



Public Space for Active Senior

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Abstract. According to predictions about 30% of people around 2060 will be over the age 65, while age of 80 year and more will be achieved estimated by 12% of European Union population. Elongating life expectancy, low birth rate and aging of baby boom generation, forces on governments, authorities, politicians and economists, change of their approach towards policies, work market, but also in relation to cities' development and management, especially in the range of public spaces. Seniors are economically and culturally active members of society, thus spatial planning and urban solutions, should be changed towards they needs and expectations.

Keywords: Ergonomics · Public space for active seniors · Seniors in urban and architectural design · Contemporary ergonomic solutions · Accessible urban space

1 Introduction

Population of Europe and USA is aging rapidly and thus seniors are becoming subject of interests of economists, investors, developers and increasingly of architects and urban planners. It comes as no surprise, taking into account the numbers, stating that since 2013 about 18% of Europeans is over 65 years old and 5% over 80 and this parameters will reach accordingly 30% and 12% by 2060 [2], while one third or one fourth (dependent on a source) of Americans will be over 65 by 2050 [4, 7]. New society of old continent, may soon consist substantially of well educated, interested in travels and development older people, active and willing to do sports, probably with money to spent on their needs and pursuits [8]. Shaping of such city and village for future residents is designers present and boom of new approach examples towards public space for everybody was observed in the last five years, yet this process still requires a lot of attention from authorities and city planners [6, 11].

Purpose. In light of aforementioned issues main purpose of this article is to show and analyze existing solutions, in order to evaluate their ergonomic and social usability, but also how well they serve their main aim. Next goal is to show which of diagnosed elements should be extended towards future and promoted and to state which elements are still missing, and should be introduced into the design.

Scope. Elderly people are a group of cities and villages residents, who are especially threatened by loneliness, isolation, health problems and sedentary lifestyle. What is more there is not a sufficient number of parks designated especially for them – despite occasional bench or an open-air chess board [7]. Such solutions still promote sedative life-style, discouraging any other activity type. Hence, the scope of this article was general and case study for practical, real life solutions implemented in Europe.

Method. Studies were conducted on two levels: literature review – consistent on newest publications in this respect and case studies – carried out by authors *in situ*. Important data were gathered on the official producers websites and platforms, where devices and solutions for seniors are presented with their technical data. Findings have been recorded as graphical and descriptive material and after analysis and critical analysis were presented in this elaboration. Conclusions – here in the form of recommendation list – have been formed in the process of synthesis, cooperative synthesis for both literature and studied cases and after critical overview most important indicators were presented.

2 Discussion

There are different needs that public space adjusted for seniors should respond to. Starting from fruition of interests of people, who already retired their work, and have time to pursuit their passions, i.e. photography, painting, sports, social contacts, etc. Finishing at enabling these activities in a safer, friendly environment, during these period of life, where physical and mental capabilities may be more challenging. There are several issues that might be dealt with, like: health problems, among them weakling of sight, hearing disabilities, sensory disorientation, psychological limitations including depression, mobility confines, increasing feeling of insecurity, danger from surrounding environment and others, lack of ability to adapt to changing conditions, accompanied by a strong need for independency and pride [3]. Taking account all these factor there are several aspects that must be taken into consideration, while discussing public space adjusted for seniors, these are, as listed: diversity, greenery, safety, social and location.

Diversity – seems to be a main characteristics of older European and Americans, which states the obvious, as we all come from different: education, cultures, customs, needs and preferences [4]. Also depending on work characteristic (either currently performed or before retirement) and health condition, people may seek more rest and meetings in public spaces or extra sport and physical activates. Thou, trivial in order to success with the public space design – diversity and the key factor – must be included in further considerations. What is more it is predicted, that nearest feature seniors will not be willing to spent time in their own age groups, seeking for more integrational activities [8].

Greenery. Next factor, clearly indicated by the sources [4] is greenery, well kept, blooming and massive in form, is important and noticeable element for the seniors. What is more contact with nature has been proven a healing factor and at the same time

it favors to reduce stress, blood pressure and overall physical and mental tension, helping contemplation and relaxation [7]. Substantial green terrains: cool down the climate, clean air and can be used as dancing, yoga, tai-chi or dog walking areas. Thus, seems especially crucial, when we take into account need for fresh air. Greenery seems also to be important binding element, especially in the form of community or herbs gardens, allowing users to integrate over some gardening activities and information exchange about plant growing expertise.

Safety. Though, safety seems to be another obvious factor, security for elderly in is not only lack of threats from other users but also visibility – of paths, of utilities and facilities and minimization of risk of falling – so types of flooring, lack of natural surface bulges or curbs and low, hard to see fences etc. What is more as Mazur states, omitting of boundaries – helps engaging spontaneous conversations, engaging relationships, prevents psychological and as it was mentioned physical barriers. Area is also easy accessible, because of soft, natural flooring – grass and lack of high curbs. Walk ways should be wide, even, but not slippery. Another crucial element of safety is legibility, which allows users to read and understand space, in order to gain clear orientation and familiarity – areas easy to understand, i.e. basing on previous experience. Aforementioned lack of boundaries should not be understood as omitting of terrain functional separation, so pedestrian communication must be clearly manifested towards areas for seating, relaxation or activity equipment usage, at the same time any bike routs or car traffic passages ought to be very clearly marked. The contrast is advised, for color differences might not be noticed by some seniors. Apart from that, health safety can be increased by maintains of cleanness of public spaces by lack of rubbish but also animal droppings [1, 3, 4, 9].

Social. Another, non-less important factor for creation of good public space, especially for elderly is providing space for meetings, talks, experience exchange [1], but also common walking, dog walking, dancing or open-air exercises (park yoga, tai-chi groups). Which might be specially beneficial taking into account cultural diversity of specific European and American areas, but also is a great factor for building strong and supportive local communities and in counteracting loneliness, isolation and depression phenomenon between seniors.

Location. What is also stressed in literature sources [1] in need for closeness of additional services – like shops, workshops, etc., which allow to accomplish other social need of seniors, during one exit from home. At the same time public spaces for seniors should not be placed by loud, hard to cross streets and other communication routes (i.e. tram lines, fast bike roads), not only for safety but also from acoustic reasons. Acoustic barriers are advised, in the most severe cases of noise [3].

3 Case Studies

Polkowice – Residential Area Between Block of Flats. A great example of aforementioned problem solutions would be city of Polkowice in Poland. Where at the grassy terrain between existing blocks-of-flats (erected during the modern period),

where a substantial number of older people live, there have been settled not only spaces for children, but also seniors. The daily relaxation and sport hubs, have been established as a part of remodeling of modern period empty terrains between residential blocks [12]. A set of sensory activation equipment have been arranged here on the area covered with grass. Selection of different devices is available, which were designed with the physical rehabilitation experts, as producer declares [10]. One of the most interesting solutions is an exercise device set – based on rope walkways – that enables variety of exercises. What can also be noticed are comfortable, safe handles, which enable support during the walk through all device (Fig. 1). Seniors can use as well the wavy rail, for arm activation and motion. Also a high ladder can be found there, that is designated for finger stimulation. Next would be a circle, where hand and arm exercises are easy and guided with the device aid (Fig. 2). Elements are thick, safe, stable and provide easy grip, in all possible positions. Among those others can be found like: balance beam, rails and arches for arm motion, steppers with additional safety handles designed in easy grip manner [10].

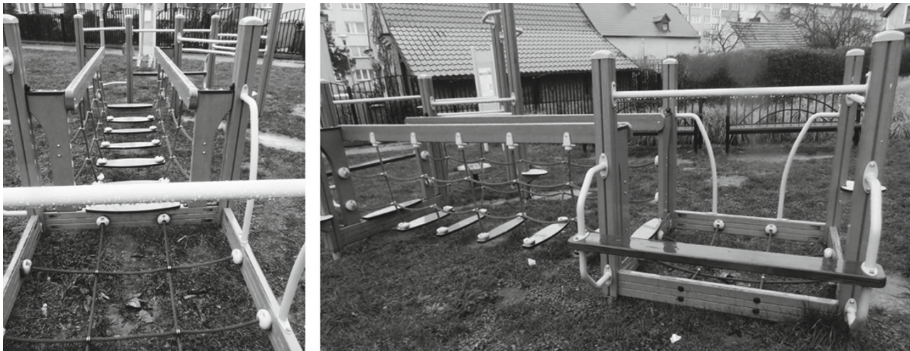


Fig. 1. Polkowice (Poland). Exercise device for people with disabilities and older adults.

All equipment is well exposed and visible, there is enough operation space between elements. Colors used for described devices are vivid, yet suitable for grown-ups: bright and toned greens, browns, orange and dark blue (not as stimulating as for children), and equipment can be at a glance recognized by their potential users. Although there are some metal elements used, their surface was treated in a way not to heat and not to produce glares. Such equipment benefits not only the physical health, but also lowers the risk of dementia and other cognitive impairment [7]. What is more sensory activating devices are strictly connected with open-air gym, which can both serve seniors, as well as providing them social interaction with younger and older adults. What can be noticed in this example is lack of fence around space solved in this way, which favors limited mobility – space can be accessed from each possible spot – according to the comfort.

Next important solution was found in Stalowa Wola (Poland), where on the playground, but also space meant for young adults and adults, swing was settled designated for people moving on wheelchairs. Device has proper operation surface, mobile

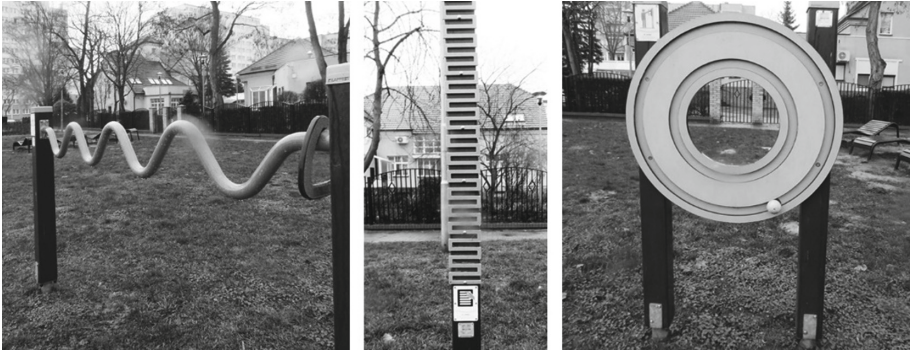


Fig. 2. Polkowice (Poland). Movement activating equipment.

driveway (that must be closed for users safety) protection barriers and handles. It can be operated individually and does not require aid form third party. What was also memorable about this case study, was very clear, readable tables with additional description concerning device (Fig. 3).



Fig. 3. Stalowa Wola (Poland). Swing for people moving on wheelchairs. Clear description.

Next case study was carried out in Copenhagen (Denmark) public square Israel's Plads, which is a design of Sweco Architects + COBE. Idea was inspired by urban changes that city went through – like fortifications, than trade market and a parking. Currently, cars are placed below this space, while the surface can serve all possible users, with playgrounds, flooring elevations and pilings up, area for ball games, sport field, greenery and a number of equipment and devices for activities. In that matter especially interesting are sculptures swings (Fig. 4) and paths (Fig. 5) – enabling to exercise movement, dependent of physic capacities [5].

Important element is flooring, which is flat, yet it contains raised and lowered elements, carefully thought through, adjusted to potential users (sports men, children, youngsters). At the same time all square is adjusted for people with disabilities, which



Fig. 4. Copenhagen (Denmark) public square Israels Plads. Sculptures exercise equipment.

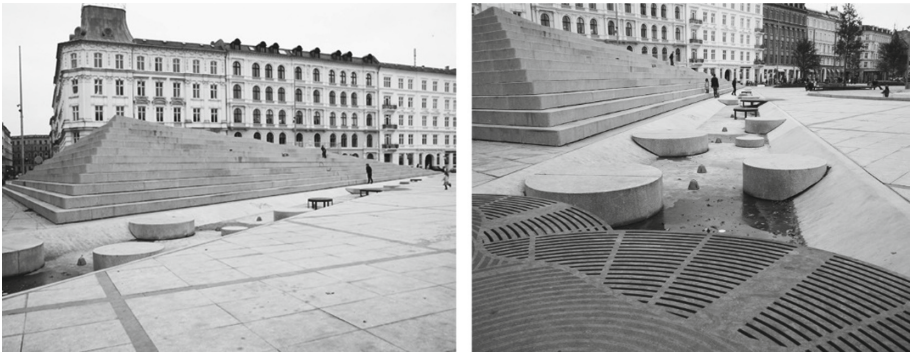


Fig. 5. Copenhagen (Denmark) public square Israels Plads. Paths for movement exercises.

is specially visible in gentle and elegant marking of changes of height or material. The water is properly drained from the surface, due to which no puddles are formed and all utilities can be kept in good condition for a longer period of time. All “toys” are well install, safe, without any dangerous parts and are very well maintained.

4 Conclusions

In light of aforementioned consideration, basing on case and literature study, a list of recommendations have been formed for open-air public spaces:

- proper location providing: good natural lighting, shading during the high air temperatures periods; quietness and lack of loud sound level production areas (i.e. sport zones, open-air concert venues, schools, etc.); large greener areas (for running, sports, yoga, dancing and clean air), even terrain without distinguished slopes and hills; area with low noise levels;

- lack of physical barriers in form of: fences, raised curbs, unfavorable (uncomfortable) flooring; additional handless and arm rests for equipment which may require additional support;
- activation points – encouraging spontaneous fun, physical activity or conversation: resting solutions with ergonomic adjustments for elderly, like: benches, seating, sunbeds, hammocks; physical and mental exercise equipment adjusted for seniors;
- additional unphysical factors: provision of sense of independence and at the same time safety; providing lack of isolation; good, ethical look of all equipment, i.e.: all furniture, minor architecture elements and equipment must be: resistant to weather conditions, vandalism acts; local and natural materials;
- safety of users: all elements ought to have a proper structure and be easy in maintaining and in control of technical conditions throughout time; monitoring if needed;
- walking areas, with both activation and rest elements;
- good visibility: including evening artificial lighting (evenly spread); avoidance of glare creating materials and surfaces; clear signs and texts;
- facilities: drinking fountains and water bottle fillers; sufficient number of adjusted public toilets; places, space and devices for animals.

Final Conclusions. Adjustment of space for seniors, people with different kind of disability, serves everyone – all city and village users, proving safe, comfortable solutions, beneficial to physical and psychological health. There are already a number of good practice examples, which can serve for future reference and as examples to other communities. Well organized spaces, are becoming vibrant meeting places, encouraging relax, entertainment and physical activities, enabling adults and seniors to balance all aspects of their life, making public space humane and user friendly.

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