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# Sustainable Renewal Mechanism of Communities under the "Light Renewal and Light Construction"

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## Abstract

With the acceleration of urbanization, the alleys in the core area of Beijing are facing enormous development pressure and the need for diversified utilization. This study takes the West Fourth North Area of Beijing as an example to explore how to implement the dynamic renewal mechanism and activate the utilization of the community under the strategy of "light renewal and light construction." The paper first analyzes the historical value, existing problems, and the necessity of updating and utilizing the West Four North Area community. It proposes a dynamic updating mechanism for hutong growth is proposed, under which the "light updating and light construction" strategy plays a crucial role, and a multi-party and gradually implemented hutong renewal model is proposed, including three core components: historical and cultural protection, community resident participation, and commercial vitality injection. The study focuses on micro renewal strategies in alleyway spaces and, through case analysis with the author's actual participation, reveals the positive impact of the "light renewal, light construction" strategy on protecting the continuity of historical and cultural heritage, activating community vitality and economy, and achieving sustainable urban development. The aim is to provide feasible paths and references for protecting and revitalizing history.

**Keywords :** Light update and light construction#1, Dynamic update mechanism#2, Hutong#3, Activation and utilization#4

**JEL Classification Code :** R11, R14, R21, R22, R28

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## 1. Introduction

The development of Chinese cities has entered a white-hot stage of stock renewal. The contradiction between the shortage of urban construction land and the low quality and high quantity of old buildings is becoming increasingly acute, and the renewal of old cities is urgent. However, as a city's calling card, historical districts are not only the accumulation of urban culture, but also an inseparable regional feature in urban development. This type includes hutongs in Beijing, alleys in Shanghai, courtyards in Qingdao, and even traditional private gardens in Suzhou. Can historic buildings and neighborhoods

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only be chosen between the binary opposition of 'go' and 'stay'? The answer is self-evident with the support of numerous cases, and there still exists a middle ground between the two in the process of "leaving or staying".

The understanding of urban renewal and renovation by design practitioners is driven by practice, and in the early stages, there were also radical destruction and reconstruction efforts. With the deepening understanding of urban renewal, the concept of "light renewal and light construction" in cities has been widely spread for several years, excluding the destructive "large-scale demolition and construction" of historical buildings. It originates from the theories of sustainable development, urban protection, and adaptive reuse, highlighting the "maintenance and regeneration" methods that are opposite to "excessive construction" and "reconstruction operations". John Turner first revealed the importance of the "bottom-up" renewal strategy in his article "Housing by People: Towards Autonomy in Building Environments" (1976), emphasizing the importance of community members' construction and renewal in improving the living environment[1]; Douglas Kelbaugh and Kit Krankel McCullough's "Writing Urbanism: A Design Reader" (2008) outlines three main paradigms in contemporary architecture and urban planning, and calls for a more coordinated regional approach to urbanism, with communities and public spaces - citizens - as its foundation, reflecting a people-centered bottom-up approach to renewal and transformation[2]. The ICA Association published "Working with the Existing: Retrofitting Strategies for Heritage Buildings" in 2010, which explored how to modernize ancient buildings without destroying their original historical value[3]. Subsequently, the publication of "Historic Cities: Issues in Urban Conservation" by UNESCO (2015) further expanded the application scope of this theory, emphasizing the sensitive and sustainable renewal of historic neighborhoods at the entire urban scale[4]. With the deepening understanding of ecological city planning and community-driven development strategies, the theoretical system of "light renewal, light construction" is gradually taking shape. Its application scope has gradually expanded from the restoration of small residential buildings to the renewal of commercial spaces, public facilities, and other areas.

The practice and development of the theory of "light renewal and light construction" in China mainly focus on the protection and renovation of historic urban areas and old communities, aiming to balance the needs of historical protection and modern development, especially in the alleys of the north and the alleys of the south. "light renewal and light construction" resonates with the traditional concept of "repairing the old as it is". With the introduction of international concepts and the acceleration of urbanization, Chinese scholars and planners have begun to explore how to adapt international research results in sustainability, community building, and protectionism to the context of localization. In 2013, Zou Bing elucidated three urban planning modes: incremental, stock, and policy. He proposed that the focus of stock planning in China is to deal with complex existing interest patterns, and combined with the planning of Nanshan Commercial and Cultural Center in Shenzhen to elaborate on specific measures for stock planning[5]. As the urban development model gradually shifts from "incremental planning" to "stock planning", the connotation of urban renewal in this stage is also gradually shifting from "old city renovation" to "community renewal"[6][7]. The old urban areas of historical and cultural cities such as Beijing, Shanghai, Nanjing, and Guangzhou are the main places for practicing the concept of "light renewal and light construction". For example, the restoration project in Beijing's "Dashilan" area aims to maintain the original urban texture while introducing emerging functions.

The literature related to urban light renewal focuses on exploring policies and mechanisms. However, a clear and consistent understanding standard has yet to be established at the practical operational level: "What is light? How to control its degree"? This article will take the unique urban space formed by the urban texture of Beijing as the carrier - the Beijing West Four North Historical and Cultural Block - as the main object, explore the multiple backgrounds of its renewal and revitalization, and analyze the practical needs and deep-seated values of transformation from multiple dimensions such as residential environment, cultural context, and dynamic updates, providing a new perspective on the sustainable renewal of traditional urban space.

## **2. Contradictions and conflicts in community renewal and renovation**

### **2.1. West Fourth North Street District**

Xisi Beitiao to Batiao is the first batch of historical and cultural blocks in Beijing, located on the west side of the north-central axis of the city. The first phase of the planned renovation covers the Xisi Beitiao community, which includes three, four, and five hutongs. There are 198 courtyards in the area, covering a total area of approximately 12.07 hectares. This area has a long history and preserves the authentic style of the neighborhood system. One of the characteristics of this area is the gathering of mansions, deep courtyards, and famous officials. The architectural style inherits ancient characteristics, reflecting

a unique historical heritage and cultural atmosphere. Here, one can feel the historical vicissitudes and cultural heritage of ancient Beijing, which is the continuation and inheritance of the urban context of old Beijing.(see Figure 1)



Figure 1. The specific positioning of Xisi District in Beijing

### 2.2. Current situation research and data collection

In order to fully explore the existing problems in the old community and meet the needs of community rectification, on-site visits and investigations were conducted in the West Fourth North Street area. By taking on-site photos of the completion acceptance information bulletin board, visiting and inquiring with surrounding residents, and collaborating with the local government through Zhang Dayu's team, we obtained information on the distribution of property rights in the West Fourth North Street area. Based on field research, the houses in the West Fourth North Street area were classified into bungalows and high-rise buildings, and the construction years and usage methods of the houses were sorted out. The field research data was the key to analyzing this issue and provided detailed evidence support for the current situation. The Xisi North Street District has a strong cultural heritage. Through research and organization, the information is summarized as follows (see Table 1). The article provides an in-depth analysis of the existing problems in the West Fourth North Street area based on the above information.

Table 1: Statistics on the number of resources in the streets and alleys of West Fourth, North Third, Fourth, and Fifth

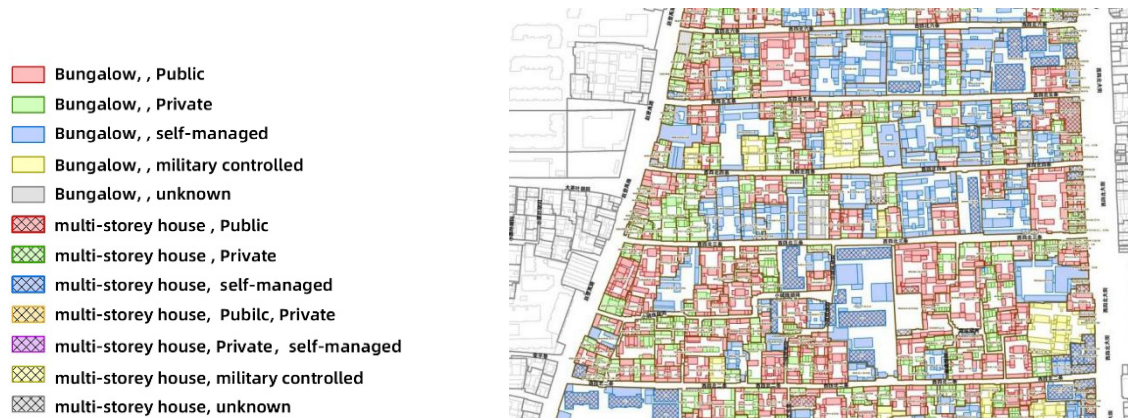
Classification	Hutong	Historical architecture	Courtyard Dwellings	Gatehouse	Mendun	Historical celebrities	Ancient trees	Cultural relics protection units
1	North Third	3	5	34	-	5	7	5
2	North Fourth	-	4	28	-	2	8	1
3	North Fifth	1	1	21	-	3	4	3
Total	3	4	10	83	54	10	19	9

### 2.3. Community Demolition and Demand Contradiction

When the evacuation is in progress, the new state is constantly updated, moving without stopping. The current situation in the Xisi area is complex, with various types of spaces intersecting. Among them are the whole courtyard that can be used as a whole, the symbiotic courtyard that combines relocation and residents, the protected buildings that are currently unclear about whether they can be used, and private and disorderly constructions occupy the public spaces.

The functional types are complex and diverse, and relocation is constantly changing, with new states constantly emerging. The available space in the community will also change over time. The available space in the community is a progressive tense and has yet to be entirely determined. This process consists of dynamic changes and conflicting contradictions, where the demolition of old residential buildings, the protection of historical buildings, and the construction of new facilities are intertwined, presenting a dynamic and never-ending state of activity. This change is gradually advancing, and the living

landscape of the community will be constantly reshaped. There are 201 courtyards, 62 public courtyards, 51 private courtyards, 53 self-managed courtyards, 25 mixed courtyards, and ten other courtyards in the three, four, and five districts. The situation of eviction is even more complex. (see Figure 2)



**Figure 2.** Schematic diagram of property rights distribution in Santiao, Sitiao and Wutiao Hutongs

However, the retreat's complexity goes far beyond space changes. The deep-seated social contradictions of residents' attachment to traditional lifestyles, the rupture of community bonds, and disputes over economic compensation and resettlement policies have made the process of eviction full of tension. In this process, the future of the community constantly alternates between old and new states, and new lifestyles, economic forms, and cultural expressions are sprouting in the community. Although the benefits and challenges brought by updates coexist, such dynamic changes also reflect the complexity and diversification trend of modern urban development.

The contradiction between this dynamic and never-ending eviction and demand will trigger a series of planning conflicts, increasing the difficulty of planning. The form and location of available courtyards in the community will constantly generate new patterns as the project progresses, which brings new challenges to the renewal and transformation of the community. Over time, it is necessary to continuously track the real-time patterns, functions, types, and other aspects of the community. At the same time, in the process of real-time updates, this unresolved state will also bring new problems to the construction and protection of community buildings and the utilization of protected buildings.

#### 2.4. Predictable population conflicts after activation

The conflict is between the area's original population and the incoming population. Residents should be quiet, and activation is necessary. Given the current spatial situation of the Xisi North community, the process of relocation and activation will inevitably lead to conflicts in regional interests and space use between existing residents and foreign tourists. Therefore, a deep understanding and proper coordination of the needs and interests of native residents and tourists is essential to promoting community space renewal. Firstly, some residents in the community face practical challenges such as crowded living conditions, outdated infrastructure, and insufficient public service facilities. The housing in old communities lacks modern bathing facilities and heating systems, significantly affecting residents' quality of life. In addition, the narrow space in the community restricts garbage collection and sanitation management, directly affecting residents' living environment and health status. In response to these issues, adequate measures need to be taken in the process of spatial revitalization to ensure the basic living needs of residents and optimize the living environment in community areas to improve residents' quality of life effectively. At the same time, activation also needs to pay attention to the spatial needs of student groups. Currently, the community needs more space for student groups, spaces, and activity facilities specifically designed for young people or students. It is necessary to reasonably allocate cultural activity venues and youth communication spaces to promote students' diverse learning and social needs and create a broader and richer growth space for the young people in Hutong communities. In promoting community space revitalization, we should also focus on coordinating the conflicts between indigenous people and tourists regarding space use. When optimizing the functional layout of the community, it is necessary to develop



reasonable management standards and space allocation plans to ensure the living space and privacy of existing residents while also considering the sightseeing and experiential needs of tourists. (see Figure 3)



Figure 3. Living environment

### 2.5. Contradictions in Resource Utilization within the Venue

Rich in cultural resources but rarely involved in the people's daily lives. The area has a long history, hiding rich cultural and educational resources. The area has six campuses, including a primary school and a kindergarten. From the quaint courtyard buildings to every weathered brick and tile, they tell the story of Beijing as a city. Unfortunately, their participation in the people's daily lives is relatively low, and they still need to integrate into the context of contemporary life fully, gradually becoming disconnected from the residents' daily lives and becoming more like silent displays rather than active community assets. We need to balance protection and utilization, blend history and modernity, revitalize culture, and make it an organic part of residents' lives. (see Figure 4)

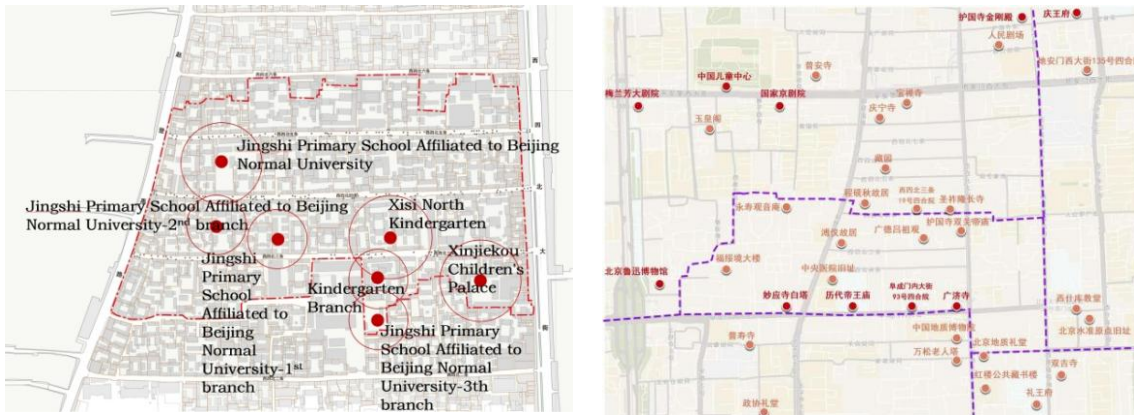


Figure 4. Distribution of educational resources, historical and cultural resources in the area

Resource conflicts will trigger cultural life conflicts. The contradiction in utilizing cultural resources creates a sense of distance among residents towards community culture, leading to a disconnect between traditional and modern life. At the same time, it will lead to a decrease in community cohesion, a lack of communication and interaction between neighbors, and gradually loose relationships, which could be more conducive to community building and spiritual and cultural development. The cultural appeal of the city may also weaken as a result. Hutongs and their cultural heritage are unique urban landscapes in Beijing. If closely integrated with residents' lives, their attractiveness to the outside world may also strengthen, losing specific cultural characteristics and tourism value. (see Figure 5)



**Figure 5.** The usage of traditional courtyard houses and cultural relics buildings

### 3. Contradiction Mediator - A Community Transformation Strategy with "Lightness" as the Core

#### 3.1 Contradiction Reconciliation Device 1: Light Intervention, Reversible Construction Method

The most advantageous way to resolve the contradictions during the evacuation process is to adopt a construction method that is light intervention, light renewal, and reversible. When renovating existing community buildings, we adhere to the principle of minimal intervention, respect and maintain the original spatial proportion, style features, and structural layout of the building, adopt a renewal strategy centered on temporary and reversible elements, and strive to maintain the original appearance and structure of the building as much as possible. We use removable, recyclable, and non-permanently fixed building materials and structures and do not cause irreversible damage to the original structure of the building. These reversible methods allow future urban developers or residents to make moderate and flexible spatial adjustments based on changes in the times and functional needs, ensuring the vitality and sustainability of the community's historic environment.

In order to verify and demonstrate the effectiveness of the mild renovation strategy, this article will rely on mild renovation examples personally participated by the author, providing empirical evidence and reference for the adoption of mild construction methods in the Xisi North area. [8].

The Placement of 'Large Furniture' and Flexible and Versatile Space - Songyang Confucian Temple in Zhejiang Province The Songyang Confucian Temple is located in the central area of Songyang County, Lishui City, Zhejiang Province. It is a bustling city with two streams of people: residents and foreign tourists. The contradictory relationship between the crowds is consistent with the West Fourth North Area mentioned above, and it is a powerful model for the West Fourth North Area to learn. The Confucian Temple was originally a traditional architectural complex with a history of over 600 years. Originally a temple for Confucius and his disciples, it gradually became important for ancient education and culture. With the passage of time and the development of society, the functionality of the Songyang Confucian Temple can no longer meet the needs of modern society. Due to the regulations of the protected area, the Confucian Temple urgently needs a renewal method that can both protect the characteristics of ancient buildings and adapt to new functions.

In the specific renovation and updating process, the design team respects history and context. When carrying out light updates, they deeply study the historical background and architectural features of the Confucian Temple, ensuring that any renovation measures will not affect the core values and historical appearance of the temple. They protect the core elements such as structure, decoration, and courtyard layout of the temple, adopt the principle of micro intervention, do not pursue drastic changes, but adopt the principle of micro intervention and reversibility, do not damage the original building structure, re implant new functional structures in the internal large space, and only reinforce the original structure in necessary parts. The new implanted functions adopt the principle of "large furniture" placement, complete assembly and demolition, and reduce damage to the original building.

At the same time, the plan combines the two groups of residents and tourists, as well as the two states of daily life and ceremony, using a light renovation method to make the space flexible and versatile. The first-floor space of the main hall of

the Confucian Temple is used as a bookstore exhibition in daily life and can be used to hold events such as book launches and coming-of-age ceremonies with the help of the ample space on the first floor and the second-floor corridor; The space is divided into several small spaces using lightweight wooden components on both sides of the corridor. The spaces can be combined in different scenarios, forming various spatial forms with different needs, such as one person sitting alone, two people chatting, and multiple people gathering. The Confucian Temple serves as a public activity and emotional exchange station for the community and provides a window for tourists to understand the Songyang Confucian Temple. The issues of space utilization and belonging between tourists and residents have been resolved to a certain extent here. ( see Figure 6)



Figure 6. Schematic Diagram of the Renovation

### 3.2. Contradiction Reconciliation Device 2: Light Intervention, Emphasize the Initial Space Activation of Indigenous Needs

When resolving the contradiction in the utilization of crowd space, the focus should be on the needs of existing residents and student groups, gradually introducing tourist space. In the strategic framework of community revitalization in the West Fourth District, the core focus should be enhancing the daily living space needs of residents and student groups. The primary focus is on providing necessary living support facilities for community residents, including but not limited to public bathhouses, community libraries, fitness facilities, multi-functional community activity centers, and community canteens, to improve residents' living standards and build a clean, efficient, and community friendly neighborhood environment. In addition, education and learning should be the core, and schools should be the nodes to form a radiating pattern of college cultural atmosphere. Reserve and plan activity spaces suitable for student groups around the school, such as youth activity centers, academic lecture and discussion spaces, art galleries, creative studios, and private schools for traditional cultural education. The focus is on integrating the planning of these living and learning spaces into the overall spatial renewal of the community area, emphasizing the continuity of its historical context and social structure to achieve sustainable development of the community environment and protection of cultural heritage. Through refined management and empathetic design, the community renewal in this area should become a bridge connecting the past and future, residents and tourists, tradition and innovation.

### 3.3. Contradiction Reconciliation Unit Three: Light Transformation, Creating a Cultural Brand ID for the Community

When resolving conflicts in resource utilization, we have launched the Shushan Youlu series, created a gathering place for culture and ink, and launched a community cultural brand ID. After initially ensuring basic needs and enriching residents' lives, tourist spaces will gradually be introduced to showcase the historical charm and cultural essence of the community, enjoy the community living atmosphere, deeply understand the local cultural heritage, and ensure harmonious coexistence with the local community, without interfering with residents' everyday lives. In addition, by creating characteristic blocks with books as the theme, cultural exchange, and industrial development can be extended beyond the community, attracting multiple participants, including residents, calligraphy and painting artists, professionals, amateur enthusiasts, tourists, cultural companies, publishers, and magazine offices. By introducing these new elements, Xicheng District is given a specific cultural positioning, which echoes with Dongcheng Guild Hall Hutong to achieve the urban cultural brand strategy of "one movement, one stillness, one east, one west." Updating follows a balance between historical and cultural preservation and contemporary







needs, achieving sustainable development and revitalization of the area. Through this approach, Xicheng District is expected to become a renowned "bookish community" and one of Beijing's urban cultural landmarks.

## 4. "Light Renewal, Light Construction": The Dynamic and Sustainable Renewal Growth Mechanism of Communities

### 4.1. Dynamic Sustainable Renewal and Growth Plan for the Community

In response to the contradictions and conflict resolution strategies mentioned earlier in the area, the plan is to define the community revitalization strategy for the West Fourth North as the "Dynamic Sustainable Renewal and Growth Plan for Communities." Collected and organized renovation cases with relevant issues (see Table 2), combined with the advantages and characteristics of their renovation and the specific situation of the West Four North, this plan aims to improve the quality of life for residents, enrich students' educational experiences, and present the unique charm of traditional culture to tourists. The following are the key points and directions for each stage of renovation planning [9].

**Table 2:** Case Study on Light Updating and Symbiosis Mechanism

Illustration	Entry Name	Location	Type Before renovation	Type After renovation	Transformation method
	Beijing BAITA Cinema	Beijing	Hutong	Temporary Activity Square - Outdoor Cinema	Light update, equipped with a detachable device
	Renovation of No. 16, No. 18 and No. 20 Quads in Yu'er Hutong	Beijing	Hutong	Integrated and symbiotic neighborhood courtyard	Light update, equipped with a detachable device
	Renovation of the Historical and Cultural Block in Southeast Town of Datong Ancient City	Datong	Ancient City Block	Elastic shared growth block	Build flexible shared spaces and growth oriented neighborhoods in stages
	Urban Design and Research of Nantou Old Town	Shenzhen	Villages in cities	New and old symbiotic blocks	Introduce commerce in stages and create a symbiotic architectural community
	The Urban renewal of 320 Wuyi Road	Shanghai	Vegetable market and Community hospital	Symbiotic Community	Balance the spatial conflict between tourists and indigenous peoples, and introduce shared spaces in stages
	Foshan Nanhai Diejiao Village Renovation Phase I	Guangdong	Traditional villages	Sustainable Development Community	Ensure the living needs of indigenous people and introduce new business models in combination with local culture



		Hutong Bubble 218	Beijing	Hutong	Symbiotic Courtyard	Light update, equipped with a detachable device
		No. 91 Beiluoguxiang Siheyuan renovation	Beijing	Hutong	Symbiotic Courtyard	Light update, equipped with a detachable device

The "light renewal, light construction" strategy emphasizes a delicate, sensitive, and flexible approach to planning the renovation and maintenance of historic neighborhoods. This dynamic growth mechanism respects the historical context and existing community structure. It injects new vitality into the community, making it a living community that can respond to the changes of the times and the needs of residents[10]. At the same time, 'light updates, light construction' also means using lightweight materials and assembling or modular components as much as possible during the update process, emphasizing small-scale and step-by-step implementation of updates so that communities can gradually evolve rather than through one-time significant changes [11]. In response to constantly changing community needs, the strategy includes a flexible, community-driven planning process that directly involves residents, community groups, and relevant stakeholders in the update process, enabling the update project to better adapt to residents' lifestyles and needs[12].

In summary, during this process, we will always maintain a dynamic update mechanism for the community to ensure that the plan can adapt to constantly changing eviction situations while treating it as a sustainable living cultural heritage, constantly learning from feedback from residents and tourists, and incorporating new ideas and technologies to maintain its uniqueness and freshness. We will continue to monitor, evaluate, and refresh project content to ensure that the community remains constantly evolving and becomes a cultural symbol of Beijing's community. Through this dynamic and cyclical update mechanism, the Xisi community will become a living and evolving witness to history. (see Table 3)

**Table 3:** Dynamic Sustainable Renewal and Growth Plan for Communities

Growing phase	Renovation direction	Renovation content	Method of implementation	Milestones
Phase 1	Renovation of basic living space for residents	Increase green space	Respect the original architectural style and residents' habits, absorb residents' opinions, implement democratic decision-making, proceed with light intervention, and adopt reversible transformation measures	
		Infrastructure Update		
		Improved security		
		Improved living conditions		
		Community Activities/Cultural Center		
Phase 2	Student activity space renovation	Education Center	Cooperate with educational institutions in conjunction with students' extracurricular activities to provide academic support and resource sharing; ensure the flexibility and versatility of activity venues to accommodate students of different ages and interests; implement phased opening to allow students to participate in the transformation process and experience practical learning.	Build a nest to attract phoenixes, and butterflies will come when flowers bloom - solving the original crowd space needs in the venue
		Art Studio		
		Sports Facilities		
		Youth Forum		
		Ecological practice area		
Phase 3	Cultural display and heritage space transformation	Cultural Exhibition Hall	The focus is on showing the uniqueness of Hutong culture, which at the same time helps educate tourists; introduces local cultural activities to increase tourists' understanding and experience of Hutong culture through these activities; u	Promote the participation of residents, businesses and cultural workers, and implement community-driven projects to ensure that every update reflects the real needs and expectations of community members.
		Cultural Market		
		Cultural Experience Workshop		
		Mobile applications and interactive technologies		

			uses modern technology to combine tradition with modernity to increase tourists' participation and experience.	
Phase 4	Hutong Culture Brand Building	Hutong Culture Festival	Taking Hutong as a brand, we will enhance its overall appeal through diversified cultural activities; maximize the promotion of Hutong cultural value and make it an important label of urban culture; increase market promotion to make Hutong culture go global and attract tourists from all over the world; seize important festivals and anniversaries to plan theme activities and create special festival experiences.	Highlighting innovation and internationalization, the hutong will be built into a platform for innovation and cultural exchange, attracting domestic and foreign artists, designers and entrepreneurs to collaborate and create here.
		Theme tourist routes		
		International exchange platform		
		Travel Partners		
.....				Continuous dynamic updates

### 4.2. Revitalization Path of Historical Buildings Incorporating Multiple Elements

In exploring the revitalization strategy of historic buildings, how to closely combine cultural elements, residents' needs, modern skills, and other elements is an important topic, and the revitalization and utilization of the West Fourth area is a model of this strategy.

In the process of architectural transformation, a well-known design team is invited to conduct a comprehensive historical investigation and architectural assessment before the transformation, select the heritage with historical value, and ensure that it can be protected and utilized. Modern building materials and technologies are introduced to make historic buildings glow with new vitality and vitality to retain the original style. During the design process, the operator stepped in to provide professional consulting support for the subsequent construction of the site. In the subsequent operation process of the area, pay attention to a diverse and inclusive cultural atmosphere. After the renovation, a professional team was introduced to regularly attract various cultural and artistic activity companies to build the historic building into a place for public activities and cultural and artistic events. Continuous publicity and promotion, the use of new media, social media, and other channels to enhance the visibility and influence of the block, and jointly promote the smooth implementation and sustainable development of the historic building revitalization project.

### 4.3. Participatory Design Activities with Multi party Co construction and Sharing

In the process of community transformation, public participation should be promoted through multi-channel strategies to ensure that the block renewal project fully meets the needs of residents. In the initial stage, the supply and demand list of residents was prepared, the problems and feedback of residents were sorted out and publicized, and the treatment measures and design vision were clarified. In the medium-term planning, the residents' congress mechanism will be adopted; the public voting mechanism will be used to collect public opinions widely, and real-time tracking and responding to changes in residents' wishes. Residents are encouraged to participate in the block renewal practice, and through real-time feedback mechanisms, problems are resolved promptly.

### 4.4. Full cycle management guarantee mechanism of multi-party supervision and co governance

In order to ensure the long-term operation of the project, the mechanism of government guidance, market operation, and block co-governance has been established. The government departments will make arrangements and formulate relevant policies such as public participation and property rights change. The market adjusts the business strategy in real-time according to the operation situation. The block puts the feedback suggestions in real time to reference government policies and market strategies at the government and market levels. The multi-party co-governance management platform integrates primary block data and updates project progress for visual management, thus promoting block update's digital, visual, and fine management process.

Build a comprehensive periodic evaluation feedback mechanism and ensure that the interests and demands of each subject can be fully considered at each stage through multi-party collaborative evaluation. This mechanism provides an optimization path for the current project and lays a solid foundation and support for future block renewal actions.

## **5. The significance and value of "light renewal and light construction"**

### **5.1. Maintaining the urban context**

At the cultural level, it is the maintenance of urban memory, the activation of community life, and the embodiment of sustainable development concepts. The Xisi North area is a precious cultural heritage of the old city of Beijing, which not only carries rich historical and cultural heritage but also nurtures a unique community lifestyle. However, with the acceleration of urbanization, many community areas face threats of aging, destruction, and even disappearance. In this context, "light renewal, light construction" has become a unique and necessary urban renewal strategy.

### **5.2. Protecting the continuity of historical and cultural heritage**

Community "light renovation" refers to the lightweight and reversible restoration and transformation of traditional buildings and streets, preserving the original buildings' structure, appearance, and street style to maintain the continuity of historical and cultural heritage. It not only restores the historical appearance of the building but also revitalizes the old community atmosphere, providing a historically significant living environment for the people living here.

### **5.3. Activating Community Vitality and Economy**

The "light construction" in communities advocates small-scale and step-by-step updates, emphasizing low-cost and high-efficiency improvements within the community. By reusing and reallocating existing spaces, new commercial opportunities and creative spaces can be brought to the community, attracting more residents and tourists and driving local economic development. At the same time, such updates can activate social interactions within the community, enhance interactions and connections between neighbors, improve the community's overall vitality, and enhance their sense of participation and belonging. Community renewal not only focuses on improving the material environment but also pays more attention to the psychological needs and quality of life of residents, which helps to build a harmonious and stable community environment.

## **6. Conclusion**

At this point, returning to the initial question of the article: In the wave of urban micro renewal, theories such as "light and micro" urban renewal are no longer new vocabulary. However, how can urban microrenewal provide effective practical strategies and mechanisms for diverse subjects? The author attempts to respond based on this article's relevant explanations.

Through exploring this study, the strategy of "light renewal, light construction" is an effective way to achieve the dynamic renewal and revitalization of communities in the Xisi North area. This strategy respects the historical context while injecting vitality into modern life, achieving the dual goals of historic preservation and community development.

In the process of revitalizing and utilizing communities in the Xisi North area of Beijing, facing the contradiction between the needs of residents and tourists, the research advocates a solution strategy that emphasizes taking the spatial needs of indigenous residents as the guide, gradually integrating them into tourist spaces, and maintaining the original quality of life of the community while developing its tourism potential. This strategy helps to firmly establish the area's cultural identity and recreate its vitality and continuity as urban memory. The "Dynamic Renewal Growth Plan for Communities" constructed under the "Light Renewal, Light Construction" operational strategy encourages dynamic adjustments based on the development stage of the community and changes in residents' needs. This plan aims to establish an updated mechanism that adapts to the constantly changing situation of eviction, ensuring the vitality and adaptability of the strategy and strengthening the community area as a living cultural heritage for sustainable development. To achieve the above goals, the study emphasizes the importance of continuous learning from feedback from residents and tourists. This involves maintaining the uniqueness of the community and integrating innovative thinking and advanced technology to update its attractiveness and competitiveness continuously. In this way, the communities in the Xisi North area not only maintain historical and cultural heritage while responding to the needs of modern urban development but also become a window to showcase Beijing's urban cultural soft power and rich historical heritage. This study points out that the key to the success of the "light renewal, light

construction" strategy lies in balancing the three core components of historical and cultural protection, community resident participation, and commercial vitality injection. This balance ensures the sustainability of renewal and revitalization, strengthens the overall cohesion of the community, improves the comfort of the living environment, and stimulates commercial potential, achieving the recovery of the community economy.

Light renewal and construction "is a sustainable, participatory, and innovative urban development strategy. It is not a one-time large-scale update but focuses on gradual and adaptive changes. Its significance lies in effectively protecting and utilizing existing urban resources while creating dynamic and culturally distinctive modern urban spaces and continuously debugging during the update process, combining the evaluation system with residents' demands, ultimately achieving a lightweight, practical, and precise update effect. Through this approach, historic districts can be protected and revitalized, but the sustainable development of communities can also be promoted while maintaining urban diversity.

## Image source

Figure 1, Figure 2, Figure 4 , Figure 5: author's own photograph, base image from Zhang Dayu Architecture Studio;

Figure 3, Figure 6: author's own photograph;

Table 1, Table 2, Table 3: author's own photograph;

## Reference

- Turner, John F. C. *Housing by People : Towards Autonomy in Building Environments*. Marion Boyars, 1976.
- Association of Collegiate Schools of Architecture. *Writing Urbanism : A Design Reader*. Edited by Doug Kelbaugh and Kit Kr ankel McCullough, Routledge, 2008.
- Rice R E. *International Communication Association ({ICA}[J].* Marcia J. Bates, 2010: 2865-2872.
- Cody, Jeffrey W., and Francesco Siravo, editors. *Historic Cities : Issues in Urban Conservation*. The Getty Conservation Institut e, 2019.
- ZOU Bing. *Increment Planning, Inventory Planning and Policy Planning[J]*. *City Planning Review*, 2013, 37(2):35-37,55.
- DU Yan, HU Shuangmei, WANG Chonglie, et al. *Coordination and Integration of the Urban Renewal Planning[J]*. *City Planning Review*, 2022, 46(3):15- 21.
- YANG Jianqiang, CHEN Yue. *Review on the Development of Urban Regeneration in China from 1949 to 2019[J]*. *City Planni ng Review*, 2020, 44(2):9-19,31.
- Jin Qiuye Wenli · Songyang Sanmiao Cultural Exchange Center: An Example of Urban Design Following the Trend [J] *Journal of Architecture*, 2021, (01): 63-69.
- Wang Xiaochun, Qian Yun, Liu Yufei. 2018 "Beijing Green Corridor 2020: Hu Tongwei Update - Inner and Outer Plan" Theme Exhibition Successfully Held [J]. *Landscape Architecture*, 2018, 25 (10): 10
- Sun Lingbo. Discussion on Hu Tongwei's Update from a Multidimensional Perspective [J]. *Journal of Architecture*, 2018, (07): 1-4.
- Gao Jing, Zhong Yujing, Feng Yaru. Dynamic analysis of community renewal in China based on CiteSpace [J]. *Urban Architectural Space*, 2022, 29 (06): 96-98.
- Liang Xuecheng, Liu Yi, Wen Ting et al. A Community Building Symbiosis Model for Sustainable Growth of Hu Tong Micro Space Symbiosis Hutong. *Architectural Creation*, 2018, (02): 124-127.
- Geng Yuzhou, Liu Hang, Xie Jin, et al. Sustainable Operation Path of International Community Public Service Facilities under the Background of Urban Renewal and Its Implications [J]. *Planner*, 2024, 40 (02): 35-40.
- Jiapeng L ,Xuguang Z ,Chuanwang S .The effect of urban renewal on residential energy consumption expenditure--the example of shantytown renovation[J]. *Energy Policy*, 2023, 183.
- Lu Wenzheng. *Community Renewal from the Perspective of Social Space Theory [D]*. Zhejiang University, 2023.
- Li Yuhong, Liu Cuicui. From "Government Power Constraints" to "Partnership Models": A Study on the Development of Implementation Strategies for Sustainable Renewal of Urban Communities in the UK [J]. *Decoration*, 2021, (11): 12-19.
- Sun Di. Research on Iterative Modular Sustainable Design of "Existing Communities" in Urban Renewal [J]. *Urban Architecture*, 2024, 21 (07): 138-141.