

# Research on Configuration and Optimization of Age-Friendly Facilities in Pocket Parks

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**Abstract:** With the acceleration of urban aging, the leisure and activity needs of the elderly are receiving increasing attention. Pocket parks, as small green spaces in urban areas, provide close recreational places for the elderly. This article aims to study the current status of age-friendly facilities in pocket parks and propose optimization suggestions to better meet the leisure and activity needs of the elderly.

**Keywords:** Pocket Parks; Age-friendly Facilities; Configuration; Optimization

## Introduction

Pocket parks are small open spaces in urban areas that are loved by residents for their small size, widespread distribution, and convenience of use. With the increase in the urban elderly population, pocket parks have gradually become important places for daily leisure and activities for the elderly. However, there are still many problems in the configuration of age-friendly facilities in current pocket parks, such as insufficient facilities and unreasonable designs, which affect the user experience of the elderly. Therefore, researching the configuration and optimization of age-friendly facilities in pocket parks is of great practical significance.

## 1. Current Situation of Age-Friendly Facility Configuration in Pocket Parks

### 1.1 Insufficient Rest Facilities

The issue of insufficient rest facilities is particularly

prominent in the current configuration of elderly-friendly facilities in pocket parks. After conducting field surveys of multiple pocket parks in various cities, it was observed that many parks have a scarcity of seating, with uneven distribution that makes it difficult to meet the resting needs of a large number of elderly individuals. These seating areas are often concentrated in specific areas of the park, while other areas where resting facilities are needed are rarely provided. Additionally, some seating designs lack consideration for human factors, such as seat height, width, and tilt angle, which do not fully accommodate the physical characteristics and resting habits of the elderly. This leads to discomfort during use. The shortage of rest facilities has sparked considerable dissatisfaction among the elderly population. When walking, exercising, or engaging in social activities in pocket parks, they often feel tired and inconvenienced



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due to the inability to find suitable resting places. Some elderly individuals even have to bring portable chairs to cope with the shortage of seating in parks. This not only affects their leisure experience but also diminishes the attractiveness and utilization rate of pocket parks as public spaces. The shortage of rest facilities has become one of the urgent problems that need to be addressed in the current configuration of elderly-friendly facilities in pocket parks<sup>[1]</sup>. In future designs and renovations of pocket parks, greater attention should be paid to the resting needs of the elderly. This entails carefully planning the layout and quantity of seating, while also considering the physical characteristics and usage habits of the elderly population. Improving the comfort and practicality of seating is essential to create a pocket park environment that is more conducive to elderly leisure.

### 1.2 Lack of barrier-free design

The absence of barrier-free design in pocket parks, which are popular leisure spots for the elderly in urban areas, is becoming increasingly prominent. In many pocket parks, we observe a lack of thorough consideration for accessibility details in pathways, entrances, and various scenic spots. For example, some parks have uneven pathways and steep slopes, which undoubtedly increase the difficulty of passage for elderly individuals using wheelchairs or walking aids. Additionally, certain facilities within the parks, such as washbasins and drinking fountains, fail to adequately consider the varying heights and usage habits of different elderly individuals, resulting in numerous inconveniences during use. Furthermore, there are deficiencies in the barrier-free design of information signage. Some important signs and warning symbols feature small fonts, low color contrasts, or lack auditory or tactile cues, making them extremely difficult for elderly individuals with poor vision or hearing to identify. This not only affects their park experience but also poses safety hazards during emergencies. The lack of barrier-free design is a significant issue in the current configuration of elderly-friendly facilities in pocket parks, which not only manifests as physical barriers but also impacts the psychological aspects of the elderly's experiences.

### 1.3 Monotony in Public Facilities

In the configuration of elderly-friendly facilities in

pocket parks, the issue of monotony in fitness facilities is particularly evident. In many pocket parks, it is noticeable that while there are designated fitness areas, they predominantly feature generic fitness equipment that is not tailored to the specific needs of the elderly. These equipment pieces are often more suitable for use by younger individuals, posing both operational difficulties and potential safety risks for the elderly. Elderly individuals have distinct fitness requirements, focusing more on gentle, soothing, and low-intensity exercise methods. However, the current fitness facilities provided in pocket parks often fail to meet these needs. For instance, some parks lack spaces and equipment suitable for gentle exercises like Tai Chi or yoga, limiting the options for elderly individuals seeking fitness activities. Furthermore, the monotony in fitness facilities also manifests in a lack of amusement and interaction. In addition to physical exercise, elderly individuals often prioritize socialization and interaction during their fitness routines. However, the majority of fitness facilities in current pocket parks are designed for individual use, lacking features that encourage interaction among elderly visitors. This undoubtedly reduces their enthusiasm and satisfaction in participating in fitness activities. The monotony in fitness facilities has thus become a significant issue that cannot be overlooked in the configuration of elderly-friendly facilities in pocket parks.

### 1.4 Unclear information identification

The issue of unclear information signage in pocket parks, as small-scale open spaces within urban areas, is particularly prominent in the configuration of elderly-friendly facilities. For elderly individuals with visual impairment or cognitive decline, identifying and understanding signage can be challenging. Specifically, some signs may have excessively small fonts or insufficient color contrast, while others may utilize overly complex or abstract expressions that do not align with the cognitive habits of the elderly, resulting in difficulties in comprehending their meanings. Furthermore, certain signage may be inappropriately positioned or insufficient in quantity, failing to provide timely and effective information guidance for the elderly. This lack of clarity in information signage not only impacts the elderly's experience in pocket parks but also poses safety hazards. For

instance, in emergency situations, if elderly individuals cannot quickly locate relevant safety warnings or assistance signs, it may delay rescue efforts and lead to unnecessary harm. The issue of unclear information signage demands urgent attention in the configuration of elderly-friendly facilities in pocket parks. To enhance the convenience and safety of elderly individuals in enjoying their time in pocket parks, future designs should prioritize the clarity and readability of information signage, ensuring that every elderly person can easily access the necessary information and enjoy a pleasant park experience.

## **2. Suggestions for the optimization of age-appropriate facilities in pocket parks**

### **2.1 Increase rest facilities**

In the optimization of elderly-friendly facilities in pocket parks, increasing resting facilities is a paramount measure. Resting facilities are essential for elderly individuals to be able to stay in the pocket park for extended periods and enjoy leisure time. Therefore, we can add more seats and resting areas in various corners of the pocket park. These seats should be comfortable, sturdy, and designed to accommodate the physical characteristics of elderly individuals, allowing them to sit down and get up easily. Additionally, the arrangement of seats should consider the transparency of the landscape, enabling elderly people to enjoy the beautiful scenery while resting. Furthermore, we can set up leisure pavilions or long corridors in quieter areas to provide shelter from the sun and rain, offering elderly individuals a place to rest. By increasing resting facilities, we can create a more comfortable and convenient environment in pocket parks for elderly people.

### **2.2 Improve barrier-free design**

Improving accessibility design is one of the crucial measures in optimizing elderly-friendly facilities in pocket parks. For elderly individuals, an accessible environment is fundamental to ensuring their safety and comfort while using the pocket park. Therefore, in the planning and design of pocket parks, attention must be paid to the details of accessibility design to meet the specific needs of elderly people.

2.2.1 Toilet Facilities: The location should be near the entrance of public toilets, facilitating entry for individuals with mobility issues. The wheelchair

turning diameter should not be less than 1500mm. Internal facilities should include adult-sized toilets, adult-sized sinks, multi-function counters, safety handrails, coat hooks, and call buttons. The area of use should not be less than 6.5 m<sup>2</sup>. The floor should be non-slip and free from water accumulation. The placement of adult-sized toilets, sinks, multi-function counters, safety handrails, coat hooks, and call buttons should comply with the relevant provisions of the current national standard "Accessibility Design Specification" GB50763.

2.2.2 Pathway Design: Each main pathway should have accessible access, with widths, slopes, and surface materials designed in accordance with the relevant provisions of the current national standard "Accessibility Design Specification" GB50763. In cases where there are significant changes in terrain elevation, steps must be installed along the pathways, or sunken plazas must be created, appropriate and reasonable accessibility ramps should be designed<sup>[2]</sup>.

2.2.3 Entrance Setup: All main entrances should be equipped with reasonable accessible entry and exit points. In cases where there are height differences requiring steps, ramps suitable for wheelchair and stroller access should be installed, along with handrails on both sides of the steps and ramps. Where possible, pocket park entrances should have specially designated accessible green pathways.

### **2.3 Enrich public facilities**

In the process of optimizing facilities for the aging population in pocket parks, enriching fitness facilities is a crucial measure. The fitness needs of the elderly are increasing, and they desire to find suitable ways to exercise in pocket parks. Considering the elderly's preference for gentle exercise, yoga platforms or Tai Chi practice areas can be established to provide them with gentle stretching exercises. Additionally, introducing fitness programs that facilitate communication and cooperation among the elderly can enhance their social connections and the enjoyment of exercise. While enriching fitness facilities, attention should also be paid to the safety and usability of the equipment. Fitness equipment should be designed to be simple and easy to understand, facilitating operation by the elderly, and equipped with necessary safety measures to ensure their safety during exercise<sup>[3]</sup>. By enriching the fitness facilities in pocket parks,

we can create a more diverse and convenient fitness environment for the elderly, helping them maintain physical health and enjoy a better quality of life in their later years. Moreover, it can promote the physical and mental health as well as social participation of the elderly.

#### **2.4 Standardize the information identification system**

In the optimization of elderly-friendly facilities in pocket parks, standardized information signage is an indispensable aspect. Information signage serves as a vital communication link between the park and its users, particularly crucial for the elderly. Therefore, in the design and renovation of pocket parks, we must prioritize the standardization of information signage to ensure that the elderly can easily access the necessary information, thereby enhancing their park experience.

##### **2.4.1 Principles for setting up identification systems**

(1) Principle of Recognizability: Signs should be easily identifiable within their designated area. The size of the signage, as well as the dimensions of graphics and text, should be appropriate. There should be a strong color contrast, and signs should be installed in logical positions, preferably with adequate lighting.

(2) Principle of Systematicity: Signage in outdoor pedestrian environments should be diversified in structural form at all critical points, designed as a hierarchical and continuous closed-loop system.

(3) Principle of Safety: Signs should be made of safe and environmentally friendly materials, securely installed without obstructing passage or sightlines. They should be subject to regular maintenance.

2.4.2 Flowline Setting: Directional signage points should be installed at locations such as the starting point, endpoint, turning point, branching point, and intersection of pedestrian flowlines, where pedestrians are likely to be confused about the route. The spacing between directional signage points along the flowline should not exceed 50 meters. In environments with high accessibility requirements, such as continuous passages or pathways, the spacing between directional signage points should not exceed 25 meters.

2.4.3 Personalized Setting of Aging-Friendly Signage System: The signage system should have soft and warm colors, with prominently visible fonts and appropriate stroke thickness. The graphics should be clear and easy to understand, and fonts and graphics should be

appropriately enlarged. Colors with a distinct contrast to the background color of the signage board should be chosen, with a hue interval of no less than 120 degrees and a brightness difference of no less than 7 levels. Aging-friendly signage systems can incorporate artistic, narrative, and humorous elements to evoke associative thinking and a sense of pleasure for the elderly, meeting their psychological needs. The structural design of signage in pocket parks should prioritize safety, with rounded corners to avoid sharp edges<sup>[4]</sup>. Additionally, materials that cause glare or are overly dim should be avoided. The signage system should include lighting sources, nighttime illumination, or utilize self-luminous materials for easy recognition at night.

2.4.4 Safety Signage Setting: Various types of signage boards mainly include accessibility signs, guides for major tourist routes, introductions to attractions, and warning signs, aiming to enhance the safety awareness of the elderly, children, and disabled individuals in outdoor environments. All types of signage boards should comply with international standards and be placed in easily identifiable prominent positions. International standard accessibility signs should be placed at locations with accessible facilities.

## **Conclusion**

After discussing the configuration and optimization of elderly-friendly facilities in Pocket Parks, we have found that only by truly understanding and meeting the needs of the elderly can we create leisure spaces that are truly suitable for them. The configuration of elderly-friendly facilities is not only about hardware design, but also about caring for details and considering humanization. We look forward to future Pocket Parks continuously optimizing aspects such as rest areas, accessibility, fitness facilities, and information signage, to create a more comfortable, convenient, and safe park environment for the elderly, allowing each elderly person to find their own joy and peace in these small yet beautiful parks.

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