

# Research on the Elderly Friendly Park Based on Inclusive Design Concept

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**ABSTRACT.** *To cope with the increasing severity of aging, it is necessary to embody inclusiveness in the environment. This is a complex and difficult social proposition facing all countries; specifically, how to show inclusiveness in limited physical spaces in urban parks to make the design more in line with the needs of the elderly is an urgent and important new subject of modern city construction. This paper expounds the proposition of inclusive design, analyzes the problems in the park, and proposes relevant design strategies, and discusses effective methods to ensure that the environment is designed to support the diverse needs of the elderly and improve their quality of life, in order to provide theoretical and practical references for park construction.*

**KEYWORDS:** *Urban parks, Inclusive design, Elderly friendly*

## 1. Introduction

Due to the decline in the birth rate and the general increase in the life expectancy of the elderly, many countries have seen a substantial increase in the elderly population and have entered the aging society one after another. According to the “China Urban Development Report (2015)” forecast, by 2050, the elderly population in China It will reach 483 million people, accounting for 34.1% of the total population;<sup>[1]</sup> The elderly have also become the most frequent use of the park, but it does not mean that they are the most satisfied people using the park. The eminent Professor of Geriatric Medicine, Bernard Isaacs (cited in Giles-Cortietal 2008) said: “Design for the young and you exclude the old; design for the old and you include the young.” How to satisfy the use of the elderly in urban parks and to accommodate other types of people to the maximum has become an important proposition.

## 2. The Concept of Urban Parks and Existing Problems

### 2.1 City Park

The so-called “a park is a green space open to the public, with recreation as its main function, complete facilities, and ecological and beautifying functions.” It can be seen that urban parks should have the following characteristics: firstly, parks have public attributes, and everyone should have equal opportunities and rights to use parks; secondly, parks are one of the types of urban public green space, with different spatial forms, to provide urban residents with various This kind of recreational service is the main function; this is also an important carrier to maintain the urban ecological system and beautify the urban environment, reflecting the humanistic attributes of aesthetics.<sup>[2]</sup>

## ***2.2 The Existing Problems of Urban Parks At the Level of “Suitable for the Elderly”***

### ***2.2.1 Unbalanced Layout of Green Space and Poor Accessibility to the External Environment of the Park***

Firstly, parks are highly concentrated in new urban areas and urban fringe areas, while high-density old urban areas are less distributed; secondly, the level distribution of parks and green spaces is uneven, and the distribution of large, medium and small patches is very different, and the green space planning layout is easy to ignore Small green space. There are obstacles in the external environment of the park, and the elderly face various difficulties in outdoor activities <sup>[3]</sup>, thus limiting the willingness of the elderly to go to the park.

### ***2.2.2 Incomplete Planning and Design Indicators of Park Green Space***

Urban park green space planning usually evaluates the fairness of urban green space based on the amount of green space per capita. This evaluation method only reflects the fairness of statistics, but essentially ignores the fairness of space. Relying on the per capita park green area, service radius, service area and other methods to investigate the supply and demand relationship of park green space; although it is helpful to grasp the quantity of urban park green space as a whole, it cannot reflect the specific distribution structure and quality of park green space. Evaluation that does not take quality as a core indicator will dim the value of the park's existence. Especially in the old urban areas where park green space is scarce and the elderly population is dense, if the quality of the park is not improved in terms of quality, the tolerance and friendliness of the park has become a false proposition.

### ***2.2.3 The Planning and Design of Parks Are Not Comprehensive, and the Diversity of Needs of the Elderly Cannot Be Met***

Although all people can use park green space, in fact only a small proportion of people visit green space. The visit is affected by factors such as age, gender, cultural background, economic status, and social status; people with unfair starting points and lack of voice are not It is very possible to effectively obtain green space in the

process of decision-making and resource use,<sup>[4]</sup>and the scale of planning policies is more inclined to the elite and powerful groups, which deviates from the track of urban inclusive development. As a disadvantaged group, the elderly's needs for parks have also been marginalized; so many elderly people complained that the parks in front of their homes have "no content", and the parks with content are far away and inconvenient to use; the lack of park facilities and single functions make People don't want to go to the park.

Based on the above-mentioned shortcomings, it is difficult for the elderly to meet the basic leisure and exercise needs; if the needs of the aesthetic level are raised, there are obviously many gaps in the design of the park. This is the unavoidable proposition that the inclusive design of urban parks must face, and it gives the seriousness faced by the research of this subject.

### **3. Related Concepts of Inclusive Design**

Inclusive design was first proposed in European countries. It is based on civil rights considerations and demands for the existence and development of social equity. It was proposed by the architect Richard Hatch in 1984 and can be described as "the public has the ability to participate and control the environment."<sup>[5]</sup> Inclusive design is considered a design method, and the term is widely used in the UK. Its main purpose is to promote mainstream products, services and built environment to meet the needs of more people as much as possible while recognizing the diversity of user groups,<sup>[6]</sup> to decrease or reduce the possible exclusion of minority groups. From its main point, inclusive design is more inclined to a design attitude and concept rather than a set of fixed problem-solving methods.

Related concepts include Universal design, which was first proposed by Professor Ron F. Mace in 1989. It refers to the design of products and the environment that is as applicable to everyone as possible without adjustments or special designs. It is universal, and the term "universal design" is widely used in the United States.

The core value concept of universal design is that everyone is equal in use, emphasizing the equal treatment of users; while inclusive design emphasizes care for the weak, and on this basis, it benefits other people to the greatest extent and pays attention to the diversity of users and situations. At the methodological level, the two have some consensus principles, and the difference is not obvious;<sup>[7]</sup>For the space environment, inclusive design pays more attention to a good user experience than just accessibility.

### **4. Analysis of the Needs of the Elderly**

#### ***4.1 Physiological Needs***

The physiological function of the elderly declines, their ability to perceive the environment, their ability to adapt to the environment is also weakened, and their resistance to negative environments is also weakened; they have special requirements for physical environments such as sound, light, thermal environment and barrier-free facilities, which are quite different to those of ordinary adults. There is a big difference between people; the requirements for the use of the park are higher and more detailed.

#### ***4.2 Psychological Needs***

After the elderly retire, their work status will change to a more casual family life, and their social roles and economic status will be greatly changed. Many elderly people will feel empty and miss their previous work status; the demand for social activities will greatly increase, the social needs and young people are also very different.<sup>[8]</sup> Their emotions are mainly manifested in the need for safety, sense of belonging, neighbourhood, family, privacy and comfort.

### **5. Urban Parks Embody Inclusive Design Strategies**

#### ***5.1 Inclusiveness of Park Planning Decisions***

Incorporating the concept of inclusiveness into the strategy and daily decision-making of urban park planning. To be inclusive is to reduce the exclusion of users. Park planning should adhere to a basic concept that everyone has the opportunity to participate in the planning and use of the park on an equal basis. The planning of urban parks and green spaces must fully reflect the wishes of urban residents and consider the regional characteristics of the city and the development trend of the times in order to truly provide local residents with high-quality parks and green spaces.<sup>[9]</sup> As decision makers and planning departments, we should open up our minds. When formulating urban park plans, in order to create user-centered parks, it is necessary to guide citizens to actively participate.<sup>[3] (P363)</sup> Let their needs be well talked out in the early stages of planning, instead of soliciting suggestions from citizens after the planning is completed.

#### ***5.2 Park Design Should Reflect Cultural Tolerance***

The buildings, sculptures, roads and other facilities of each scenic spot in the park, from the design concept, spatial layout to construction, in addition to meeting the basic needs of use, must reflect the cultural differences of users and give the park cultural connotations. "It should not be limited to the matter itself, but should go beyond it",<sup>[3] (P149)</sup> should be compatible with and embody cultural elements under the premise of universal applicability, give uncontrollable emotions and ideas a new form,<sup>[10]</sup> let the spatial form appear Ideological, spiritual and even poetic

meaning.<sup>[11]</sup> The cultural inclusive thinking strategy should be implemented into the design philosophy, design principles, and planning indicators.

### ***5.3 Inclusiveness of Park Layout Planning***

First of all, the location, scale and functional positioning of park planning should be formulated based on the investigation and analysis of social factors such as the age structure of surrounding residents. While ensuring sufficient green area, try to achieve even distribution and reasonable structure to meet the requirements of the elderly.

Secondly, the accessibility of the park (walking distance and safety of the road leading to the park, etc.) has become one of the important reasons restricting the use of the park by the elderly. The elderly are unable to adapt to long-distance activities due to the decline of their physiological functions, inconvenience in walking, slow response, and the use of park radius should be planned reasonably. Related scholars such as Park Yongji and Wei Feiyu suggested that urban parks of different types of living circles should be close to residential areas, and the service radius of the park should be less than 1km, so that the elderly can easily reach it.

### ***5.4 Inclusiveness of Park Facilities***

After retirement, the elderly had plenty of spare time and spend a long time in the park. Therefore, it is necessary to set up a lot of service facilities for them. Ensure the flexible use of the elderly to meet the diverse choices of the elderly; also consider the needs of other groups to provide everyone with a convenient and pleasant park environment.

### ***5.5 Inclusiveness of Park Management***

The difficulty of management lies in the pursuit of harmony. In addition to the management and maintenance of the park's infrastructure, it is also necessary to properly handle the conflicts between different groups of people in the use of the park; for some elderly people who are not self-disciplined, it is necessary to kindly advise and guide them; organize more parks encourage different groups of people to participate in collective activities, enhance everyone's communication and interaction, and create a harmonious and inclusive park environment and atmosphere. The goal of park management is to allow everyone to have a good park environment, and to treat vulnerable groups such as the elderly, children, and pregnant women with a tolerant attitude, so that they can get a satisfactory experience in park recreation.

## **6. Conclusion**

In today's society, aging has become an irreversible fact. In order to enrich the spiritual and cultural life of the elderly and create a livable environment for the elderly, the WHO has put forward a call for the construction of a "friendly city for the elderly". This concept contains value orientations such as fairness, tolerance, and care, and is an important attribute that a city should have. As the "green lung" of the city, the park and green space are an important space carrier for the elderly's leisure and entertainment. From the planning and design level, it should focus on the ageing problem of the park and create an inclusive and friendly environment for the elderly. The development practice of the inclusive design concept provides theoretical support for the construction of urban parks in an aging society. From policy formulation to park planning, to the specific implementation of park design, and to the presentation of park design results; all should be human-centered, starting from the core concepts of inclusive design such as fairness, flexibility, diversity, and good experience, and paying attention to the elderly space use requirements: Let the elderly share the beautiful urban park environment indiscriminately and fairly.

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