

## *Evaluation and Analysis of Urban Park Green Space Benefit under the Background of Aging Society*

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**Abstract:** With the rapid development of urbanization, our country has entered the aging society, the aging society not only means the elderly population increase, more means the elderly population in the total population proportion of the improvement, which will have profound impact on social economic structure, the social security system, the medical and health service and the design and management of urban public space. As an important part of the urban ecosystem and urban public space, urban park green space has a variety of functions, including leisure and fitness, social entertainment, culture and education, ecological conservation, etc., which is of great significance for improving the urban environment and improving the quality of life of residents. In the context of an aging society, urban green parks not only carry the functions of beautifying the urban environment and regulating the urban microclimate, but also become an important place for the elderly to engage in recreation and social interaction. Therefore, the evaluation and analysis of the benefits of urban park green space in the background of aging society is helpful to optimize the planning, design and management of park green space to better meet the needs of the elderly, which has important theoretical and practical significance. By analyzing the impact of the aging society on the demand for urban park green space and the function of urban park green space, this paper makes an in-depth analysis on the benefits of urban park green space in the context of the aging society from three aspects: the number of suitable people, the length of stay and the efficiency of use, and discusses the attraction, frequency of use and satisfaction of urban park green space for the elderly. In order to improve the service quality and efficiency of urban park green space, meet the needs of the aging society, and promote the sustainable development of urban park green space, this paper puts forward the optimization strategy of urban park green space under the background of aging society.

## **1. Introduction**

Population aging is a global social phenomenon. Developed countries have stepped into the ranks of senile developed countries, and developing countries are also developing into senile countries. Since our country officially entered the aging society in 1999, the number of the elderly population has increased year by year, and the population structure has changed significantly. The aging society poses new challenges to urban planning, infrastructure construction and public service, among which the construction and management of urban parks and green Spaces are particularly important. As an important part of urban ecosystem, urban park green space plays an important role in improving urban environment and residents' quality of life. Under the background of aging society, scientific and reasonable evaluation and analysis of the benefits of urban parks and green Spaces are of great significance to meet the needs of elderly groups and promote social justice and harmony.

## **2. The impact of the aging society on the demand for urban park green space**

### **2.1 With the increase of the elderly population, the demand for green space in parks increases**

As the elderly population increases, so does the demand for green space in parks. The physical and psychological characteristics of the elderly require more attention and care, and urban parks and green Spaces can provide them with leisure, entertainment, fitness and other needs<sup>[1]</sup>. The elderly need a suitable environment for walking, morning exercise, chatting and other activities, and urban parks and green Spaces just meet these needs. Therefore, with the increase in the number of elderly people, the demand for park green space is also rising.

### **2.2 The elderly population has increased demand for park green space service facilities**

The growth of the elderly population has also brought about an increase in the demand for park green space services. These services include rest facilities, fitness facilities, health facilities, etc. When the elderly carry out activities in the green space of the park, they need corresponding rest facilities and fitness facilities to support their activities. At the same time, the need for health facilities is relatively high due to the physical condition and physiological characteristics of the elderly.

### **2.3 The elderly population's demand for park green space and environmental atmosphere**

When the elderly carry out outdoor activities, they have special requirements for activity space and environmental atmosphere. It is necessary to set up walking trails suitable for the elderly and provide fitness equipment suitable for the elderly. The environment of the park green space needs to be quiet and comfortable, so that the elderly can relax and enjoy nature. These requirements require urban park green space to fully consider the needs and characteristics of the elderly in the planning and design process, and provide activity space and environmental atmosphere that meet their needs.

## **3. Function analysis of urban park green space under the background of aging society**

### **3.1 Leisure and fitness functions**

As an important part of urban open space, urban park green space provides leisure and fitness places for urban residents. In the context of an aging society, the elderly have a particularly prominent demand for leisure and fitness<sup>[2]</sup>. Urban parks are usually equipped with walking trails,

fitness equipment, sports fields and other facilities, which can meet the elderly to walk, jog, tai chi, yoga and other forms of physical exercise. These activities can not only improve the physical fitness of the elderly, but also relieve their psychological pressure and enhance their mental health. In addition, the natural landscape and vegetation within the park's green space also help the elderly to relax and meditate, further promoting physical and mental health.

### **3.2 Social entertainment functions**

Social needs become more important as older people's social circles shrink with age. As an important place for the social entertainment of the elderly, urban park green space provides opportunities for communication and interaction. In the park, the elderly can make new friends and participate in various social activities, such as dancing, singing, playing cards, etc., so as to enrich their social life. These activities not only help relieve loneliness and depression in the elderly, but also enhance their sense of social belonging and self-esteem. In addition, the public Spaces and facilities in the park's green space also provide a platform for the elderly to show themselves and give play to their creativity, such as gardening, painting, calligraphy and other cultural activities, which help the elderly to maintain a positive attitude towards life.

### **3.3 Cultural and educational functions**

Urban parks are not only places for leisure, fitness and social entertainment, but also have cultural and educational functions. Under the background of the aging society, the demand of the elderly for cultural education is increasing day by day. Various cultural activities, such as lectures, exhibitions and performances, can be held in the green space of the park to provide opportunities for the elderly to learn new knowledge and understand social dynamics. These activities can not only enrich the spiritual life of the elderly, but also broaden their vision and way of thinking. In addition, the natural landscape and vegetation in the green space of the park also have ecological educational significance, which can guide the elderly to pay attention to the natural environment and understand the importance of ecological protection, so as to improve their environmental awareness and responsibility.

### **3.4 Ecological conservation function**

As an important part of urban ecosystem, urban park green space has the function of ecological conservation. The vegetation and natural landscape in the green space of the park can purify the air, regulate the climate, maintain water and soil, etc., and provide a good ecological environment for urban residents<sup>[3]</sup>. In the context of aging society, the ecological environment needs of the elderly are particularly important. The natural landscape and vegetation in the green space of the park can provide the opportunity for the elderly to get close to nature and feel nature, which contributes to their physical and mental health. At the same time, the ecological conservation measures in the park green space can also guide the elderly to pay attention to the natural environment and understand the importance of ecological protection, so as to improve their environmental awareness and responsibility.

## 4. Urban park green space benefit evaluation and analysis

### 4.1 Analysis of the number of applicable population

The number of people suitable for urban park green space is an important index to measure its social benefits and influence. With the construction and optimization of urban park green space, more and more citizens begin to enjoy the convenience and comfort brought by park green space. Whether it is the elderly, young people or children, they can find their own activity space and entertainment projects in the park green space.

The elderly are one of the main users of green Spaces in urban parks. Here they walk, do morning exercises, chat, play cards and enjoy the quiet environment and fresh air. With the arrival of the aging society, the demand for park green space for the elderly is also increasing. By providing a rich variety of activity facilities and services, urban parks meet the recreational needs of the elderly and improve their quality of life. Young people and children are also important users of green Spaces in urban parks. Young people here have outdoor sports, fitness exercises and enjoy the beauty of nature. Children enjoy playing in the amusement facilities, cultivating their physical and mental health. With the continuous improvement of urban park green space, more and more young people and children began to join the ranks of park green space users, enjoying the joy and convenience brought by park green space.

### 4.2 Residence Duration Analysis

In the context of an aging society, the length of stay of the elderly in urban park green space is an important indicator reflecting their experience and satisfaction. By observing and analyzing the length of stay of the elderly in the park green space, we can understand their liking degree and demand characteristics for the park green space. The length of stay of the elderly population in the urban park green space has specific characteristics. By observing the activities of the elderly and analyzing the data, it can be found that the length of stay of the elderly in the park green space is affected by many factors, including weather conditions, activity content, park green space environment and so on. The physical condition and physiological characteristics of the elderly also affect the length of their stay in the park green space. Generally speaking, the longer the elderly stay in the urban park green space, the higher their satisfaction with the park green space. This may be because the park's green space provides a comfortable environment, a wealth of activity facilities and intimate services. Here the elderly can walk, chat, play cards, exercise, etc., enjoy the quiet environment and fresh air<sup>[4]</sup>. At the same time, the park also provides convenient drinking water, dining and sanitation facilities to meet the basic needs of the elderly, so that they are willing to stay here for a long time (Table 1). The long stay also helps the elderly to have in-depth exchanges and interactions, enhancing mutual understanding and friendship. By analyzing the length of time the elderly stay in the park green space, the attractiveness and service level of the park green space can be assessed. If the elderly stay in the park green space for a short time, it indicates that the environment and service facilities of the park green space have problems or deficiencies, and need to be improved. Therefore, when planning urban park green space, it is necessary to fully consider the characteristics of the length of stay of the elderly, and provide appropriate environment and service facilities to meet their needs.

*Table 1 Characteristics of the length of stay of the elderly population in urban parks and green Spaces*

Influencing factor	Description
Weather condition	Sunny, warm weather usually increases the length of stay
Activity content	The variety of activities will attract the elderly to stay for a long time
Park green space environment	The beautiful environment and comfortable facilities will increase the satisfaction and length of stay of the elderly
Physical condition	The physical condition and physiological characteristics of the elderly also affect the length of their stay in the park green space

### 4.3 Usage efficiency analysis

The use efficiency of urban park green space by the elderly population is one of the important indicators to measure the benefit of park green space. By analyzing the activity type, frequency of use and length of stay of the elderly in the park green space, the efficiency of their use of the park green space can be evaluated. At the same time, it can also find the problems and shortcomings in the park green space, and put forward the corresponding improvement measures. The higher the efficiency of the elderly population in the use of urban park green space, the better the benefit of park green space. High use efficiency is also conducive to improving the social influence and public service level of park green space<sup>[5]</sup>. If the efficiency of the elderly in the use of park green space is low, it indicates that there are problems or deficiencies in the planning and management of park green space, and it needs to be improved.

Through observation, it is found that the activities of the elderly in the park green space are various, including walking, morning exercise, chatting, playing tai chi and so on. These activities need corresponding activity space and service facilities to support. If the activity space and service facilities provided by the green space of the park are insufficient or unreasonable, the use efficiency of the elderly will be affected<sup>[6]</sup>. Therefore, when planning urban park green space, it is necessary to fully consider the needs of the elderly and provide appropriate activity space and service facilities to improve their use efficiency of park green space.

## 5. Urban park green space optimization strategy under the background of aging society

### 5.1 Increase the area and number of green Spaces in parks

By building new parks and transforming old parks, we will expand the scale of urban park green space and provide more leisure, entertainment and fitness places. At the same time, it is also necessary to rationally plan the layout of the park green space to ensure that the park green space is evenly distributed and convenient for the elderly to travel and use. In view of the problem that some regional facilities are too dense, the spatial layout of the park should be optimized, different functional areas should be reasonably divided, and facilities should not be too concentrated or scattered. Some characteristic landscapes and theme areas can also be set up in the park to increase the interest and attraction of the park<sup>[7]</sup>. For example, Beijing has continuously strengthened the construction of urban park green space in recent years, and the area of park green space has increased year by year, providing more leisure and entertainment places for citizens. Beijing also pays attention to the diversified development of park green space, including comprehensive parks, community parks, special parks, etc., to meet the needs of different citizens (Table 2).

Table 2 Strategies for optimizing park green space scale

Policy content	Concrete measures	Give an example
Scale up	Build new parks and renovate old parks	In recent years, Beijing has continuously strengthened the construction of urban park green space, and the area of park green space has increased year by year
Rational distribution	Ensure even distribution of green space in parks and optimize spatial layout	Beijing pays attention to the diversified development of park green space, including comprehensive parks, community parks, special parks and so on
Add features	Set the feature landscape and theme area	Such as setting up exclusive activity areas for the elderly, children's play areas, etc

### 5.2 Improve park green space service facilities

In order to meet the elderly population's demand for urban park green space service facilities, it is necessary to improve the service facilities of park green space. According to the needs and characteristics of the elderly and the rules of activity, the type and number of facilities suitable for the elderly should be appropriately increased, such as adding convenient facilities such as seats, pavilions, handrails, and fitness facilities such as fitness equipment and sports fields. It can also be considered to set up barrier-free facilities in the park to facilitate the use of elderly people with mobility difficulties, and improve the service level and comfort of the park's green space<sup>[8]</sup>. At the same time, it is also necessary to pay attention to the maintenance and update of service facilities to ensure the safety and reliability of facilities. Taking Guangzhou as an example, the city pays attention to improving service facilities in the construction of parks and green Spaces, providing citizens with a good leisure environment. For example, in the park set up enough rest seats, umbrellas and other facilities, convenient for citizens to rest; At the same time, fitness equipment and children's amusement facilities are also set up to meet the needs of different citizens. In addition, Guangzhou also pays attention to the health management of parks and green Spaces to keep the environment in parks clean.

### 5.3 Optimize the environmental atmosphere of park green space

Through strengthening greening, beautification, lighting and other measures, improve the landscape quality and ecological environment of park green space. For the construction of the cultural atmosphere of the park green space, the organization and management of cultural activities in the park should be strengthened, and cultural activities such as lectures, exhibitions and performances should be held regularly to enrich the spiritual life of the elderly. Professionals or volunteers can also be invited to provide training or guidance for the elderly, such as gardening, painting, calligraphy and other cultural activities, to improve their cultural literacy and skill level<sup>[9]</sup>. At the same time, the elderly are encouraged to organize activities or associations on their own to increase their social interaction and sense of belonging. Taking Shanghai as an example, the city pays attention to optimizing the environmental atmosphere in the construction of parks and green Spaces, providing citizens with a good leisure environment. For example, green facilities such as flower beds and lawns are set up in the park to increase the beauty of the park landscape; In addition, lighting facilities such as a musical fountain and a light show have been installed to enhance the attraction of the park. In addition, Shanghai also pays attention to the construction of cultural atmosphere in parks and green Spaces, and often holds various cultural exhibitions and art performances, attracting a large number of citizens to visit and appreciate.

#### **5.4 Improve the accessibility and convenience of green space in parks**

In order to improve the accessibility and convenience of urban park green space for the elderly population, a series of measures are needed. For example, strengthen the construction of traffic facilities around the park green space, improve the coverage rate and convenience of public transportation; It is also necessary to optimize the facilities such as walking and cycling paths inside the green space of the park to facilitate citizens' travel<sup>[10]</sup>. It can also improve the accessibility of park green space by setting up barrier-free facilities and other ways to facilitate the use of people with mobility difficulties such as the elderly. Taking Shenzhen as an example, the city has focused on improving accessibility and convenience in the construction of green parks. For example, a number of bus and subway stations are set up around the park green space to facilitate the public to take public transport; At the same time, facilities such as walking and cycling paths are also set up inside the park to facilitate public travel. In addition, Shenzhen also pays attention to the construction and improvement of barrier-free facilities to provide convenience for people with mobility difficulties such as the elderly.

#### **5.5 Strengthen the management and maintenance of green space in parks**

In view of the ecological protection function of the park green space, the protection and management of vegetation and natural landscape in the park should be strengthened, and regular pruning, fertilization, pest control and other work should be carried out to maintain the healthy growth of vegetation and good landscape effect. At the same time, strengthen the monitoring and assessment of the ecological environment in the park, strengthen the daily management and maintenance of the park's green space through the establishment of a sound management system and norms, discover and deal with environmental problems in a timely manner, and ensure the ecological safety and sustainable development of the park. Taking Wuhan as an example, the city pays attention to strengthening management and maintenance in the management of park green space. For example, the establishment of a sound park management system and norms, the daily management and maintenance of park green space are clearly stipulated; At the same time, it also strengthened the crackdown on illegal activities in the park green space, and maintained the order and safety of the park green space. In addition, Wuhan City also pays attention to strengthening the management of environmental health in parks and green Spaces to keep the environment in parks clean.

### **6. Conclusion**

The number of elderly people is increasing, and the demand for urban parks and green Spaces is also rising. As an important part of urban ecosystem, urban park green space plays an important role in improving urban environment and residents' quality of life. This paper evaluates and analyzes the benefit of urban park green space from the aspects of the number of suitable people, the length of stay and the efficiency of use. The results show that the elderly population is one of the main users of urban park green space, and their stay time and use efficiency are important indicators to evaluate the efficiency of urban park green space. In the context of an aging society, in order to meet the needs of the elderly population for urban park green space, a series of optimization strategies should be adopted, including increasing the area and quantity of park green space, improving park green space service facilities, optimizing the environmental atmosphere of park green space, improving the accessibility and convenience of park green space, and strengthening the management and maintenance of park green space. In the future, with the continuous development of an aging society, urban parks and green Spaces will play a more important role in meeting the

needs of the elderly. Therefore, it is necessary to further strengthen the planning, design and management of urban park green space, and constantly optimize its functions and benefits. At the same time, it is also necessary to strengthen the research and exploration of the characteristics of the needs and activities of the elderly in order to better meet their diversified needs. In addition, we can learn from advanced experience and practices at home and abroad to continuously improve the construction and management level of urban parks and green Spaces, and create a better living environment for the elderly.

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