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Research on Strategy of Urban Park Barrier-free Facilities Reconstruction from the Perspective of Micro-renewal——Take Huicheng District of Huizhou City as an Example

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Abstract: *The design of barrier-free facilities is an important part of paying attention to the disadvantaged groups in urban park green space, and it is the concrete embodiment of whether the whole park landscape design follows the general design principle of "creating fair use". By investigating the status quo of accessibility facilities in 11 parks and green Spaces in Huicheng District of Huizhou City, according to the types of facilities and the characteristics of users, the problems in accessibility design are proposed by combining quantitative analysis with subjective analysis. Based on the concept of micro update and upgrading strategy is put forward, which meet the demand of vulnerable groups create the public landscape space of fair use, To explore new ways to improve the green space quality of Huizhou urban parks in the future.*

Keywords: *The park green space;Barrier Free Design;Micro update;transform*

1. Introduction

During the national Two Sessions in 2021, "barrier-free" and "age-appropriate" became hot keywords, which on the one hand indicates that China is facing the problems and challenges of an increasingly aging population[1], and on the other hand indicates that barrier-free environment construction is an important prerequisite for the fair use of services and facilities by groups with disabilities.Barrier-free design was first put forward in 1974 by the United Nations organization.With the practical application of barrier-free facilities, the design has been gradually covered to remove the obstacles of the obstacles to group building, landscape environment and all kinds of products, and other aspects, its design has gradually covered the construction, landscape environment and all kinds of products to eliminate obstacles for obstacle groups,such as the planning and design of urban roads and residential area, bathroom convenience of children and maimed person cant tank design, etc.

At present, the living environment of social vulnerable groups has been included in the world to measure the social civilization and national development of an important symbol, social aging phenomenon and disabled travel difficulties have been a practical problem in today's society.Parks are the green activity place for users to integrate into the nature and release pressure, which are of great significance to urban environmental quality and residents' physical and mental health.For the elderly, the disabled, sick people and children and other vulnerable groups, they also have the right and the demand to use green space and other resources, barrier-free facility is an important assurance for them to enjoy the environment of parks, and create a safe, comfortable, convenient outdoor space, to strengthen its social autonomy of the communication[2] . Therefore, with the perspective of landscape equity, urban park green space should attach importance to the setting of barrier-free system.

2. The research process

Compared with other developed countries,the research of barrier-free design started late in China, and there was still a gap in construction and research development. Huizhou, as one of the nine pearl River Delta cities in the Guangdong-Hong Kong-Macao Greater Bay Area, is in good condition of urban construction. However, it is undeniable that there are still many problems in barrier-free facilities,

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such as imperfect barrier-free policies, unreasonable barrier-free design, low intelligence level of barrier-free facilities and unfavorable construction and maintenance[3].Meanwhile, according to the data of the 7th National Census of Huizhou released by Huizhou Statistics Bureau on May 16, 2021,the population aged 60 and above in Huizhou is 607,392, accounting for 10.05%. According to the standard that the elderly population aged 60 and above takes up 10% of the total population and enters the aging society as determined by the 1982 Vienna World Conference on Aging in China, Huizhou has entered the aging society. According to statistics on the number of disabled people in Guangdong province in 2017, Huizhou has 34,000 disabled people.Based on this, the construction of barrier-free urban environment in Huizhou is imminent. As the public space for residents' activities, the barrier-free design of park green space is also directly related to the degree of urban civilization construction. Taking the urban area of Huizhou city as an example, through on-the-spot investigation, interview investigation on Huizhou park green space on the construction of barrier-free facilities design research, we analyzes its present situation existence question, and puts forward innovation strategy, in order to provide theoretical basis to promote the development of the construction of Huizhou city,and to provide a kind of research support for solving the problems related to Chinese people with disabilities[4].

2.1 Research objects and methods

The design and use of barrier-free facilities of 11 different types of park green Spaces is the research object in Huicheng District, Huizhou city (Table 1), which mainly includes four types of park green Spaces, including comprehensive park, special park, community park and ribbon park. The main investigation methods include field survey, interview survey, etc.Through field research to understand the use of barrier-free facilities in the park green space, and to take photos to record the issues by using your phone,it mainly involves barrier-free design of entrances and exits, tourist routes, conventional facilities, rest areas, parking lots and signage systems.we objectively analyze its construction status and perfect degree.By means of interview survey, the users of green space in the park are allowed to evaluate the design satisfaction degree of accessible facilities in the environment, and evaluate the rationality of accessible facilities in the park subjectively.

Table 1 Survey of park types

The serial number	Category	Name	Completion/opening time	Area(hm2)
1	comprehensive park	Huizhou West Lake	the Northern Song Dynasty	2091
2	comprehensive park	Xiapu Riverside park	1998	17.75
3	comprehensive park	Dongjiang Park	2003	11.95
4	comprehensive park	Dongjiangsha Park	2003	7.2
5	comprehensive park	Nanshan Park	2009	41(the first phase is 3.2)
6	comprehensive park	Lujiang Park	2014	9.1217
7	special park	Huizhou Sports Park	2004	42
8	special park	Huizhou Botanical Garden	2017	66.67
9	community park	Henanan Park	2005	3.8
10	ribbon park	Huizhou Public Park	2014	55.6
11	ribbon park	Jinshan Lake Park	2014	363.8

2.2 Investigation and analysis

According to the "barrier-free design Code (GB50763-2012)" requirements, The design of barrier-free facilities in urban parks mainly covers garden buildings, garden roads and rest facilities, it specifically include ticket office, entrance and exit, tour route, conventional facilities, rest area, parking lot and signage system and other content design[5]。This survey mainly focuses on the recreation and activity space of parks. At present, Huizhou city parks are basically free of ticket, so the barrier-free design of parking lots and ticket offices is excluded.

According to the characteristics of Huizhou urban park green space, combined with the requirements of regulations, the investigation and analysis are mainly carried out on the entrance and exit setting, tour route organization, rest area, conventional facilities and sign system of the recreational space.Among them, the entrance and exit mainly consider whether to ensure that the vulnerable groups in society can easily access the park, the tour route focuses on whether the whole park can be unblocked, whether there are safety measures in dangerous areas, whether the rest areas and conventional facilities can ensure the vulnerable groups can use the facilities and enjoy the recreation space equally, whether the planning of the identification system takes into account the actual needs of different vulnerable groups.From the perspective of humanization, this paper investigates, analyzes and

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studies the barrier-free design of huizhou park green space and evaluates its construction (Table 2-Table 6).

Table 2 Present situation of barrier-free design of entrance and exit

Research content	Requirements for accessible facilities	Entrance and exit: The main entrance is provided with barrier-free access	The distance between vehicle gears should not be less than 900 mm when setting vehicle gears at entrances and exits	The entrance and exit connect with the blind road
Park name	Huizhou West Lake the Northern Song Dynasty	1	1	1
	Xiapu Riverside park 1998	1	1	0
Completion /opening time	Dongjiang Park 2003	1	0	0
	Dongjiangsha Park 2003	1	0	0
	Nanshan Park 2009	1	0	1
	Lujiang Park 2014	1	0	0
	Jinshan Lake Park 2014	1	1	0
	Huizhou Sports Park 2004	1	1	0
	Huizhou Botanical Garden 2017	1	1	0
	Henanan Park 2005	0	0	0
	Huizhou Public Park 2014	1	1	0

1indicates that the configuration requirements are met, 0 indicates that the configuration requirements are not met

Table 3 Present situation of barrier-free design of tour route

Research content	Requirements for accessible facilities	Tour route: The longitudinal slope of the barrier-free main garden road should be less than 5%, steps and staircases should not be set up, and wheelchair ramps should be provided when necessary	Waterfront barrier-free tour park road should be set up guardrail, and the height of guardrail should be not less than 900m, in the dangerous terrain of the lot should be set up safety protection facilities and safety warning line	The road surface should be smooth, non-skid and not loose, the cover plate of the blind well on the park road should be flush with the road surface, and the width of the filter hole of the drainage ditch should not be greater than 15 mm
Park name	Huizhou West Lake the Northern Song Dynasty	1	1	0
	Xiapu Riverside park 1998	1	1	0
Completion/ opening time	Dongjiang Park 2003	1	1	1
	Dongjiangsha Park 2003	1	1	1
	Nanshan Park 2009	0	1	1
	Lujiang Park 2014	1	1	1
	Jinshan Lake Park 2014	1	0	1
	Huizhou Sports Park 2004	1	0	0
	Huizhou Botanical Garden 2017	1	1	1
	Henanan Park 2005	0	0	0
	Huizhou Public Park 2014	1	0	1

1indicates that the configuration requirements are met, 0 indicates that the configuration requirements are not met

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Table 4 Present situation of barrier-free design of recreation area

Research content	Requirements for accessible facilities	recreation area: A certain area of barrier-free rest area is set up in the main garden road	recreation area: The recreational area should be easy to access, and wheelchair ramps should be provided when there is a height difference, and the ground should be flat, non-slip and not loose	recreation area: There is an accessible ramp between the open area and the garden road
Park name	Huizhou West Lake the Northern Song Dynasty	1	1	1
Completion /opening time	Xiapu Riverside park 1998	1	0	0
	Dongjiang Park 2003	1	1	1
	Dongjiangsha Park 2003	1	1	1
	Nanshan Park 2009	1	0	1
	Lujiang Park 2014	1	0	1
	Jinshan Lake Park 2014	1	1	1
	Huizhou Sports Park 2004	1	1	0
	Huizhou Botanical Garden 2017	1	1	1
	Henanan Park 2005	0	0	0
	Huizhou Public Park 2014	1	1	1

1indicates that the configuration requirements are met, 0 indicates that the configuration requirements are not met

Table 5 Present situation of barrier-free design of Conventional facilities

Research content	Requirements for accessible facilities	Conventional facilities: buildings or pavilions with steps should be provided with barrier-free ramps	Conventional facilities: Barrier-free public toilets should meet the requirements	Conventional facilities: A wheelchair ramp should be provided when there is a height difference between the bridge deck and the park road and square
Park name	Huizhou West Lake the Northern Song Dynasty	0	1	0
Completion /opening time	Xiapu Riverside park 1998	0	1	1
	Dongjiang Park 2003	0	1	1
	Dongjiangsha Park 2003	0	1	1
	Nanshan Park 2009	1	1	0
	Lujiang Park 2014	0	0	0
	Jinshan Lake Park 2014	0	1	1
	Huizhou Sports Park 2004	0	1	1
	Huizhou Botanical Garden 2017	0	1	1
	Henanan Park 2005	0	1	0
	Huizhou Public Park 2014	1	1	1

1indicates that the configuration requirements are met, 0 indicates that the configuration requirements are not met

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Table 6 Present situation of barrier-free design of Signage System

Research content	Requirements for accessible facilities	Signage System: Barrier-free signage should be installed on main entrances and exits, barrier-free passages, barrier-free toilets and other barrier-free facilities to form a complete signage system	Signage System: There should be barrier-free tourist maps at entrances and exits	Signage System: Accessibility signs shall be conspicuous to avoid occlusion and shall have braille signage
Park name	Huizhou West Lake the Northern Song Dynasty	1	1	0
	Xiapu Riverside park 1998	0	0	0
Completion /opening time	Dongjiang Park 2003	1	0	0
	Dongjiangsha Park 2003	0	0	0
	Nanshan Park 2009	1	0	0
	Lujiang Park 2014	0	0	0
	Jinshan Lake Park 2014	1	0	0
	Huizhou Sports Park 2004	1	0	0
	Huizhou Botanical Garden 2017	1	1	1
	Henanan Park 2005	0	0	0
	Huizhou Public Park 2014	1	0	0

1indicates that the configuration requirements are met, 0 indicates that the configuration requirements are not met

Through field investigation of 11 parks and interviews with tourists, it is found that the construction of barrier-free facilities of park green space in Huicheng District basically reaches the standard, and tourists have a good overall satisfaction with barrier-free facilities in parks.Accessibility design is reflected in 11 parks, among which 7 parks are equipped with five aspects of accessibility, accounting for 63%. Accessibility facilities in 4 new parks built since 2014 are relatively perfect, and tourists are satisfied with the construction and management of accessibility facilities in 3 parks. In general, the accessibility rate of Huizhou park green space is good, but the attention is not enough, which needs to be further improved in detail construction.

3. Analysis of survey results——There are some problems in barrier-free facilities in Huizhou park

According to the research content of 11 park to collect the table (table 2 and table 6) , the result of analysis shows that the basic barrier-free construction of Huizhou park green space has been initially in place.However, by vertical comparison of the requirements for barrier-free facilities in the table,problems also exist in design.Blind roads exist in the streets of Huizhou, but they are not continuous and do not connect smoothly with the park green space. Only one of the different entrances and exits in the same park can be accessible.For the same toilet setting, the Settings of men's, women's, barrier-free and third toilets in different parks are also very different, and are not perfect enough to solve people's diversified and meticulous life needs [6]. Few parks meet the criteria for accessibility signage systems.

3.1 Analysis of barrier-free passage construction

Except for some parks built in the early stage, there are basically barrier-free facilities at the entrances and exits of Huizhou parks. However, some parks only consider barrier-free design at the entrances and exits,and the barrier-free design of the whole passage area lacks rationality.For instance,Although there is a ramp at the entrance of Xiapu Riverside park (Figure 1), it is not a wheelchair ramp. The ramp is mainly used to limit the flow of electric vehicles and slow down the speed of strollers. It is difficult for people in wheelchairs to pass.The Henanan Park is a community park. There is no barrier-free ramp at the entrance and exit, and no passage or space for people with obstacles.The park has a small space, and the roads are mainly secondary roads, which are generally

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1.5m wide, and some branch roads are even narrower, so there are no barrier-free access conditions (Figure 2).

Figure 1 A ramp at the entrance of Xiapu Riverside park

Figure 2 Road conditions of Henanan Park

The roads and floors of the surveyed parks are generally smooth, like most old parks with cement floors. There are cracks in the roads or unstable protruding cover plates of blind shafts, which need to be repaired to some extent.In the square of Jinshan Lake Park, which is newly constructed, the anti-skid treatment of brick paving needs to be strengthened or anti-skid signs should be set up. There are certain risks for special groups, especially the elderly, to perform square dance, taijiquan and other activities[7].Except Nanshan Park, all parks basically can form a closed barrier-free tour of the main route. Special parks such as Huizhou Botanical Garden (Figure3), Dongjiang Park (Figure 4) and Huizhou West Lake are relatively standardized in barrier-free access construction.However, in the comprehensive park, most of the pavilions, bridges and landscape buildings, there is basically no place connected with barrier-free access, which has certain restrictions on the viewing needs of people with obstacles.

Figure 3 Entrance and exit of Huizhou Botanical Garden

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Figure 4 Entrance and exit of Dongjiang Park

3.2 Analysis of barrier-free facilities construction

Conventional facilities, such as barrier-free public toilets, are set up in the survey parks, but different parks attach different importance to barrier-free toilets.In recent ten years, newly-built parks and green Spaces, such as Dongjiang Park (Figure5), Jinshan Lake Park and Public Park, attach more importance to accessibility facilities, and improve toilet management, and pay attention to cleanliness and odor treatment.There are roughly two types of accessible toilets.One is to separate accessible toilets from male and female toilets, which is used in most parks.The other is to separate accessible toilets for male and female toilets, such as Jinshan Lake Park.

Figure 5 Accessible toilet in Dongjiang Park

Common barrier-free facilities include audio cues, communication, handrails and so on.Among them, sound prompt and communication are often neglected facilities. Comprehensive parks and special parks basically have sound devices, but they are generally not used or the utilization rate is not high. Generally speaking, the utilization rate of barrier-free facilities in Huizhou park green space needs to be improved.

3.3 Analysis of barrier-free sign construction

According to the accessibility design code, the accessibility sign system should focus on information accessibility, eye-catching and avoiding occlusion, and should have braille signs.At present, the problems of barrier-free signs in parks are mainly divided into two categories.First, there are fewer signs. For example, in Henanan Park and Nanshan Park, although the area of the park is small, the location of toilets and the direction of different entrances and exits still need to be guided by signs, which saves the searching time of the park citizens and solves the inconvenience.Secondly, signs for the visually impaired are not perfect (Figure6). In some parks, there are braille signs in the guideway signs for entrance and exit, but they are not systematic. Both common signs and signs for the visually impaired are interrupted during the park visit, which affects the park experience.

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Figure 6 Accessibility sign of Xiapu Riverside park

In general, there are some problems in the barrier-free design of huizhou park green space at present, and the service objects of barrier-free facilities are constantly expanding, from the original specific target of the disabled to the people with mobility difficulties or mobility disorders[8].With the development of city construction environment, barrier-free facilities need to be updated to perfect in order to satisfy the demands of the use of different people, and give special groups access to the basic protections that society gives everyone.For different areas, entrances and exits, sightseeing routes, rest areas, conventional facilities and signage systems are adjusted according to their own characteristics and current situations.

4. Micro update strategy of barrier-free facilities in Huizhou Park green space

Micro-renewal strategy is based on the further development of the "organic renewal" theory proposed by Academician Wu Liangyong. Different from the traditional one-size-fits-all renewal mode in urban construction, it mainly adjusts and repairs existing barrier-free facilities appropriately from a microscopic perspective.We need to carry out reasonable renovation and update of important nodes such as entrances and exits and rest areas.From the Angle of vulnerable groups, we pay attention to the construction of equal sharing green space, so as to realize the barrier-free space of park green space.

In view of the existing problems of barrier-free facilities in Huizhou park green space, the most important thing is to start from infrastructure.The barrier-free design of point areas should comply with the requirements of The Code for Barrier-free Design (GB50763-2012), such as the barrier-free design of entrances, signage systems and toilets.We use the linear road to connect the park green space, and finally combine the humanized management and the introduction of other humanized facilities to build a network barrier-free garden system, so as to update the barrier-free design of the park green space.According to the goal of barrier-free design, the micro-update strategy guidance is obtained from three levels of point, line and net.

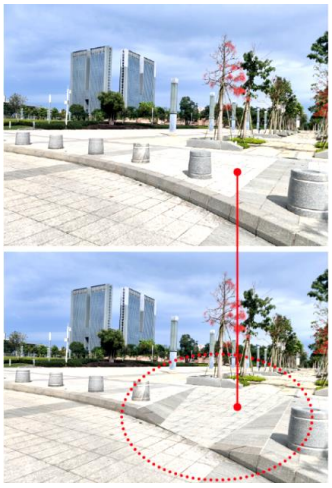

Figure 7 Micro update of entrance and exit

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4.1 Micro update strategy for point region

4.1.1 Entrance and exit

The design of the entrance and exit of huizhou urban park green space should take into account a variety of people with limited activities, and moderate adjustment should be made to the existing problems. According to the characteristics of the site, different renovation methods should be adopted.First the flat slope entrance is renovated (Figure 7). Steps are combined with wheelchair ramps, and handrails are added on both sides of the ramps (Figure 8).

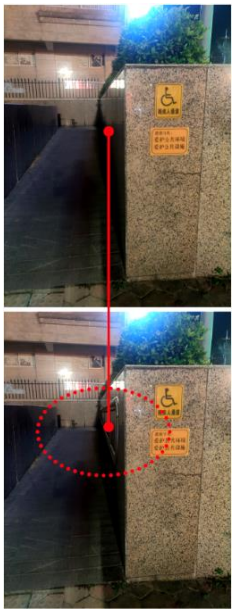

Figure 8 Micro update of the armrest

Figure 9 Micro update of the ramp

For parks with a large area, such as Huizhou West Lake park, Jinshan Lake Park, Huizhou Citizen's Park, Nanshan Park (Figure9) and other green Spaces with many entrances and exits, it is necessary to ensure that different entrances and exits should be barrier-free, and ensure that the clear width of wheelchair ramps is greater than 1.2m. The range of slope and length adjustment of the ramp should comply with the "Code for Barrier-free Design (GB50763-2012)" due to different site conditions.

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4.1.2 Signage System

The improvement of barrier-free signage system in park green space is a necessary condition for barrier-free space. At present, the international universal barrier-free signage has no auxiliary role for people with visual impairment.In the process of renewal, sign design for visually impaired people should be gradually increased and improved.The main adjustment methods include building a coherent system of blind tracks, setting up special barrier-free maps, updating and improving braille guidance devices (Figure10).At the same time, investment in intelligent barrier-free facilities can be increased with the help of the process of smart city construction.

Figure 10 Micro update of Signage System

4.1.3 Accessible toilet

In the current research, the opening direction of barrier-free toilets in different green parks in Huizhou is different, and the weight and thickness of the door and the toilet space are also different.In the process of building new toilets or renovating park toilets, on the one hand, the construction standards should meet the requirements of the code.Toilet size should not be less than 1.80m*1.00m.The door of the accessible toilet should be opened outwards. If it is opened inwards, the rotation space left in the toilet should be suitable for wheelchairs with a diameter of no less than 1.50m.The ground should be non-skid, no water.On the other hand, the construction standard of barrier-free toilets should be unified as soon as possible to promote the standardized development of barrier-free toilets.

4.2 Micro update strategy for linear region

4.2.1 Roads, stairs and steps

Sidewalk is an important part of the main park road in the park green space. Whether the system is perfect or not is related to the level of barrier-free facilities construction of tour routes. For example, most blind roads in urban parks are built in combination with sidewalks.One - side or three - side kerb ramps must be set up at each intersection of pavement.The blind track system should be designed to avoid manhole covers and root bumps.Some of the park sidewalks surveyed have design problems, which can be adjusted appropriately based on the current situation (Figure 11).For example, in small scale, barrier-free ramps are added to meet the requirements of barrier-free design.

Figure 11 Micro update of sidewalks

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Most of the parks in Huizhou are rich in terrain, so the height difference is mainly handled in the form of ladder.This is often accompanied by the installation of ramps, but it does not mean that the design of the staircase is completely separated from accessibility, or that all obstructionists must pass through the ramps. According to the factors of visual impairment caused by the deterioration of physical function of the elderly,we should adopt a variety of update means to retrofit stairs or steps from human nature angle. The color of the tread surface and ladder surface of barrier-free stairs should be distinguished and contrasted.The first step of ascending and descending stairs should be clearly different from the platform in color or material (Figure12).The tread surface should be smooth and non-slip, and anti-slip strip should be set in front of the tread edge.

Figure 12 Micro update of steps

4.2.2 Tour routes and intelligent voice facilities

In order to enable the disadvantaged groups to enjoy the green space equally in urban parks, barrier-free tour of the main park road can smoothly reach part of the main scenic area, and the formation of a ring road is the most basic premise.Secondly, for barrier-free tour route branch garden road needs to be able to connect the main scenic spots, and the main garden road.And if the path can reach the scenic spots,the road should be easy to turn back when it is not a loop.Some of the surveyed parks have the problem that barrier-free tour routes are not smooth enough, which should be adjusted according to the needs of renovation and construction. At the same time, the park can combine the construction of smart gardens to add barrier-free intelligent products, which complement the existing barrier-free facilities.

4.3 Micro update strategy for mesh region

The purpose of urban park construction is to provide green space shared by people. Barrier-free facilities are measures to protect the rights of vulnerable groups and play a positive role in promoting the construction of barrier-free society.As a public place, barrier-free services and facilities should be provided to reflect practicality and humanization in details, so as to truly reflect the human respect and humanistic care of the whole society, and create a fair environment for people with disabilities to enjoy park space.In view of the existing problems of barrier-free construction of Huizhou park, the following measures should be taken.First of all, the whole park should establish a grid barrier-free service mechanism, regularly manage and repair barrier-free facilities, rectify non-standard infrastructure, supervise the implementation of barrier-free design schemes, and actively obtain the audience's evaluation and feedback.Secondly, through the comprehensive coordination of the whole park, the barrier-free entrance of the park green space and the barrier-free facilities of the city road are effectively connected, So as to establish the barrier-free system of urban space -- park green space.The barrier-free facilities between the structures, rest areas and the garden road are connected with the garden road through ramps.The distribution of barrier-free facilities in the park should be continuous and normal.

5. Conclusion

The construction and renewal of barrier-free facilities in urban parks is not to discriminate between people with disabilities, but to psychologically integrate them into the use of public space.Proper barrier-free service management is an important way to improve humanized service management in parks.Reasonable barrier-free facilities integrated into the construction of park facilities is the basic

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embodiment of landscape fairness and justice.Huizhou park green space has deficiencies in the construction of barrier-free facilities, which should be gradually improved in the later construction or transformation of park green space to truly reflect humanistic care and make barrier-free design an existence to improve human life and enhance human well-being .The implementation from the perspective of micro-renewal can not only achieve barrier-free green space, but also reflect the ecological concept of sustainable development.

References

[1] Xu Yi; Chen Shidong; Kuang Fuchun(2014).Analysis on Barrier-free Design on Senior Living Furniture[J].Furniture & Interior Design,(10):11-13.
[2] Gao Liang(2019).Research on the Design of Outdoor Space Suitable for the Elderly in Old Residential Communities[J].Furniture & Interior Design,(08):110-111.
[3] Zhang Panpan;Xie Yuan(2020).Investigation and Research on Barrier-free Facilities in Public Places in Shanghai[J].Construction Science and Technology,(11):25-28.
[4] Xu Yi;Chen Shidong;Kuang Fuchun(2021).Analysis on Barrier-free Design on Senior Living Furniture[J].Furniture & Interior Design,(05):133-137.
[5] Wang Yixian; Gao Wenxiu(2019).Research on the Current Situation of Barrier-free Environment of City Parks in Shenzhen[J].Architecture & Culture,(03):118-121.
[6] Liu Bo; Wang Can(2018).Research on the Third Public Toilets Design Based on Humanistic Care[J].Furniture & Interior Design,(11):112-115.
[7] Liu Haiqiang; Zhang Zhihao; Ma Xidong.Research on the Planning and Design of Rural Public Facilities Based on the Characteristics of Elderly Activities[J].Furniture & Interior Design, 2021,(03):126-129.
[8] IMRIE R, KULLMAN K(2017).Designing with Care and Caring with Design[M]. United Kingdom Wiley Blackwell, pp. 1-17.