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Research on Renewal Design of Public Spaces in Old Communities ——TakingBaiyunyuan Residential Area in Nanjing as an Example

Qualification work for obtaining the SVO «Master»
in the specialty B2 Design OPP «Design of the architectural and landscape environment»

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PART ONE

Research Background

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Research subjects

The Subject of the research is the design methods and strategies for the community service center as a core public space carrier in Baiyunyuan Community.

Research topics

This article takes the Community Service Activity Center of Baiyunyuan Community in Nanjing as an example, focusing on the research of the renewal design of public spaces in old communities.

Research Tasks

1. Function optimization and spatial reconstruction
2. Proposing targeted renewal design strategies
3. Completing the public space renewal design scheme for the community service activity center of Baiyunyuan Residential Area

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PART TWO

Overview of research status at home and abroad

Overview of research status at home and abroad

YEAR	FILE NAME	CONTENT SUMMARY
2020	《Guiding Opinions of The General Office of the State Council on Comprehensively Promoting the Renovation of Old Urban Residential Areas》	This is a guiding document for the renovation of urban old residential areas. It clearly identifies the key areas for renovation as those built before 2000. The renovation contents are classified into three categories: basic, improvement, and enhancement. It also proposes a mechanism for sharing the renovation funds among the government, residents, and social forces. It is required that by the end of the "14th Five-Year Plan" period, the renovation tasks of the residential areas built before 2000 that need renovation should be basically completed.
2023	《"Notice of the Ministry of Housing and Urban-Rural Development on Solidly and Progressively Promoting Urban Renewal Work"》	It is proposed to prioritize urban health checks, and comprehensively promote urban renewal work such as the renovation and upgrading of existing buildings, the renovation of urban old residential areas, the construction of complete communities, and the creation of vibrant streets. At the same time, guidance and regulations should be provided for the methods of urban renewal in local areas.
2023	《Notice on Steadily Promoting the 2023 Urban Old Residential Area Renovation Work》	Issued jointly by the Ministry of Housing and Urban-Rural Development, the National Development and Reform Commission, and other seven departments, this document outlines the measures for all regions to actively implement the 2023 urban community renovation plan and to proactively plan the 2024 renovation plan.
2024	《Notice from the Office of the Ministry of Natural Resources on Further Strengthening Planning and Land Policy Support for the Renovation and Upgrading of Old Residential Areas》	The deployment covers four aspects: deepening investigation and assessment, strengthening planning coordination, enhancing policy support, and optimizing approval procedures. It is clearly stated that the scattered land in old residential areas and surrounding marginal and sandwich areas should be prioritized for the expansion of public spaces and public service facilities. It also encourages the mixed use of existing urban land and the functional transformation of existing building spaces.
2025	《Opinions of the General Office of the Central Committee of the Communist Party of China and the General Office of the State Council on Continuously Promoting Urban Renewal Actions》	"Promoting the renovation and upgrading of urban old residential areas" has been designated as an important task of the urban renewal initiative. It requires the replacement of aging pipelines and conduits in the residential areas, the rectification of walkways and exhaust ducts within the buildings, and the complete elimination of potential safety hazards. Support will be provided for the installation of elevators in eligible buildings, and the long-term management mechanism of the residential areas will be improved simultaneously. Emphasis will be placed on guiding residents' participation and supervision.
2026	《The "15-19" Urban Renewal Plan》	It is clearly stated that during the "14th-15th Five-Year Plan" period, efforts will be continuously made to renovate urban old residential areas. At the same time, the construction of complete communities will be accelerated. It is planned to implement the construction and renovation of complete communities in 5,000 communities, improving public service facilities such as community elderly care and child care, and increasing public activity areas and green spaces according to local conditions.
2026	《Urban Renewal Project Loan Management Measures (Trial)》	Clearly, support for urban renewal project financing should be based on the principles of marketization and legalization. Projects applying for loans must have sufficient operating income to cover the principal and interest of the loans. The loan term should be reasonably determined based on factors such as the construction and operation cycle, and the source of repayment. Financial support should be provided for projects such as the renovation of old residential areas.

National Policy Documents on the Renovation of Old Communities (China)

In terms of public space research, domestic scholars focus on the vitality of community public spaces, communicative behavior, spatial quality evaluation, and renewal strategies. In terms of community service facilities, research is mostly concentrated on the functional configuration of community service centers, the layout of elderly care facilities, and the equalization of public services. In terms of community service activity centers, relevant research emphasizes that they should shift from being a single administrative service space to a comprehensive public service and public communication space. However, overall, research on the renewal and design of community service activity centers and surrounding public spaces as a whole is still insufficient.

Overview of research status at home and abroad

YEAR	FILENAME	CONTENTSUMMARY
1954	The United States《Housing Act of 1954》	For the first time, "urban renewal" was used instead of "slum clearance", and the renewal methods were expanded to include demolition and reconstruction, restoration and renovation, as well as maintenance and preservation.
1974	The United States《Housing and Community Development Act of 1974》	The Community Development Block Grant (CDBG) was established, with the funds available for improving community facilities, restoring buildings, and eliminating slums and decay. It is the most enduring federal funding framework in the field of community renewal in the United States.
1960	《The "Residential Area Improvement Law" of Japan (Law No. 84 of 1960)》	In order TO improve the environmental health and safety conditions of dense residential areas and promote the construction of healthy and livable residential collective, the designated procedures of improved areas, the construction standards of improved residential areas and the requirements of regional facilities are stipulated.
1992	The United States《HOPE VI Revitalization Program》	The conversion of high-poverty neighborhoods to mixed-income neighborhoods through the demolition of severely decaying public housing projects and the construction of new mixed-income neighborhoods is one of the largest and longest-running federal neighborhood renovation programs in the United States.
1999	《The "Social City" program in Germany》	The Federal-State Joint Urban Renewal Program has been providing funding for integrated community development in disadvantaged areas since 1999. Through the construction of facilities and spaces, the repair of spatial deficiencies, the establishment of social infrastructure, the strengthening of local organization networks, and the support for citizen participation, it aims to improve living and employment conditions and maintain a stable resident structure.
2014	《The "National Plan for Urban Renewal in France" (NPNRU, 2014 - 2027)》	Targeting the most dysfunctional "priority blocks" (QPV) in the city, the gap between priority blocks and the rest of the city is narrowed through interventions such as public space creation and restoration, residential renovation and demolition, and public facilities construction and renovation, requiring residents and association representatives to participate in project definition, implementation and evaluation.
2025	《The "Neighborhood Plan" of the United Kingdom》	£1.5 billion to promote community renewal in 75 areas, supporting the development of green Spaces and community gardens, new or improved community infrastructure, town centres and high streets, with regeneration plans developed by local neighbourhood committees.
2025	《The "Revitalize Our Neighborhoods Act of 2025" of the United States》	Authorizes the Department of Housing and Urban Development to provide competitive grants to state and local governments and cross-jurisdicting entities for the removal of blighted buildings, renovation of abandoned structures, and construction or preservation of affordable housing, requiring applicants to develop five-year plans that match no less than 15% of the grant amount.

Documents related to the renovation of old communities (international)

Foreign research emphasizes that the renewal of community public spaces should not only improve the physical environment, but also pay attention to social relationships, cultural identity, and daily usage behaviors. The design of community centers should be open, accessible, flexible, and inclusive, able to accommodate the needs of residents of different ages, cultural backgrounds, and abilities. These experiences provide important insights for this article.

Case Analysis

Beijing Jinsong Community



The Jinsong North Community in Jinsong Street, Chaoyang District, Beijing, is a "internet-famous project" in the nationwide renovation of old residential areas, known as the "Jinsong Model". Its basic experience holds significant reference value. This model has been included in the suggestions for Beijing's "14th Five-Year Plan". On the basis of pilot projects, the Beijing Municipal Commission of Housing and Urban-Rural Development and seven other departments issued the "Opinions on Introducing Social Capital to Participate in the Renovation of Old Residential Areas" on April 22, 2021.

The refined and age-friendly renovation, clear ground markings, minimalist paving design, treatment of hedgerow boundaries, and renovation and utilization of existing facilities all demonstrate that its successful practice not only provides replicable experience for urban renewal but also exhibits unique humanization in grassroots governance, improvement of people's livelihood, and community cultural construction. Although it is a minor renovation, it greatly enhances the comfort and image of the community.

Case Analysis

Deyang Shaanxi Pavilion Community



The Deyang Shaanxi Guild Hall was originally built during the "Huguang Immigrants Filling Sichuan" period. It was originally a ancestral hall and liaison office for Shaanxi immigrants, and later served as a grain depot and a venue for residents' activities. The site is currently located in a low-lying area in the old city, surrounded by old residential areas, and faces issues such as limited entrances and exits, poor environmental quality, and parking difficulties.

After renovation, the project serves as a community complex for the Shaanxi Pavilion, featuring Sichuan-Shaanxi architectural characteristics as its theme, creating a community center shared by the party and the masses. The design revolves around the internal courtyard, with three preserved trees dividing the front and back courtyards: the front courtyard is used for opera appreciation and transaction processing, while the back courtyard is for reading, tea gatherings, and discussions. The community also features a cultural corridor as an exhibition and gathering space, as well as a convenience service station and a Jingcheng Upper Study Room. The indoor space design is primarily in warm colors, creating a community public living room that blends historical and contemporary functions.

Case Analysis

Micro-renovation of Xianfeng Community, Shiqiao, Panyu District, Guangzhou



Preservation and reproduction of historical features: The community features a convergence of architectural styles from multiple eras. The plan aims to preserve the texture of the streets and alleys, extract elements of blue and red bricks to unify the architectural image, repair Lingnan-style residential buildings, demolish illegal structures, and enhance the space of streets and alleys, ensuring the complete continuation of the historical space of the "neighborhood museum".

Space-time integrated planning structure: Build a fusion system of "memory-space-function", integrate cultural stories, divide into 4 memory theme zones according to the timeline from the Ming and Qing dynasties to the present, set up 5 experience paths, and create multiple finely designed nodes. Personalized image creation - Window of Shiqiao: In the renovation of Pioneer Primary School, the high-rise part facing the square is given the function of a museum. Community environment improvement: Solve problems such as illegal construction, "dead-end roads", and chaos of third-tier roads, enhance environmental attractiveness, and create a pleasant living environment for residents.

Case Analysis



The case of Nanjing Changying Village has realized the micro-renewal of the idle 36-square-meter room through residents' survey, multi-party cooperation and low-cost transformation, highlighting the importance of demand identification, campus cooperation and cost control.

The case of Shanghai Zhiyin's "new space" shows that residents have changed from passive objects to active designers, which has sparked discussions on topics such as non-professional design ability, community knowledge and self-organization.

The case of "Uncle Li repairing cars in the garden" in Tianjin shows that updating can retain rather than replace daily informal practices, empower car repair stalls through public art, and trigger deep thinking about space, aesthetics and continuity of daily life.



Basic Research on the Design of Public Spaces in Old Communities

Overview of an Old Neighborhood

The concept of an old community

Old communities are centralized residential areas built in the 1980s or earlier. Limited by past economic, planning, and technical standards, they started with low building standards. After decades, they face aging infrastructure, insufficient public facilities, and poor living quality, but their buildings are still structurally safe and have renewal potential.

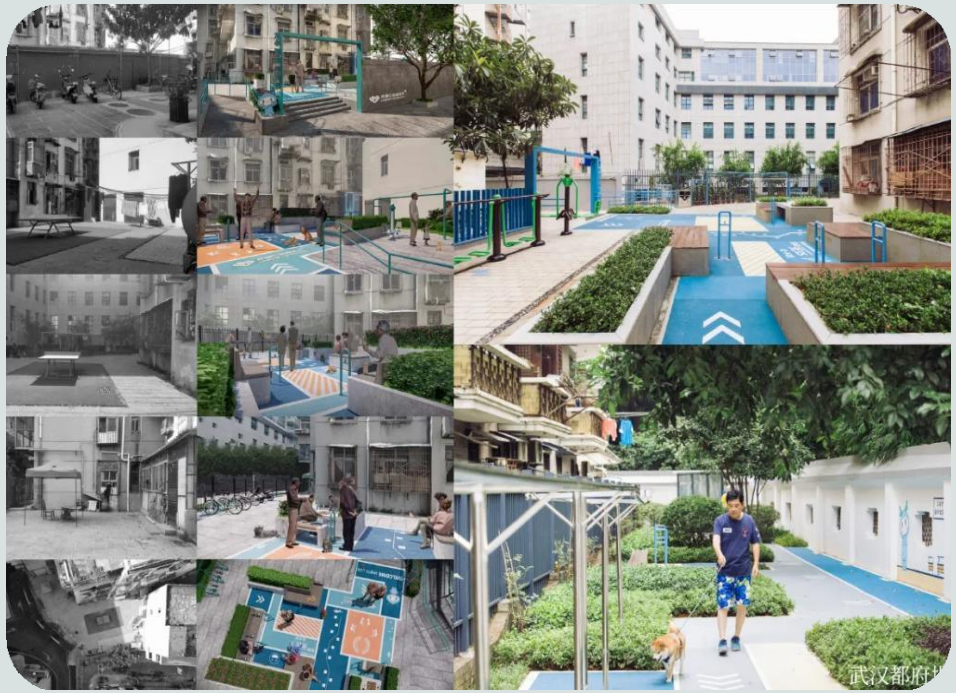
The development history of an old community

The development of old communities in China went through four stages: formation, stability, aging, and renewal. From the 1950s to 1980s, welfare housing formed with low standards. From the late 1980s to mid-1990s, housing reform diversified property rights while residents remained stable. After the late 1990s, young people moved out, facilities aged, and services lagged. Since the early 21st century, renewal has shifted from infrastructure repair to comprehensive improvement of function, services, culture, and governance. These stages reflect China’s housing reform and urban growth.

The main characteristics of an old community

Old communities have six key features: dense space, limited public areas, old facilities and infrastructure, aging residents, stable neighbors, rich memories, varied locations, diverse governance, and often complex demands.

The content and methods of the renovation design for public spaces in old communities



Functionality enhancement and space integration

Activation and Utilization of Existing Space

Accessibility and Age-Friendly Design

Principles and Strategies for Updating Public Spaces in Old Communities



Design principles



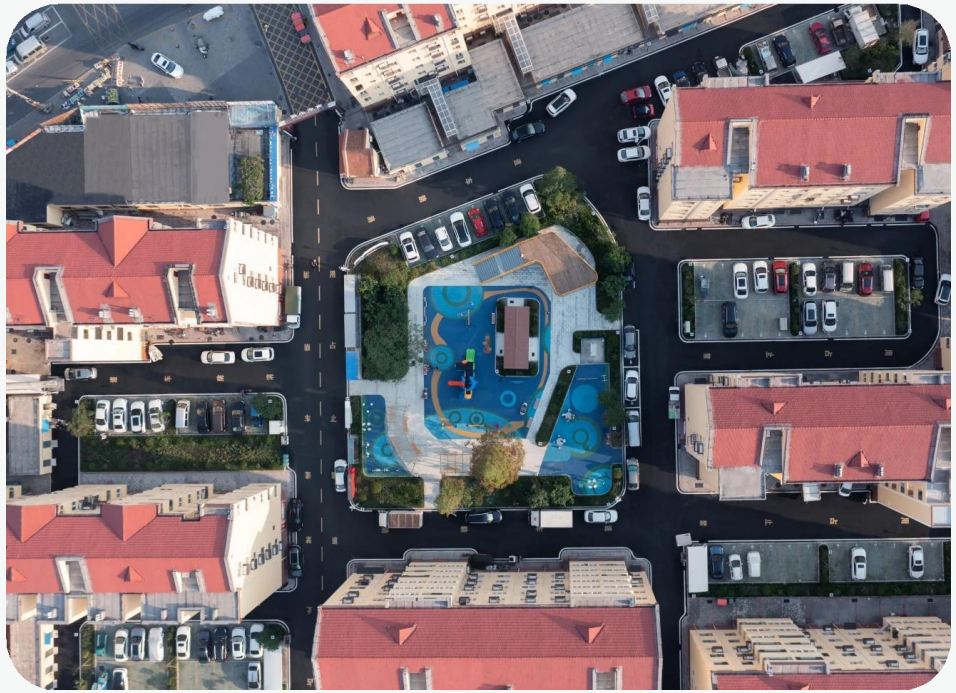
The principle of overall coordination

Principle of Progressive Updates

Principle of Continuity of Context

Ecological sustainability principle

Design strategy



Functional repair strategy: Improve the community public service system

Space Activation Strategy: Revitalizing Public Spaces

Cultural inheritance strategy: Preserving the historical context of the community

Ecological restoration strategy: Optimizing community green infrastructure

Activate the surrounding area through community service activity centers

Conclusions to the chapter

1. The renovation of public spaces in old communities should follow four design principles: overall coordination, progressive renewal, continuity of context, and ecological sustainability.
2. Overall coordination treats the community service activity center and its surrounding public spaces as an integrated system, coordinating spatial, functional and temporal dimensions.
3. Progressive renewal advocates minimal intervention, phased implementation and cost control, as demonstrated by the “Changyingfang” project in Changying Village, Nanjing.
4. Continuity of context requires respecting community memory and cultural identity, and integrating local cultural elements into spatial design, as seen in the Xiaoxishui area of Nanjing.
5. Ecological sustainability focuses on improving green infrastructure, sponge facilities and resource conservation, drawing on the ecological background of Baiyun Garden Community.
6. Five design strategies are proposed: functional repair to improve the public service system, space activation to revitalize public spaces, cultural inheritance to preserve historical context, ecological restoration to optimize green infrastructure, and activating surrounding areas through the community service activity center.

PART FIVE

The Public Space Renovation Design Practice of the Community Service Activity Center in Baiyun Garden Residential Area

Baiyunyuan community design basic research



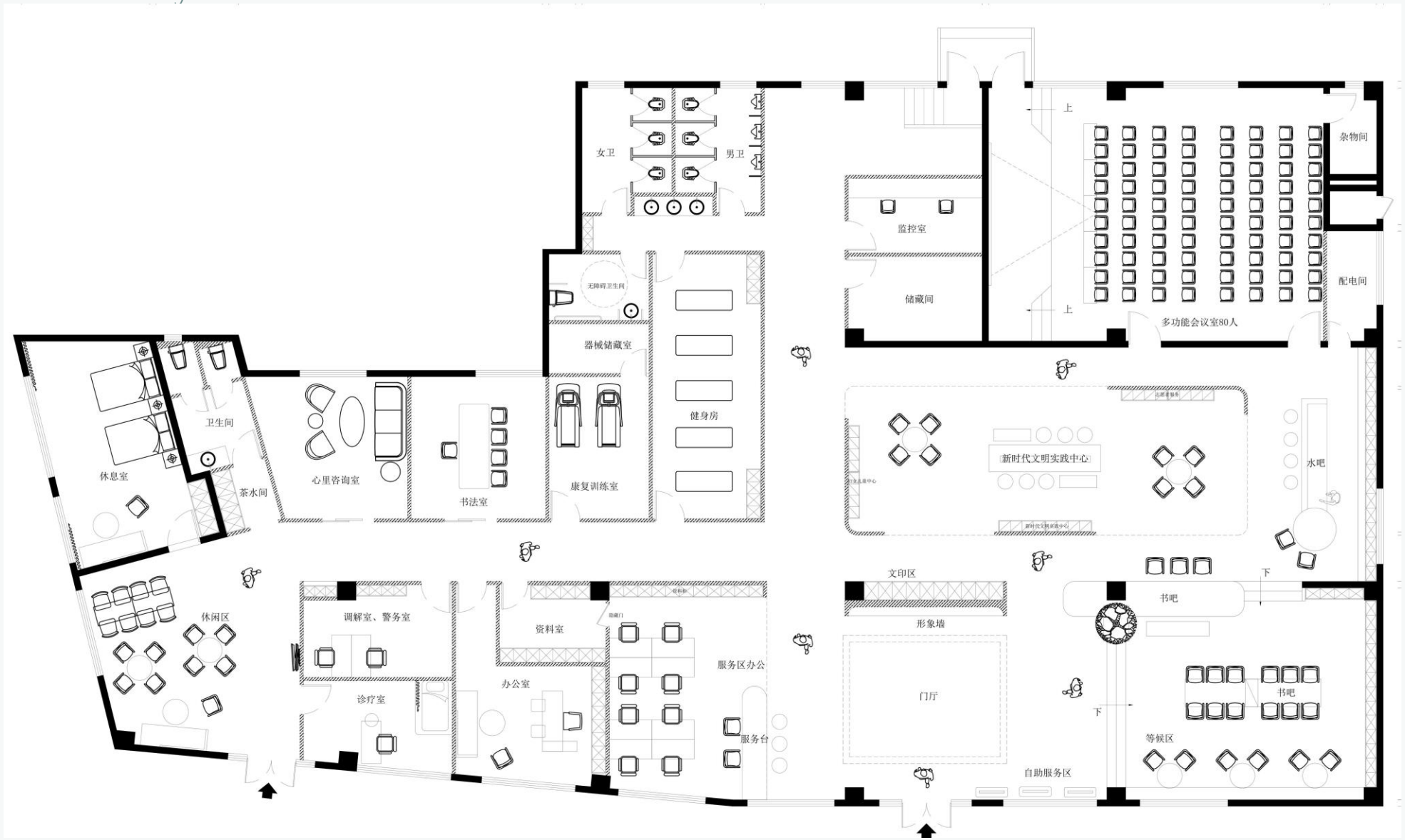
Aging infrastructure and maintenance challenges

The community environment and public space need improvement

Loss of regional culture and community memory atmosphere

Interior function layout and space organization

Overall layout



Interior function layout and space organization

Entrance reception and service desk



Interior function layout and space organization

Design of corridor



Interior function layout and space organization

A leisure room



Interior function layout and space organization

The waiting area doubles as a book bar



Interior function layout and space organization

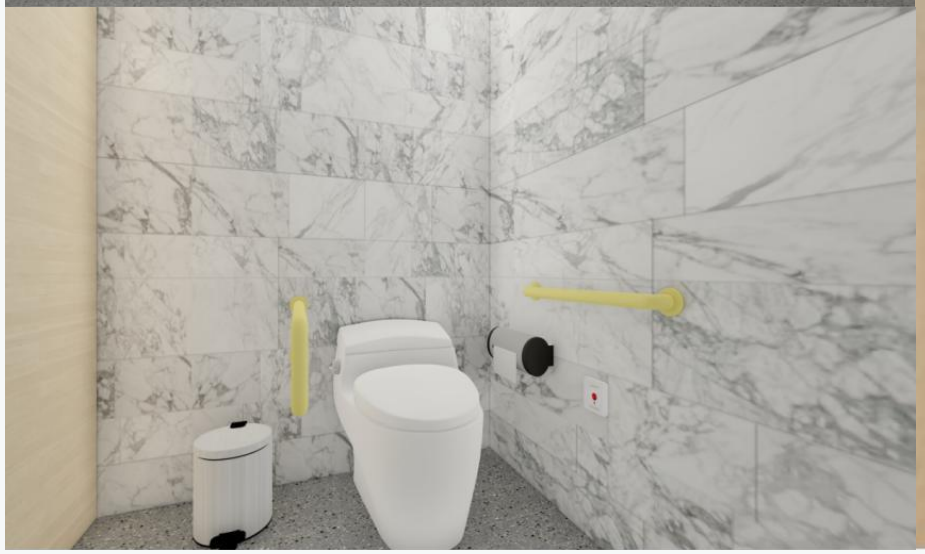
Multi-function conference room



Interior function layout and space organization

Design of toilet







Thank you for your attention.