ACCESSIBILITY OF THE ENVIRONMENT TO DISADVANTAGED PEOPLE

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ABSTRACT

During past years the number of people with temporary and permanent disabilities has been constantly increasing. This trend turns the question for the accessibility of everyday living environment for the disadvantaged people into lively and important topic. This current study is motivated by the relevance of this problem and is based on analysis and comparison of recent and existing regulation in Bulgaria and different countries around the world. In order to support the results obtained and to gather additional information about the current situation, a survey was conducted among people with disabilities, the data from which was analyzed and the relevant conclusions were made.

Key words: standards, accessible environment, disadvantaged people.

INTRODUCTION

Accessibility in the living environment is essential and fundamental for all members of society. Providing accessible places and spaces enables, both disadvantaged people and everyone else to enjoy the daily activities and opportunities that take place or are offered there and allows them to participate safely, independently and comfortably.

According to the latest figures from the World Health Organization, one billion people, or 15% of the world's population, have some form of disability (WHO and the World Bank, "World Report on Disability," World Health Organization, Malta, 2011). In Bulgaria, the number of the people with permanent disabilities, according to the National Social Security Institute, is 689 187, of which 281 000 are of working age. These data are a key factor that determines the need to create an accessible environment for disadvantaged people. This requires a combination of state, business and broad public participation. In realizing these efforts to make significant changes in this area, it is necessary to understand the processes that are happening today in civil society, as well as the main trends in its development. In recent years, World Health Organization, have been constantly working for the social protection of people with disabilities, aimed at improving their social status, increasing income and quality of life.

Accessibility of the environment is a key theme in international norms for people with disabilities, which promote opportunities for participation by all on the basis of equality in development. Legislation – in addition to education, government programs and housing – requires that public spaces, public transport and telecommunications be designed and managed in such a way that people with disabilities have the same opportunities as others.

METHODOLOGY

The purpose of the report is to clarify the current situation of accessibility of the environment for disadvantaged people in Bulgaria.

The study is based on a comprehensive comparative analysis of the considered norms and standards in different EU countries, Canada and US, related to the provision

of accessible living and architecture environments for people with disabilities and international development policies and programs for sustainable development, equity and inclusion. A series of interviews and questionnaires were conducted among employees in specialized homes for the elderly and people with disabilities in Bulgaria, and the results are supported by a survey conducted among people with disabilities.

RANGE OF NORMS AND STANDARDS FOR ACCESSIBILITY OF THE ENVIRONMENT IN BULGARIA AND THE WORLD

There are currently many regulations, standards and guidelines to support the design and provision of an accessible environment. Although there are some problems, there are very few accessibility requirements that are not adequately covered by a regulation, standard or guideline in the EU or internationally. The level and range of norms and standards on issues related to the needs of people with physical disabilities far exceeds those available for all other groups with disabilities. The methods used to monitor and enforce regulations and standards vary across EU Member States. It should be noted that the introduction of more regulations, standards, norms or the provision of additional guidance documents, without addressing the widespread inadequate and inefficient conformity assessment and implementation processes, is currently unlikely to improve the current situation.

In order to understand the range and application of accessibility standards, an assessment of the content of the standards is needed. Most International Standards for Accessibility (ISO / DIS 21542 Building construction – Accessibility and usability of the built environment; American National Standards Institute, Inc. / International Code Council (2003), "American National Standard, Accessible and Usable Buildings and Facilities"; The International Code Council (2009), "International Building Code -Chapter 11: Accessibility") focus on the needs of people with physical disabilities, containing many criteria to provide sufficient space for people in wheelchairs and people who need help for walking. For the needs of people with sensory disabilities, communication methods have been developed – including visual alarms and better character contrasts, Braille, tactile pavers and dual modes of interactive devices, such as automated cash registers and ticket machines. Accessibility standards rarely meet the exact needs of people with cognitive impairments or mental states. The Universal Design Guidelines address issues such as easier movement in everyday environments and the reduction of stress that can be taken into account in accessibility standards. The International Organization for Standardization has developed an international accessibility standard using a consensus approach, although not all regions of the world are represented on the committee. International and regional organizations can help improve standards by providing recommendations to member countries. The European concept of an accessibility network has adopted this approach by publishing a technical guide to help organizations develop standards and regulations involving universal design. International efforts are needed to develop standards appropriate for the different stages of policy development, different levels of resources and cultural differences in construction (CEN/BTWG 207 "Accessibility in the built environment", CENELEC/BTWG 101-5“Usability and safety of electrical products with reference to people with special needs”).

In order to extract the necessary data to assess the current situation in Bulgaria, both the existing international norms and standards and local ones in countries where social policy is at a high level, namely Germany, Sweden, Finland, Canada and the United States are considered (Table 1).

Table 1: Normative documents and standards for environmental accessibility in Germany, Sweden, Finland, Canada and the USA.

Country	Normative documents and standards
Germany	-Grundgesetz für die Bundesrepublik Deutschland -Behindertengleichstellungsgesetz (BGG) vom 27. April 2002; letzte Änderung vom 1. Januar 2008, BGBl. I S. 1468 und BGBL. I S. 3024, 3034; gültig ab2002-05-01; - DIN 18040-1; 2010-10 - DIN 18040-2; 2011-XX - DIN 32975:2009-12 -DIN 32976:2007-08 -DIN 32981:2002-11 -DIN 32984: 2000-05; -DIN-Fachbericht 1422005-05
Sweden	- The Planning and Building Act PBL The Act on Technical Requirementsfor Construction works,etc. (BVL) The Ordinance (1994:1215) on Technical Requirements for Construction Works, etc. (BVF) - The National Board of Housing, Building and Planning (Boverket): Building regulations" (2008)., Accessibility and usability in public spaces. BFS 2004:15 -ALM", Removal of easily eliminated obstacles -code of statues" BFS 2003:19 -HIN 1, Boverkets Ändringsråd. (Rebuilding) - Swedish Standards institute: Hissar -personhissar. (About elevators . Measures suitable for transportation of stretchers), Byggnadsutformning Bostäder Invändiga mått (Dwellings-measures indoors.), Byggakustik -Ljudklassning av utrymmen i byggnader -Bostäder (Accoustics, dwellings), SS 2097-7, Hissar -Lågfartshissar -Säkerhetsregler för plattformshissar (Platform lift), SS-EN 12464-1. Ljus och belysning –Belysning av arbetsplatser –Del 1: Arbetsplatser inomhus. (Lighting workingplaces.),SS 437 01 46. Elinstallationer i byggnader –Uttag och andra anslutningspunkter –Omfattning och placering. - Swedish Work Environment Agency. Arbetsplatsens utformning. - Swedish transport Administration . Vägar och gators utformning . VGU. (Roads and streets). - Swedish Forest Agency. Access to the forests for disabled people. Rapport 2005:1 . Handisam. Break the barriers. - Sveriges kommuner och landsting. Mer åt fler på lekplatsen, (playgrounds) - Sv Byggtjänst . Bygg ikapp. (More detailed requirements as a complement to building regulations).
Finland	- Land Use and Building Act - The National Buildingcode of Finland. F1 Barrier free. Building, Regulations and guidelines 2005 - The National Building codeof Finland.F2 Safety in use buildings. Regulations and guidelines 2001. - The National Building code of Finland. G1 Housing design Regulations and guidelines 2005. - The Public Works Department. Helsinki City Board. SuRaKu-Criteria. - Supervision ofconstruction work
Canada	- Canadian Standards Association -CSA B651 Accessibility of the Built Environment Standard - Canadian Standards Association -CSA B44 Elevator Standard - Canadian Standards Association -CSA B355 Passenger Lift Standard - Canadian Standards Association -CSA B651 Accessible Design for Automated Banking Machines - Canadian Standards Association -CSA Z614 Accessible Play Structures - National Building Code - Treasury Board Policy Real Property Accessibility Guidelines - Transport Canada

USA	- Department of Justice, Americans with Disabilities Act (1st July 1994), "ADA Standards for Accessible Design". - United States Access Board (23July 2004), "Americans with Disabilities Act and Architectural Barriers Act Accessibility Guidelines". - Department of Justice, Americans with Disabilities Act (May 2010), "Access To Medical Care For Individuals With Mobility Disabilities" - Department of Justice, Americans with Disabilities Act, "Accessible Stadiums" - American National Standards Institute, Inc. / International Code Council (2003), "American National Standard, Accessible and UsableBuildings and Facilities".

After a detailed review of the regulatory requirements for providing an accessible architectural environment in Bulgaria and other countries (Canada, Finland, Germany, Sweden, USA), there are problems related to the accessibility of the environment for disadvantaged people. The aim of the Ordinance №4 in Bulgaria (Ordinance 4 of 1 July 2009 for planning, implementation and maintenance of building constructions in compliance with the requirements for accessible environment for the population including persons with disabilities) and all European, American and other normative documents is to regulate and ensure accessible conditions without difficulties and necessity of external assistance for disadvantaged people. Each part of the provisions defines the minimum size and design requirements under which accessibility can be ensured. The needs of sensory disabled people are taken into account, as well as people who rely on mobility aids and wheelchairs. An important element is that in a significant part of the foreign standards the requirements for the hearing impaired are mentioned in detail, while in the Bulgarian ones such information is almost absent. Another main difference can be found in the sizing of accessible routes for physically disabled people, taking into account not only the size of wheelchairs, but their size with a person in them with toes and elbows protrude beyond the wheelchair, while in Bulgaria this is not mentioned. In general, it can be noted that there are many discrepancies in the normative documents for providing an accessible architectural environment, as the current Ordinance №4 has significant problems related to urban areas.

The problems in the Bulgarian requirements are observed, not only in the sizing of the architectural elements of the dwelling, but mainly can be noticed in the sizing of the individual rooms. In Ordinance №4 the sizing of the premises is considered only in the case of physically disabled people, not taking into account that in cases where we have another type of disability, the dimensions for providing accessible space would be quite different. It should not be forgotten that people with disabilities are not the only ones who use wheelchairs, due to this fact in the international standards and regulations of the World Health Organization many different options and combinations are considered to provide accessible conditions for all. In most of the world norms and standards, in addition to regulating the basic dimensions, guidelines are given for the design and type and shape of the furniture, such as in kitchens to facilitate the movement of wheelchair users, it is recommended to place a working countertop between the oven and the sink.

Significant attention in foreign standards is paid to the sanitary-hygienic premises, for which a number of documents have been formed, in which dimensions and arrangement of the sanitary equipment are given, as a necessary accessible place in front of the sink, in the shower area and in the bathtub, standards and norms are missing. Ordinance

№4 also does not provide norms for the visually impaired, which require the presence of the appropriate Braille or sound signal.

In order to support the observed problems with real facts and data, a survey on the accessibility of the environment was compiled.

RESULTS AND ANALYSIS OF A SURVEY OF THE OPINIONS OF DISADVANTAGED PEOPLE ON THE ACCESSIBILITY OF THE ENVIRONMENT

Despite the importance of this problem, there are very few studies on the attitudes and opinions of disadvantaged people.

In order to gather additional information about the current situation in Bulgaria, a survey was conducted among people with disabilities. In order to be able to reach a wide range of people, given the situation with COVID-19, the survey was conducted on an online platform. The survey includes 28 questions related to the social status and accessibility of the architectural and living environment of disadvantaged people.

The study found that the largest number of people with disabilities are over 65 years which is 35.7%, followed by the age group from 46 to 55 years with 17.9% and 10.7% are under 18 years, which in turn leads to the conclusion that 53.6% of respondents are of working age (Figure 1). The higher percentage of women with disabilities is also impressive, 53.6% compared to men (Figure 2).

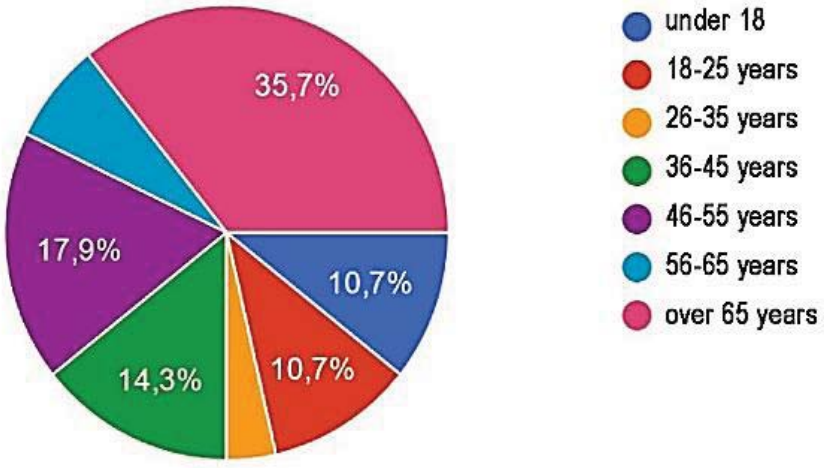

Figure 1: Percentage based on age of the participants in the survey

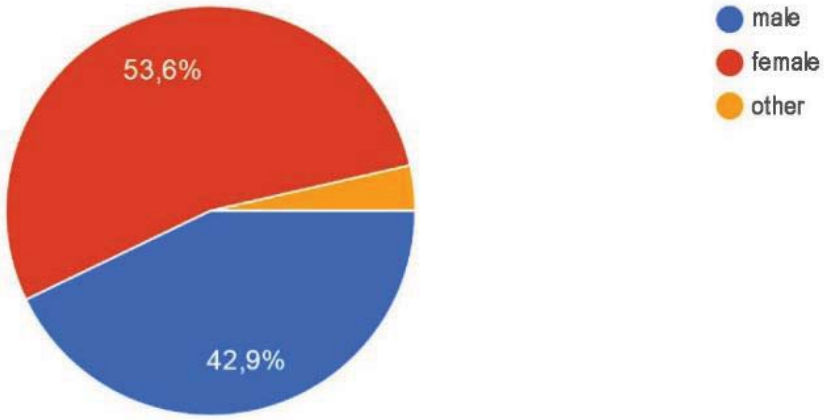

Figure 2: Percentage based on gender of the participants in the survey

Most households state that they have one disadvantaged person in the family. Compared to their socio-economic status, 39.3% are retirees predominate as a percentage, followed by disadvantaged people working full time 32.1%, which is a good attestation for their level of socialization and inclusion in companies and public institutions with different activity (Figure 3).

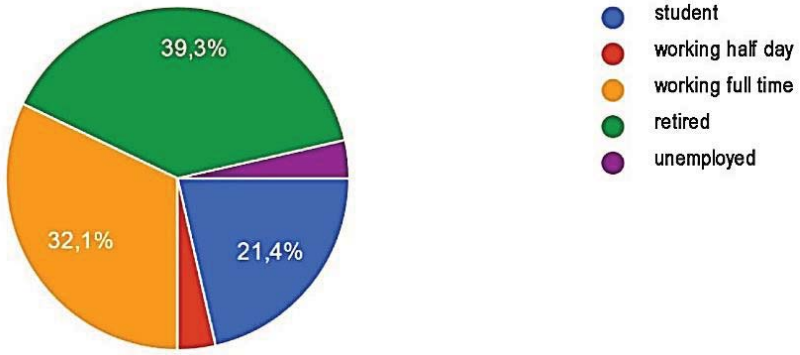

Figure 3: Socio-economic status

There is a serious superiority of the number of people with musculoskeletal disorders over 53%, compared to those with sensory, cognitive or a combination of several disabilities. It is noteworthy that the number of those with sensory disorders is quite large, about 22%, and hearing and speech disorders are increasingly observed in children due to problems after a viral illness. Visual impairment is more common in people over 65 years of age. A large percentage of respondents have a combination of different disabilities, which leads us to the conclusion that they have a combination of different needs in the design of architectural and residential environment. As it was confirmed from the study of the normative documents there are serious shortcomings in the construction of an accessible environment in the cities, which was also reconfirmed by the conducted survey, as none of the respondents finds their city sufficiently accessible. 28.6% give a score of 1 or 2, which in turn leads to the conclusion that the environment is extremely undeveloped and obviously all the rules and requirements are ignored (Figure 4).

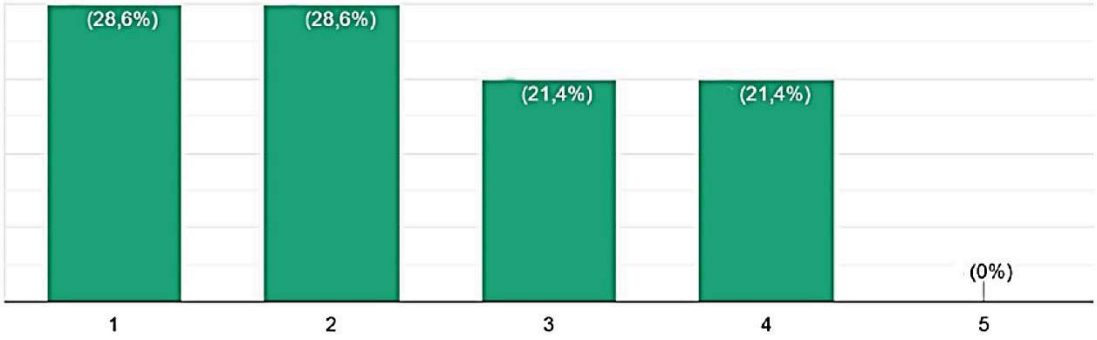

Figure 4: Degree of accessibility of the urban environment (scale 1 to 5, with the lowest score being 1 and the highest 5)

It is interesting to mention that 50% of respondents need the help of other people to move around and visit socially significant institutions and organizations (Figure 5).

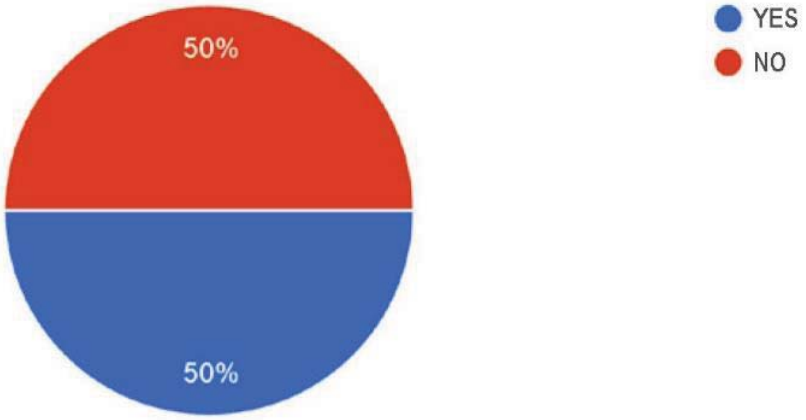

Figure 5: Percentage of the need of disadvantaged people for assistance in moving and visiting socially important institutions and organizations

The most serious difficulties in getting out of their home, disadvantaged people, experience due to the lack of an elevator 28.6%, and their inability to go down the stairs 21.4%. 43% of the participants in the survey experience many other obstacles and an absolute inability to move free and undisrupted, especially people with sensory disabilities (Figure 6). All people, especially those with disabilities, have specific needs related to access to socially important buildings, and it was found that 42.9% have serious difficulties in visiting clinics (hospitals), and this percentage in recent months of emergency epidemiological situation has increased many times and made it practically impossible to visit specialized medical care for disadvantaged people (Figure 7).

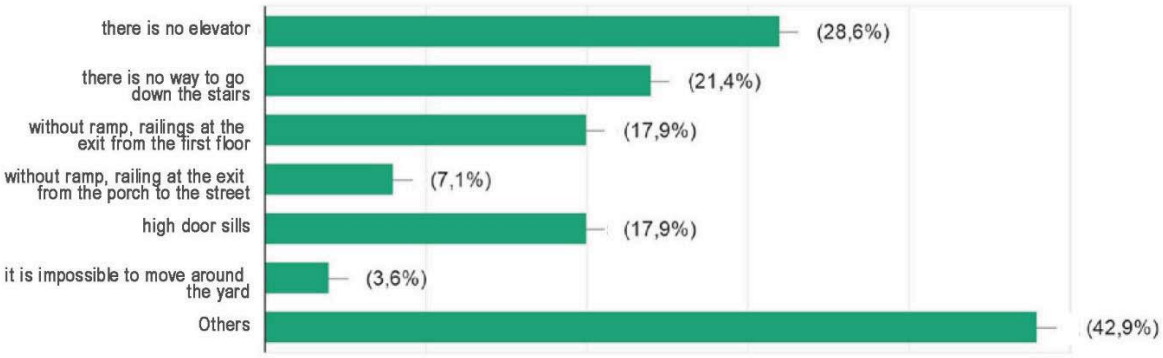

Figure 6: Degree of difficulty in leaving disadvantaged people from the dwelling they live in

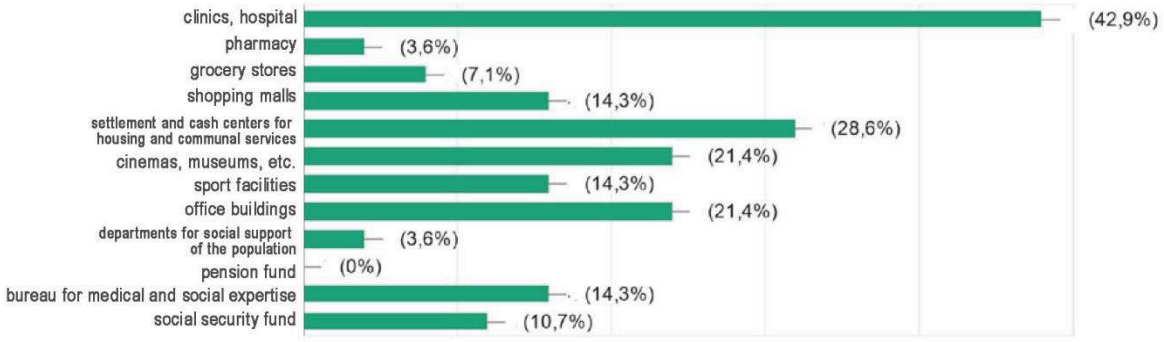

Figure 7: Degree of inaccessibility of sites in urban areas

46.4% mostly people with physical disabilities of the respondent's state that they overcome their difficulties with the help of relatives, friends or social worker. 64.3% mostly people with sensory or cognitive disabilities/ of the total number of respondents indicate that they cope independently. When asked what the cause of the difficulties was, most respondents said that there were infrastructure problems, such as lack of ramps, rest areas, high door sills, difficult crossing of sidewalks, lack of sound and light. signalization, insufficiently lit paths and entrances (Figure 8), lack of tactile pavers and others.

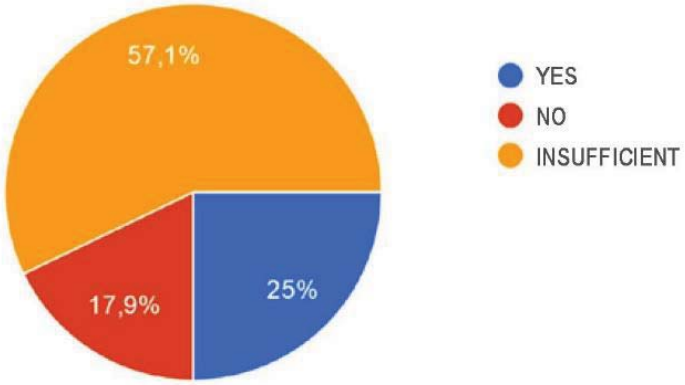

Figure 8: Are the external paths and entrances well lit to ensure unobstructed passage?

The main problem with the accessibility of the living environment is the lack of an entrance without steps, but 57.1% believe that external doors sills are well lit and easily accessible. Another key point is observed in the kitchens, where about 40% of respondents consider cabinets and shelves to be easily accessible due to their height, but 65% note that they do not have a work area in the kitchen that they can use in sitting position. The majority of respondents consider the floors in their home to be easy to move around. Almost 60% believe that their home is adapted to their needs, but there is still a significant percentage of people who have serious difficulties in accessing their living environment.

In general, it can be noted that the survey supported and confirmed shortcomings in the normative documents and standards in force in Bulgaria.

CONCLUSION

In every country there are people with disabilities for whom an accessible architectural and living environment must be provided. There are many examples in the current living environment where completed buildings or spaces do not offer an appropriate level of accessibility. There are many barriers to access to the existing building fund, but this also applies to new buildings and facilities, which continue to be built without satisfactory access for all users. The lack of appropriate standards for accessibility in the built environment is due to many factors.

After the analysis of regulatory requirements and the survey conducted to ensure an accessible living and architectural environment for people with disabilities in Bulgaria, we can conclude the following two major problems in our country. The first is related to the regulatory requirements and the second is the lack of adequately functioning mecha-

nisms for their compliance. Most international standards have precisely and clearly set norms for adapting the external and internal living environment to the needs of disadvantaged people and there are legal sanctions that ensure their implementation, which are controlled by the relevant administrative bodies. The Bulgarian Ordinance №4 has a desirable rather than a legal status, despite the norms set out in it, which largely cover the needs of disadvantaged people, and regulate a number of requirements for providing an accessible environment, taking into account not only the needs of people with disabilities, but also of people with reduced mobility. It is important to provide effective and well-functioning mechanisms for more fully and consciously fulfilling the requirements of all persons and authorities involved in the process of integration of people with disabilities. To improve the regulatory requirements, measures must be taken in the arrangement of urban areas and the provision of an accessible architectural environment for existing buildings and facilities in exploitation.

The results of the survey clearly visualize that there is a serious problem for accessibility in the existing buildings and facilities in exploitation. Another shortcoming of the current legal provisions in Bulgaria is the lack of adequate stimulation of the activities for bringing the existing buildings and facilities for public service in compliance with the normative requirements for accessibility. Major changes and a complete revision of the current Law on the Integration of People with Disabilities and Ordinance №4 are needed, taking into account the current European Directive on Disadvantaged People and WHO regulations concerning the integration of people with disabilities.

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DESIGNING WITH PEOPLE www.rca.ac.uk

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