim of the Act is to improve the living conditions and functioning of citizens with special needs who are exposed to marginalization or discrimination, among others. due to disability or reduced level of fitness due to age or illness. The Act is a key element of the government's "Accessibility Plus" program, which the government adopted on July 17, 2018. The solutions provided for in the draft Act implement the provisions of the UN Convention on the Rights of Persons with Disabilities, which oblige them to provide such persons with access to various facilities on an equal basis with other citizens. The bill was created in cooperation with the disabled community. The result of the Act on ensuring accessibility is to be a gradual improvement in the accessibility of public entities, thanks to which people with special needs will be able to use public services as independently as possible. This is achieved not only by minimum accessibility requirements, but also by specific sanctions for lack of accessibility. The public sector has been obliged to ensure at least minimum accessibility, which will guarantee the availability of the public entity.

In Poland, On February 25, 2021, in the Official Journal of the Republic of Poland "Monitor Polski", Resolution No. 27 of the Council of Ministers of February 16, 2021 on the adoption of the document Strategy for Persons with Disabilities 2021-2030 (Official Journal of the Republic of Poland) was published under item 218 Polish "Monitor Polski" item 218). The Strategy for People with Disabilities meets the requirements of the development strategy within the meaning of Art. 9 point 3 of the Act of December 6, 2006 on the principles of development policy. The document has been assessed for compliance with the medium-term national development strategy issued by the Minister of Funds and Regional Policy. The document assumes a comprehensive, horizontal, cross-sectoral public policy approach to supporting people with disabilities, taking into account their needs for independent living and social inclusion. The provisions regarding specific activities in the Strategy, including legislative and programmatic ones, were preceded by a diagnosis of the actual situation of people with disabilities in Poland.

Year by year, cities are becoming more and more accessible to people with various disabilities. There are numerous programs implemented by local governments. The state also helps. According to the study by the Central Statistical Office "The health status of the Polish population in 2014", over 3.8 million people had a legal disability certificate at that time. This is every tenth inhabitant of our country. The use of a broader definition of disability used in health statistics (i.e. after subtracting people without a disability certificate but declaring serious limitations in performing ordinary activities) increases this

number - at the end of 2014 it was 4.9 million people (12.9% of the Polish population ). 59% of this group are people with damage and diseases of the musculoskeletal system, 38% - with damage and diseases of the visual organ, and 19% - with hearing.

### 3. TOWARDS SAFETY NEEDS OF PEOPLE WITH DISABILITIES – CASE STUDY

Disability should not be treated only as an individual tragedy and individual limitation of a person, but also as a social problem. This exclusion and barriers – physical, legal, social and economic – make the lives of people with disabilities significantly more difficult. There are barriers in the context of road and urban infrastructure:

- **Urban barriers** – restrictions that hinder or prevent the movement of disabled people in cities. These include, among others, uneven sidewalks, underground and above-ground passages, lack of correct colour markings and wide pedestrian crossings with short light cycles.
- **Architectural barriers** - limitations resulting from technical solutions and the manner of use in buildings and streets that hinder or prevent the movement of disabled people. External architectural barriers include high curbs, stairs, poorly placed sign posts, canopies and canopies, as well as poorly profiled ramps and ramps, or lack of markings in the surface texture.

Removing the above barriers is very important. Let us remember that not only disabled people have to adapt to the environment due to their health condition, but also social space should be transformed so that such people can fully use it.

In 2021, there were 2,349 accidents at pedestrian crossings, in which 153 people died and 2,275 were injured - a significant decrease compared to previous years. Police statistics do not indicate how many of the injured and dead were disabled. However, it cannot be denied that a poorly designed pedestrian crossing constitutes a serious barrier and threat to disabled people. More importantly, its design should take into account solutions for people with various types of disabilities. For able-bodied people, crossing the road seems simple and intuitive. However, a person in a wheelchair will have problems getting over the high curb, so it should be lowered. On the other hand, if there is no curb, a blind person can enter the road without being aware that he is doing so - he simply will not be able to feel the boundary between the sidewalk and the road with his cane. Therefore, signals are also installed at crossings with traffic lights:

- acoustic and vibration. Pedestrian acoustic signals transmit a signal that allows you to cross the road or tram tracks. The sounds produced by the device should vary depending on the type of world displayed - green, flashing green and red.

Another solution that makes it easier for blind people to use pedestrian crossings are touch paths and warning strips. They are especially important where there is no sound or vibration signalling.

- touch path - marking a route without standing or hanging obstacles, used to indicate the direction to a specific place. The path should be 90 cm wide, i.e. the width of the walking stick, be durable, have a texture contrasting with the rest of the sidewalk surface, and consist of a guide strip and attention fields.
- warning strip - a set of attention fields, i.e. elements with a texture contrasting with the rest of the surface, which is arranged in a straight line, for example in front of a pedestrian crossing, on platforms and stops or in front of stairs.

- colour contrast – clear, contrasting safety markings. The best colour is yellow for visually impaired people, because this colour is clearly visible even with significant vision loss.

In urban space, small things that able-bodied people often do not pay attention to constitute a barrier that prevents or hinders the movement of disabled people. The most obvious ones include high curbs and uneven sidewalks.

- parking spaces - should be easily accessible to disabled people, so there must be an appropriate number of them, and their occupancy by able-bodied drivers should be severely punished. Parking spaces for disabled people have larger dimensions (more on this later in the article) and should be allocated closest to the exits or entrances to the parking lot or buildings.
- external stairs - they should not be too long in one flight (maximum 10 steps), their surface should be protected against slipping, they cannot be openwork, have undercuts or nosing. Entrance stairs to buildings should have a usable width of at least 1.2 meters. They must also have a comfortable handle.
- driveways and ramps that enable disabled people to access buildings independently. Therefore, these objects must have an appropriate profile and an anti-slip surface. If there is no space for this type of objects, an elevator or lift should be installed.
- small architecture - sign posts and lampposts, benches, garbage bins are the greatest threat to blind people, so they should be placed in such a way that they do not impede the use of the sidewalk. Warning strips should indicate their location, for example near benches or café gardens.
- stops and platforms - they should have warning and colour stripes that inform about the edge of the stop and platform. Timetables should be placed so that people in wheelchairs can also read them.

Means facilitating the movement of disabled people within stations and platforms are primarily elevators (passenger lifts), ramps, stair lifts and lifting platforms. Access to every place within the station or platform should be ensured for disabled people. Often, when devices such as lifts or platforms are used, buttons are used to call for help from the station staff.

Adapting the city to the needs of disabled people is a challenge these days. Cities, wanting to meet the requirements of this group of residents, create local development programs that take into account their needs. In the years 2014–2020, Częstochowa implements these activities as part of the Action Program for Disabled People "CZĘSTOCHOWA DISABLED". This program is addressed to disabled people and their families. It is also socially important due to the growing number of seniors (Kabus and Nowakowska-Grunt 2018).

The Municipal Action Program for Disabled People is being implemented in Gliwice. Its aim is to create social, professional and material conditions for improving and increasing the quality of life of the inhabitants of Gliwice and limiting the phenomenon of their social exclusion. In recent years, the city has been gradually eliminating architectural barriers in special schools and integrated kindergartens. All of these facilities are adapted to the needs of disabled people - they have ramps, specialized elevators, toilets for the disabled and rehabilitation equipment. Gliwice is also implementing a project that aims, among others, to: increasing the accessibility of urban space for disabled people. This project is unique in the country and involves changing the colours of the lighting of streets, parks, squares, buildings and small infrastructure facilities in the city. The new lighting concept

assigns appropriate colour temperatures to individual areas of Gliwice to facilitate their readability, orientation and give them an individual character. The city of Gliwice also provides transport services for disabled people co-financed from the city budget. Disabled residents of Gliwice with limited mobility can use transport adapted to their needs. Priority in transport is given to people with physical disabilities and in wheelchairs (Szołtysek 2013).

The basic issue in functioning independently in the home environment and in the public sphere for a disabled person is freedom of movement. All new construction investments intended for public use must meet accessibility standards for people with various types of disabilities. Investors are obliged to do this by construction law. Lowered curbs will make this easier for people who use a wheelchair or a walker. Special protrusions are also placed on the sidewalk for blind or visually impaired people. For them, additionally, sound signals are used to inform about approaching a pedestrian crossing. Thanks to the use of the latest technology, new construction is becoming more and more universal, accessible and safe for everyone. The situation is much worse in the case of older buildings that require renovations to remove architectural and technical barriers. The State Fund for Rehabilitation of Disabled Persons (PFRON), through district governments, deals with, among others: co-financing works related to preparing the environment for the needs of disabled people. This includes widening doors, building a driveway and installing transfer handles for people in wheelchairs.

PFRON, in addition to co-financing the elimination of barriers in the place of residence of disabled people, supports similar initiatives in facilities serving the professional or social rehabilitation of such people, as well as facilities related to education, health care or civic affairs. There is a program for public buildings. "Equalizing differences between regions." In Polish city Toruń, there is realized government's "Accessibility Plus" program - the largest program of this type in terms of budget and scale of operation - focuses on what is now and tomorrow in terms of multi-area solutions for people with disabilities and special needs. It starts from the assumption that accessibility is what allows for an independent life and full participation in the country's society and economy. Therefore, it should be provided in every place - home, work and school. The program offers a two-dimensional impact on the state of accessibility in Poland. Firstly, it aims to permanently incorporate these issues into the planning, implementation and functioning of the state (education, law), and secondly, it provides for investments - construction, transport and technology. The program is planned to run until 2025. It assumes making space available to all citizens:

- approximately 1,000 places and buildings where architectural barriers will be removed;
- improvement of existing infrastructure - such as stations, stops, sidewalks, parks;
- purchase of new buses and trams;
- available websites of all state offices and institutions.

According to the report on activities for people with disabilities in Poznań in 2020, activities of the City of Poznań for residents with disabilities were based on two documents adopted by the City Council: Poznań Program for Integration and Professional Activation of People with Disabilities for 2016-2020 and Directions of activities and tasks of the City of Poznań for the social integration of disabled people for 2012-2020:

Direction 1. Development of people with disabilities, which enables them to perform social roles independently.

Direction 2. Eliminating barriers to social integration.

Direction 3. Stimulating and supporting various forms of social activity of people with disabilities.

Direction 4. Counteracting discrimination against people with disabilities.

On February 16, 2021, the Poznań City Council adopted a resolution on the adoption of the Program entitled: Directions of activities and tasks of the City of Poznań for the social and professional integration of people with disabilities for the years 2021-2025. The program is a continuation and expansion of city programs implemented in recent years: the Poznań Program for Integration and Professional Activation of People with Disabilities for 2016-2020 and the program entitled Directions of activities and tasks of the City of Poznań for the social and professional integration of disabled people for the years 2012-2020. The new Program is addressed to people living in the City of Poznań and their families and guardians. The planned activities concern both the sphere of social and professional integration, and therefore include activities aimed at the widest possible inclusion of people with disabilities in active participation in all areas of the city's social life.

#### **4. CONCLUSION**

In diagnosing the needs of people with disabilities, it is necessary to use various research techniques among different groups of respondents (people with disabilities, taking into account their diversity, caregivers, the environment, employees of WTZ and other supporting institutions, personal assistants of people with disabilities, as well as scientific or professional experts dealing with area of disability). A milestone in the implementation of research related to the diagnosis of the needs of people with disabilities, which is to be used for the purposes of modifying cities in terms of these needs, is the implementation of qualitative research carried out in the form of individual and group interviews and diagnostic workshops. The conclusions from the completed qualitative research constitute the basis for recommending systemic solutions that should be taken into account in the context of planning activities for people with disabilities in individual cities. Based on the results of diagnostic workshops conducted in many Polish cities, thematic blocks have been identified, such as: community support for people with disabilities, self-determination and legal representation, housing, communication and new technologies, man 360 degrees: social and civic activity of people with disabilities ” and education and rehabilitation. The above thematic areas are a set of priority issues selected on the basis of partners' experiences, discussions in the horizontal project team and analysis of the Strategy for People with Disabilities 2021-2030.

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