



## Malaysia Architectural Journal

Journal homepage:  
<https://majournal.my/index.php/maj>  
e-ISSN : 2716-6139



# Old Beijing, New Life

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### ARTICLE INFO

#### *Article history:*

Received: 30 April 2024  
Received in revised form  
Accepted: 15 October 2024  
Available online: 23 June 2025

#### *Keywords:*

Old City Renovation; Hutong; Courtyard House; Community Development Company

### ABSTRACT

The hutong or courtyard house is the typical form of settlement in Beijing and forms the historical context of this culturally rich city. However, in the process of urbanization, massive population growth has led to disorderly and chaotic construction constructions, resulting in the collapse of the traditional spatial order and a rapid deterioration in the quality of life. The Xizongbu District is located 1.4 kilometers east of the Forbidden City. As one of the traditional Hutong districts, it shares similar problems: Residents' living spaces are overcrowded and lack sufficient sunlight; a large number of self-built houses have poor infrastructure and high structural risk; community services and quality communal places are absent; the transport network is imperfect in the face of high urban density, with many dead ends; there is little public space in the narrow hutongs, so children have to compete with motor vehicles for use of the roads. In this situation, many occupants constantly left, yet many more have no choice but stay. However, due to high land costs and political restrictions, the living environment is impossible to be improved by either the government or residents.

## 1. Introduction

As typical urban settlements, the hutongs and courtyard houses in Beijing bear rich historical and cultural significance. They endow the city with unique charm and characteristics. However, within the process of urbanization, coupled with rapid population growth, the challenges facing hutongs and courtyard houses have become increasingly pronounced. The rapid development of urbanization has led to disorderly and chaotic construction, thereby disrupting the traditional spatial order and causing a sharp deterioration in the urban environment of hutongs and courtyard houses.

The Xizongbu area that this project focus on is confronted with many common problems of old Beijing. This area is gradually showing signs of decay. Against this backdrop, although many people choose to leave, more have no choice but stay because of various factors. However, constrained by high land costs and complex vested interests, the government and residents find it difficult to improve the living environment unilaterally and fundamentally solve the problem.

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The decline of hutongs and courtyard houses is not merely a problem within urban construction; it represents a deeper challenge of the loss of historical and cultural heritage and the unsustainability of urban development. Therefore, to effectively address this issue, concerted efforts from all stakeholders are required to formulate and implement a series of comprehensive policy measures, fundamentally promoting the protection and revitalization of hutongs and courtyard houses.

## 2. Project Background

The Xizongbu neighbourhood is situated in the old city area of Beijing, approximately 1.4 kilometres away from the Forbidden City, in close proximity to Wangfujing and Peking Union Medical College Hospital. The neighbourhood extends from Chaoyangmen Nanxiaojie Street in the east to Dongdan Beidajie Street in the west, Jinbao Street in the north, and Beijijetoutiao Hutong in the south, covering an area of approximately 44 hectares. Within this area, traditional hutongs such as Dongtangzi Hutong, Waijiaobu Street, and Xizongbu Hutong are included. The architectural styles within the neighbourhood are diverse. In addition to numerous traditional courtyard houses, there are also western style villas such as Union Hospital Villas, modern buildings in the style of Beaux-Arts, ordinary multi-story residential buildings, as well as contemporary office buildings and museums.



Fig. 1. Site and Location



**Fig. 2.** Photos of current buildings. (a) Traditional courtyard houses (b) Ordinary multi-story residential buildings (c) Western style villas (d) Contemporary office buildings

## 2.1 Historical Context

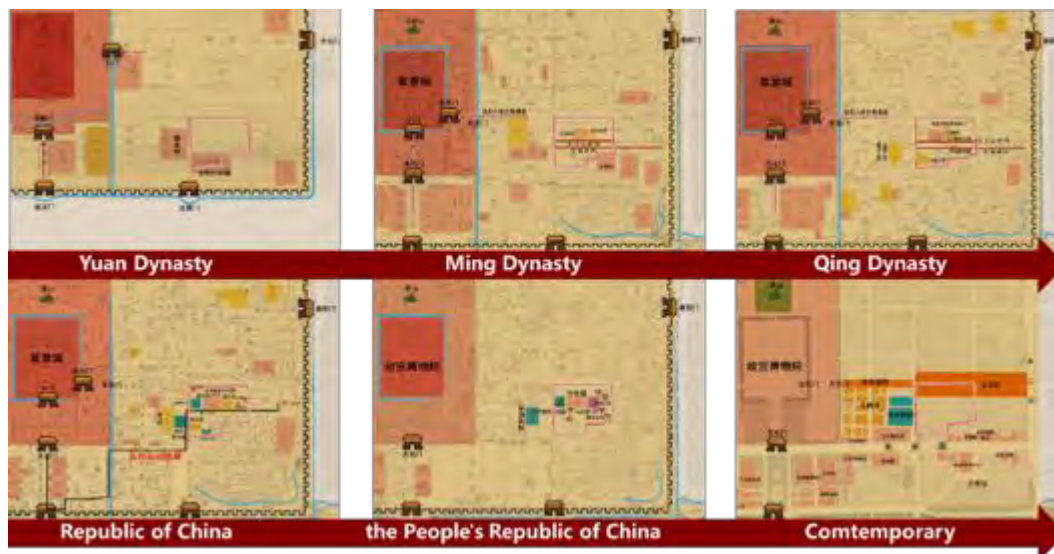
The Xizongbu neighbourhood has a long history. Its origins dates back to the Yuan Dynasty, located in the southeast corner of Yuan's capital, under the jurisdiction of Ming Fang. At that time, influenced by the concept of defensive urban planning and administrative convenience, most government offices and official residences are concentrated in the southeastern area close to the royal palace. Nobles, officials, and the wealthy tended to reside near the midtown. The normal civilians were closer to the edge of the city.

In the Ming Dynasty, the gate for ministers to enter the royal palace was settled to the east, leading to the dispersal of government offices, official residences, and residences of nobles and wealthy individuals more toward the eastern part of the city. In the Xizongbu area, there were Ming Dynasty government offices, the Baoyuan Department (responsible for coinage), and residences of some dignitaries such as Shi Heng.

The Qing Dynasty continued the Ming Dynasty's system. Meanwhile, many residences of royal relatives gradually settling in the capital. Prince Ning's Mansion, Prince Rui's Mansion, Prince Yu's Mansion, and others were all located within the Xizongbu area. Additionally, this area was the birthplace of modern Chinese diplomacy, hosting important institutions such as the Zongli Yamen (the Qing Dynasty's Ministry of Foreign Affairs) and the Reception Hall (the diplomatic department of the Beiyang Government). The renowned Qing diplomat Li Hongzhang's mansion was also situated here.

After the Qing Dynasty, international communications brought about significant developments of science and technology, such as the establishment of the Peking Union Medical College. these developments brought new cultural movements and ideologies flourished in the Xizongbu neighbourhood. Prominent figures such as John Fairbank, Liang Sicheng, Shen Congwen, and Cai Yuanpei residing here, enriching the cultural atmosphere. However, after the WWII, with the urban development of Beijing, the structure of the city significant changed, leading to the gradual decline of the Xizongbu neighbourhood.





**Fig. 3.** History of Xizongbu neighbourhood

## 2.2 Current Situation

From the Yuan Dynasty to the present, the evolution of social structure, the establishment and dismantling of various institutions, and influence from the Western influence and exchanges have continuously altered the urban fabric of the Xizongbu neighbourhood. Throughout this historical process, various factors such as the environment, residents, and industries have maintained a dynamic balance. But nowadays this balance has been broken. The urban fabric has gradually become disordered and uncontrolled.

Firstly, the explosive growth of population is one of the primary causes leading to spatial disorder. With the increase in population, residential spaces encroached upon public spaces. The spacious hutongs have gradually narrowed. Once a certain threshold is reached, there is no possibility for residential expansion outward. The searching for spatial increments has to turn inside. Numerous unauthorized constructions were built within the courtyards, compressing the existing courtyard spaces.

Secondly, the increased mobility of the population has had a profound impact on the spatial fabric of the old city. Since Beijing was established as the capital in 1949, new immigrants from across the country have continuously poured in, bringing new lifestyles, new culture and new demands, further exacerbating the changes and contradictions in the spatial dynamics of the old city area.

Simultaneously, the massive changes in urban structure have also intensified the trend of spatial disorder. Social stability, population growth and diversification have brought unprecedented commercial prosperity, significantly increasing the proportion of commercial functions within the neighbourhoods. Stores and offices displaced some of the dwelling places, thus resulting in the mixture and chaos of urban spaces which was originally dominated by residential functions.

The combined effects of these factors have resulted in the disorder of spatial organization in the old city area, with residents gradually choosing to move away. This phenomenon was reflected in both census data. Despite a decrease in population density, this has not brought about positive changes. On the contrary, the decline of the old city area has not been reversed, and the contradictions between urban space and its users have become increasingly intense.

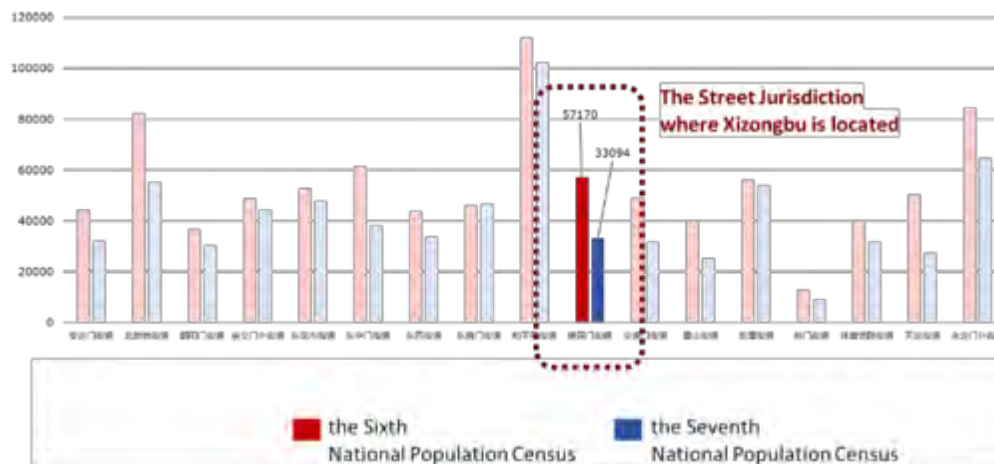


Fig. 4. National Population Census

### 3. Research

We conducted a survey targeting four types of users of the hutong space, categorizing their current conditions and urgent need for analysis.

#### 3.1 Residents

Residents constitute the most significant user group within the courtyard houses, in which the majority is native Beijingers. These residents have spent most of their lives within these courtyard houses, harboring deep emotional attachment and sense of belonging. Even when presented with potentially cheaper and better housing alternatives elsewhere, they are reluctant to leave easily. Accompanying these residents' emotional attachment are a series of spatial-related contradictions.

Traditional courtyards usually contains by ONE family unit. With the explosive growth of population, however, courtyards began to be inhabited by multi-household. Basic dwelling unit was divided from one courtyard to one house, and eventually, to one room. When building area was not enough, residents began to spontaneously build additional houses within the original courtyard space, until public space was squeezed to a narrow pathway. Take a courtyard in the Xizongbu neighbourhood as an example. 392 square meters of buildings were built in a site of 472 square meters. As many as 15 households live in the courtyard, thus the average living area per household is only 26.1 square meters. This ultra-high-density condition brings many problems as follows.

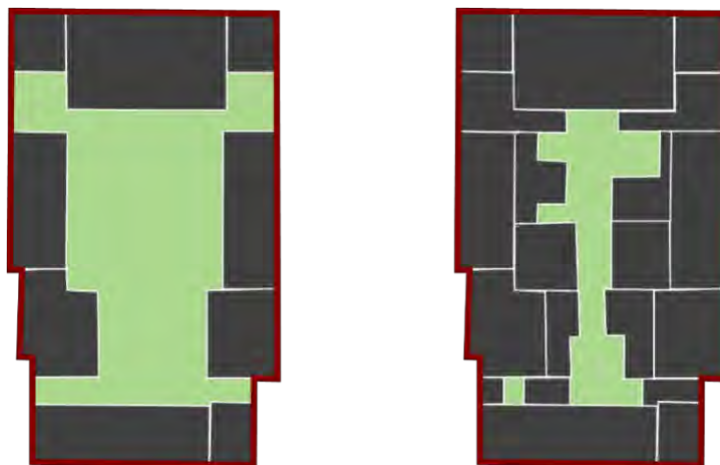


Fig. 5. The process of the courtyard space gradually being occupied by self-built houses



Fig. 6. One example of a multi-household courtyard

### 3.1.1 Outdated Infrastructure

One of the primary contradictions faced by residents is the outdated infrastructure. Many courtyard houses lack modern sanitation facilities, particularly sufficient toilets, which inconvenience residents. In an environment without toilets, many residents have to walk to distant public restrooms, directly impacting their quality of life.



Fig. 7. Public toilet for residents in hutong

### 3.1.2 Lack of Public Space

Furthermore, overcrowding due to unauthorized constructions is another significant contradiction. Numerous self-built structures suffer from poor infrastructure and higher structural risks, posing potential hazards to residents' safety. Additionally, the overcrowded courtyard spaces drastically reduce living standards. Especially for children, due to congestion, they lack sufficient space for activities and can only play in narrow hutongs, competing with motor vehicles for the right to use the alleys and increasing the risk of traffic accidents.

Moreover, most courtyard houses are characterized by complex property rights, often accommodating multiple households simultaneously, sometimes numbering in the dozens. Conflicts frequently arise as different families compete for the limited courtyard space.



**Fig. 8.** Crowded living space in courtyard

### *3.1.3 Inadequate Lighting*

Insufficient lighting is another major issue faced by residents. Due to the architectural structure and environmental constraints of courtyard houses, many living spaces suffer from inadequate lighting, resulting in dim and damp interiors. This causes a lack of space for residents to dry their clothes. Long-term lack of sunlight also affects residents' healthy life.



**Fig. 9.** Buildings blocking each other lead to insufficient indoor lighting

### 3.1.4 Lack of Accessibility

Furthermore, the entrances of courtyard are often lower than hutongs. Steep slope from outside to inside the courtyard causes a lot of inconvenience for the elderly and residents who need to frequently push carts out.

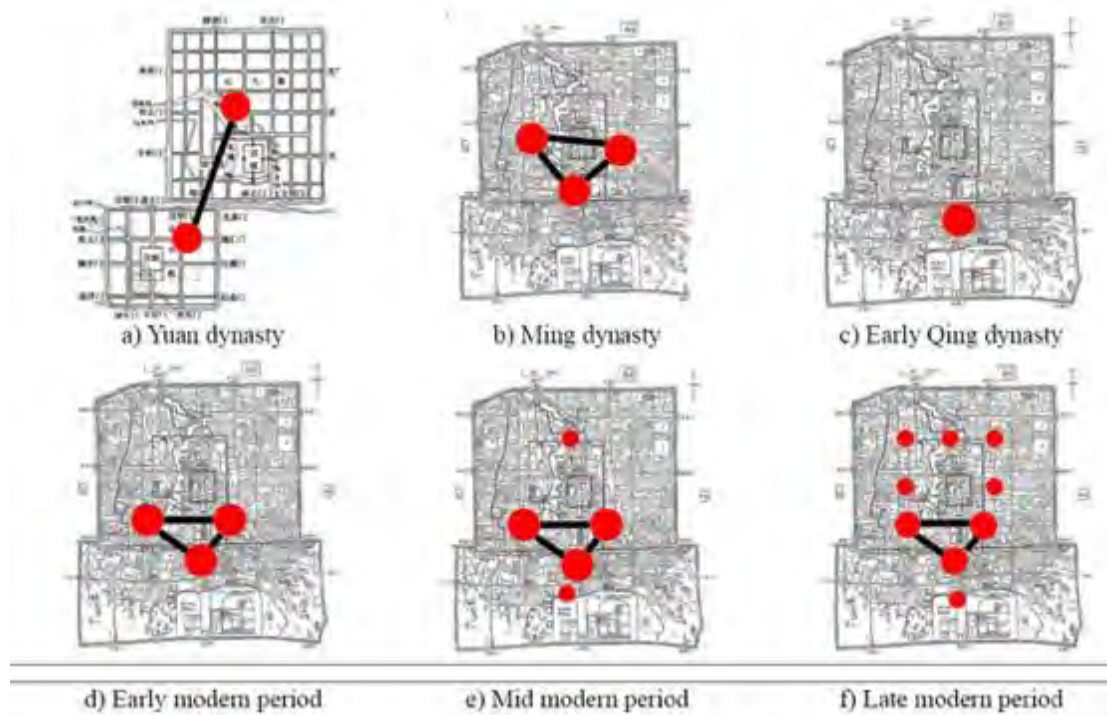


**Fig. 10.** Narrow entrance and inconvenient access

### 3.2 Workers

Another important group of users are workers within the courtyard houses, including shopkeepers and employees of small companies or studios. The unique historical and cultural value of old Beijing has attracted numerous cooperations and entrepreneurs. On the other hand, residents in the neighbourhood also require access to necessary commercial services. During the Ming and Qing dynasties, commodity economy and commercial activities were highly underdeveloped. Active commercial areas in Beijing was limited. However, with the development of society and economy, different types of commercial areas have spread to every corner of old city area. However, a series of spatial contradictions between commercial activities and traditional dwelling space significantly impact the basic environmental dignity of workers in this area.





**Fig. 11.** Evolution of commercial areas in Beijing

*A Study on the Evolution of Commercial Space in Modern Beijing City, Yang Wang*

### 3.2.1 Enclosed Facades

There is a conflict between the closed nature of residential buildings and the need for commercial displays. Traditional courtyard houses emphasize privacy and enclosure, whereas commercial activities require some form of outward-facing display interface. With the increasingly stringent policies on the protection of traditional buildings, many shops that have undergone large-scale facade renovations without approval have been required to restore the original appearance in accordance with urban planning requirements.



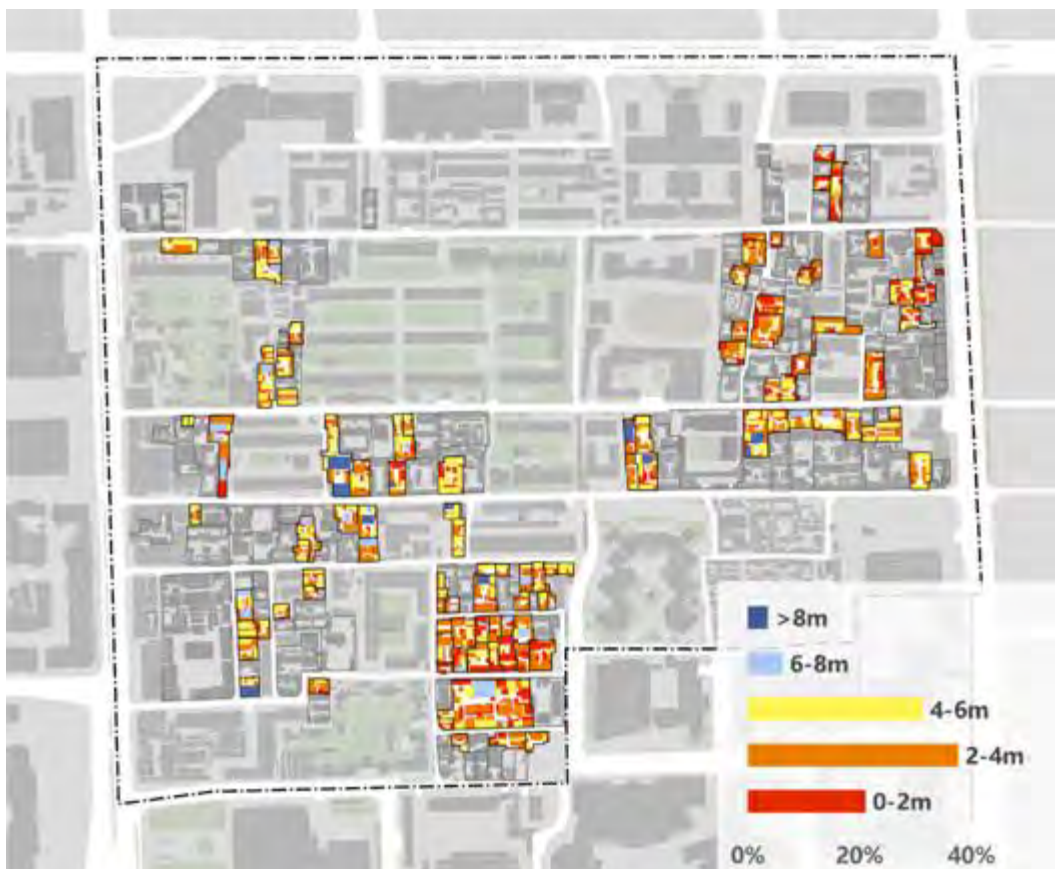
**Fig. 12.** Commercial functions are incompatible with traditional hutong style

### 3.2.2 Cramped Space

Typical courtyard houses have small building depths, ranging from 2 metres to 6 metres. This scale is established based on residential living needs, but is severely inadequate for commercial and office functions. After investigating numbers of stores and offices, we found this shallow building depth lead to spatial constraints, affecting commercial or office activities within the building.



**Fig. 13.** As commercial functions, interior spaces are often cramped



**Fig. 14.** Building interior depth statistics

### 3.2.3 Limited Area

According to statistics, courtyard sizes within the Xizongbu neighbourhood are typically around 400 to 800 square meters, which is not an adequate area for commercial and office activities. Due to height restrictions, there is not much room for growth in area above the ground. Many occupying businesses, in order to expand their operating space, are forced to set up makeshift structures within the courtyard, using simple steel structures to erect sheds. This not only affects the overall aesthetic of the yard but also poses potential fire safety hazards.



**Fig. 15.** Fire in the courtyard in Xinkailu Hutong

### 3.3 Visitors

The third category of users consists of external visitors, who come either to explore the cultural and historical heritage of the area, or wander here after visiting nearby attractions such as the Forbidden City or Wangfujing. The old city of Beijing, with its rich historical and cultural heritage, numerous relics, and former residences of historical figures, have strong appeal, particularly for young people who prefer to explore historical stories through cultural exploration. In recent years, "City Walk" has become a popular way of travelling. Young people prefer to explore the city on foot to feel the unique character of the city. The old city, full of historical and cultural stories, should have become a great place of city walking. However, contrary to the expectations of visitors, the severe spatial disorder in the old city area significantly undermines their visiting experience.

#### 3.3.1 Inadequate Transportation

Visitors in the old city area generally follows lengthy routes. Historically, hutongs were most oriented east to west, lacking north-south connections, which often necessitates detours for visitors, increasing time and energy consumption. Additionally, due to high building density and severe fragmentation of the urban fabric, many original roads have been blocked by buildings, resulting in numerous dead-end streets. In such circumstances, external visitors who are unfamiliar with the local situation are prone to getting lost and often end up retracing their steps, leading to a discontinuous experience and reducing the efficiency and comfort of their visit.





Fig. 16. Dead ends in Xizongbu Hutong

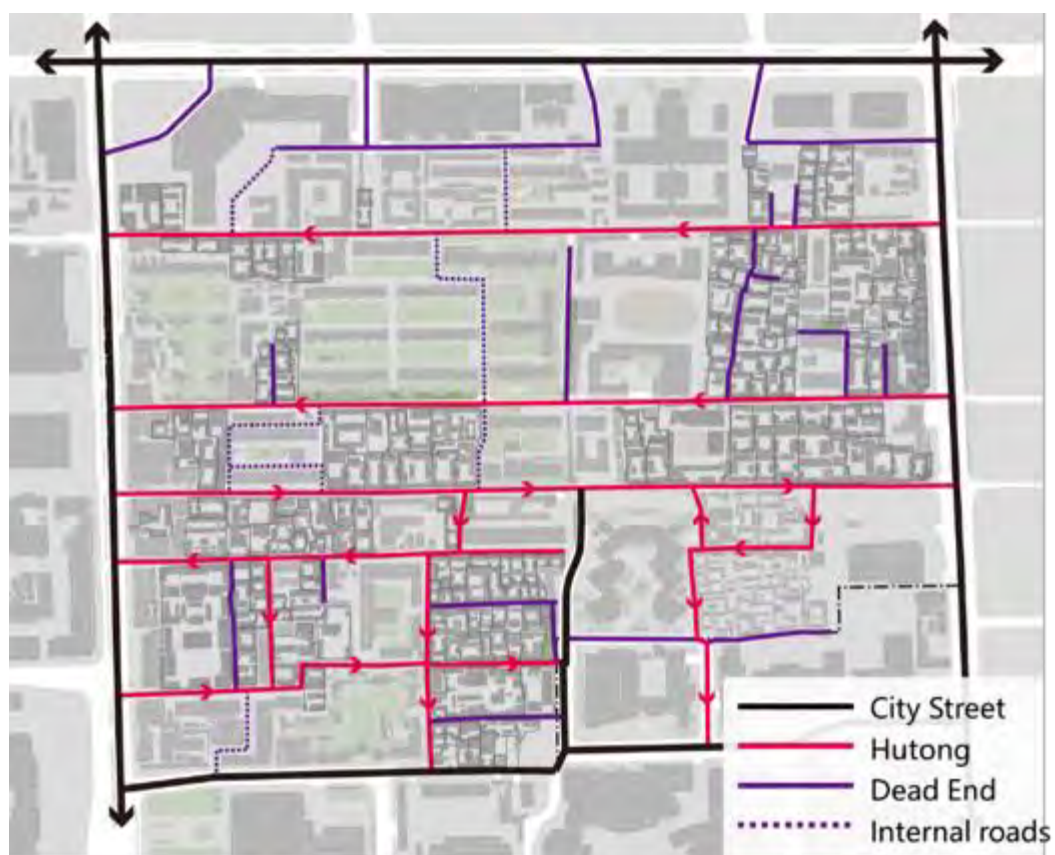


Fig. 17. Current transportation network



### 3.3.2 Inaccessible Heritage Sites

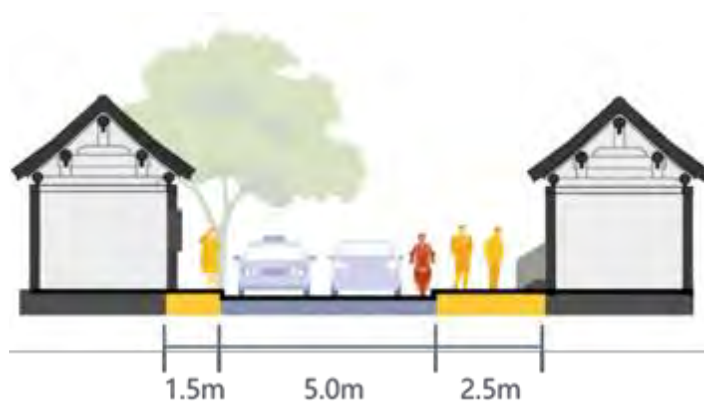
Although the Xizongbu neighbourhood boasts a long history, typical visitors often find it difficult to truly appreciate its historical and cultural story. Firstly, many historical relics have not been properly preserved. For instance, only a red wall remains of Li Hongzhang's former residence. Without a clear signage, it is easily to be overlooked. Secondly, even those historical relics that have been preserved are mostly occupied by other institutions or individuals and are not open to the public. This situation prevents visitors from entering these historical buildings and gaining a deeper understanding of their historical and cultural significance.



**Fig. 18.** Closed or dilapidated historical relics

### 3.3.3 Unfriendly Pedestrian Environment

Limited parking spaces in the narrow hutongs of the old city area pose a significant problem. Due to the narrowness of the hutongs, parking space is limited, with a large number of vehicles parked on both sides, squeezing the already tight pedestrian space. Frequent vehicle movements within the hutongs further exacerbate the unfriendly pedestrian environment. The frequent movement of vehicles increases the risk of traffic conflicts between pedestrians and vehicles, posing traffic safety hazards. Furthermore, vehicle noise and exhaust emissions also affect visitors' sightseeing experience, diminishing their appreciation and understanding of hutong culture.



**Fig. 19.** Pedestrian-unfriendly hutong section

### 3.4 Nature Beings

Last but not least, various nature beings such as animals and plants, as the fourth category of users in the courtyard houses. Often being ignored, they are indispensable components of the ecosystem in

the old city area. Regarding plants, trees are essential elements of traditional hutongs. According to the book "帝京景物略", an important document in the late Ming Dynasty that records the history and geography of Beijing, landscapes of hutongs and courtyards are also mostly related to trees. Trees outside courtyards in hutongs are often tall and deciduous kinds, among which are mainly locust trees and elms; Trees inside courtyards are planted according to the house-owner's taste, among which are mainly crabapples, pomegranates, jujube trees, persimmon trees, wisteria, peonies, chrysanthemums, lotus flowers and peonies. In northern climates, the presence of large trees provides pleasant shade for people, effectively alleviating the high temperatures of summer and creating a livable atmosphere in the urban environment. Those tall trees, complementing the spacious courtyards, serve as distinctive spatial markers of the hutongs. In terms of animals, cats and dogs are typical inhabitants of the hutongs, leisurely dwelling on the edges and rooftops, adding to the unique scenery of hutong landscapes. However, the most distinctive kind is bird, especially pigeons, which uniquely inhabit the spaces of courtyard houses. Old Beijing has a strong tradition of pigeons. Pigeons are often considered a part of hutong life. A harmonious symbiotic relationship existed between old Beijingers and birds. However, with the expansion of human residential areas and the process of urbanization, the environment of animals and plants has gradually been threatened and deteriorated.



**Fig. 20.** The spatial relationship between various nature beings

#### *3.4.1 Encroachment of Environment*

Many plants, especially trees, lack sufficient space for survival. Many courtyards are planted with trees. But the haphazardly constructed additional buildings has squeezed the space for trees to healthily grow, leading to survival plight and even death.



**Fig. 21.** Tree squeezed by building

#### *3.4.2 Light and Noise Pollution*

Some inexpensive steel roofs on self-built houses, as well as contemporary buildings with extensive use of large glass surfaces, cause glare due to sunlight reflection. Additionally, various types of noise from contemporary daily life, commercial activities, and motor vehicles have impacted the flight as well as health conditions of birds such as pigeons.

Just as in an ecosystem, various users collectively form the ecosystem within the old city. Residents spontaneously maintain the urban environment and form the foundation of urban life. Their participation and contributions not only sustain the daily operation of the old city but also provide crucial support for cultural heritage and community development. Workers provide various essential services such as commerce, healthcare, and education, satisfying residents' living needs while driving urban economic development and promoting the maintenance and upgrading of urban public spaces. Visitors, as consumers, not only stimulate economic activities but also enrich the cultural atmosphere, revitalizing the old city with more vitality and charm, injecting new momentum into the city's development. Different types of organisms are also indispensable parts of this ecosystem. Although often overlooked, their presence and activities are vital for maintaining the balance and stability of the urban environment, providing crucial ecological support for the city's sustainable development.



**Fig. 22.** Four types of users collectively form the ecosystem within the old city

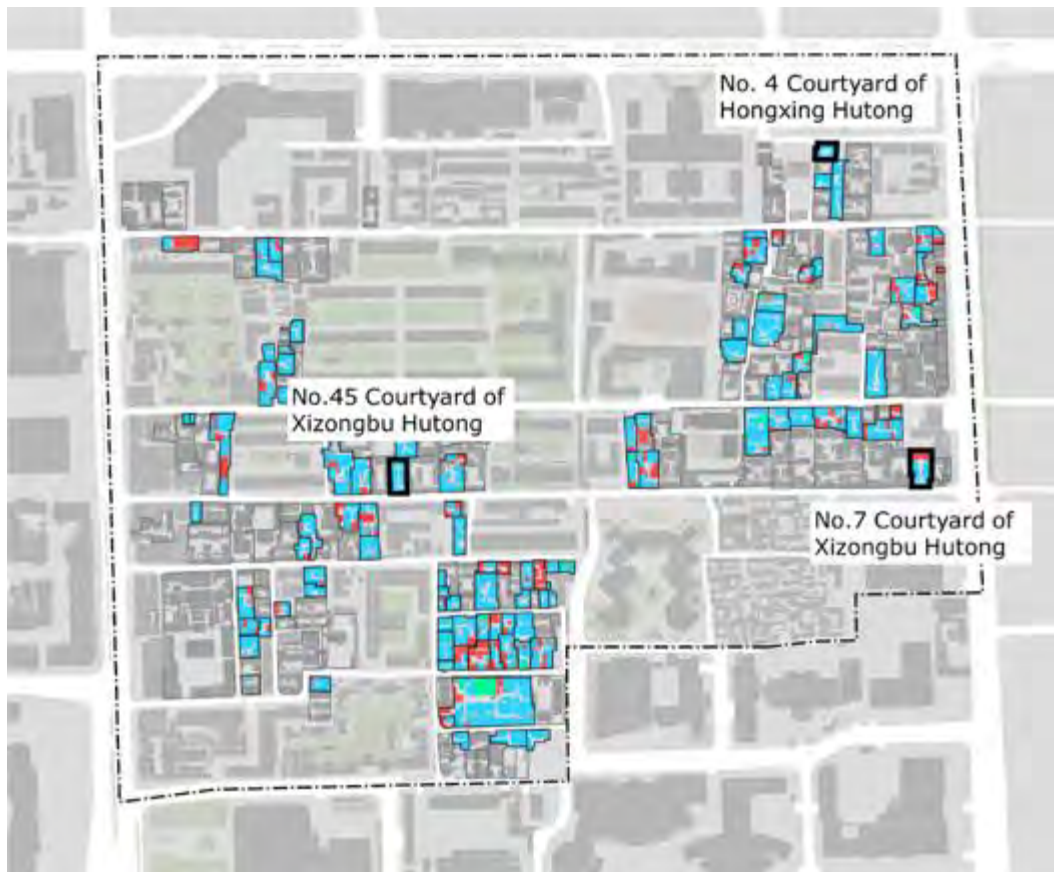
#### 4. Design Strategies

Since 2019, the Community Development Company (CDC) of Xizongbu neighbourhood has been established. It dedicates to the renewal of this area and, by securing external funding, tries to reverse its decline. Within one platform, the corporation has facilitated the involvement of various stakeholders, including institutions, residents, and our design team. After two years of discussions, meetings, and public consultations, a draft plan of city renovation for the Xizongbu neighbourhood was finalized and was splitted into specific task lists, involving upgrades in various aspects such as transportation systems, public spaces, and urban environments.

Under the framework of the city renovation plan, the operation of specific projects requires more complex coordination and resident participation. To address this challenge, the CDC selected over 100 courtyards as the main focus of renovation as well as catalysts for urban area renewal. The selected courtyards, after being thoroughly examined in locations and conditions, will underwent phased transformations.

The complexity of various stakeholders' interests has made progress challenging in the renovation projects. Although the platform of CDC provided an opportunity for all parties to express themselves freely, inevitable conflicts of interest persisted. Through repeated negotiations, some consensus was gradually reached, and by 2023, the renovation proposal of three courtyards were approved: No. 7 Courtyard of Xizongbu Hutong, No. 45 Courtyard of Xizongbu Hutong, and No. 4 Courtyard of Hongxing Hutong.





**Fig. 23.** Location of 3 courtyards

In the design process, to reach the greatest common, we as designers need to consider how to balance the needs of different stakeholders in the courtyard space, thus to achieve environmental improvement and ensure the sustainability of the design project. Throughout the process, responses were made to the demands of the four types of users, as analysed in the previous sections, in both urban design and courtyard renovation.

#### *4.1 Residents: Improved Living Environment*

Courtyard No. 7 of Xizongbu Hutong is a symbiotic courtyards in this renovation project. Property fragmentation due to historical reasons has led to the coexistence of different ownerships and even different functions within the same courtyard. This is a typical situation that many courtyard renovations would inevitably face.

A family has lived a long time in Courtyard No. 7 of Xizongbu Hutong. Among the family, Mr. Zhang as the grandfather has lived here all his life and has a deep emotional attachment. The residence of Zhang 's family is in the principle building of No. 7 courtyard, which, generally speaking, is the most ceremonious building in a traditional Beijing courtyard.



**Fig. 24.** Location of Courtyard No. 7 of Xizongbu Hutong

In the renovation of Courtyard No. 7, improving the living environment of the coexisting residents is one of the core factors of design. In order to restore a good living environment, the community development company, as the developer and owner of rest parts of the courtyard, made certain concessions. Redundant buildings within the courtyard were demolished in exchange for better environmental quality while also presenting the complete appearance of the main house.

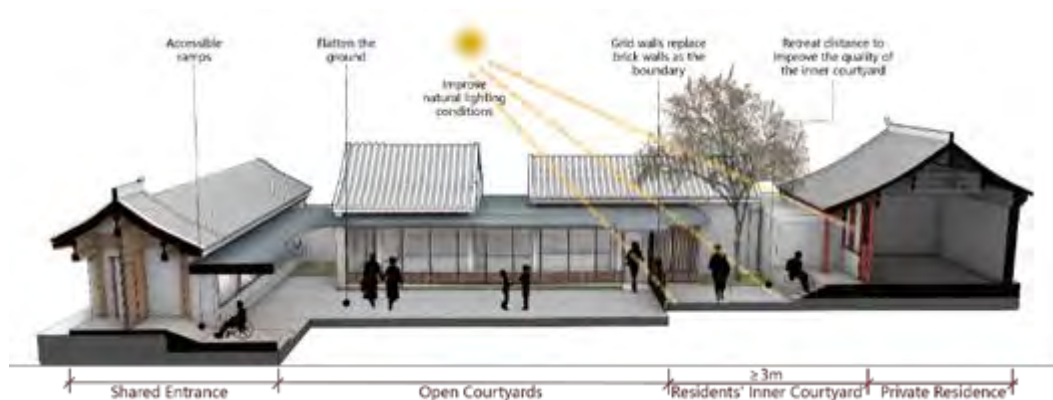


**Fig. 25.** Situation before renovation

One of the key issues related to the coexisting residents is the delineation of territorial boundaries. Through on-site negotiations, both parties agreed on boundary concessions, giving the residents a courtyard depth of 3 meters to meet their needs in daily life.

Sunlight is another important issue. Adequate sunlight only meets the residents' living needs, but also improve their psychological feelings and residential comfort. In order to ensure adequate sunlight for Zhang's family, the added buildings within the courtyard are strictly controlled in height; meanwhile, the partition walls of the courtyard adopted semi-transparent gridded walls to ensure sufficient sunlight penetration.

The inward slope issue existing in the original courtyard also needs to be addressed. Before the renovation, the courtyard was 0.7 meters lower than the hutong outside. There was a continuous downhill slope from the external roads to the residence of Zhang's family, posing a significant risk of rainwater backflow in house. After the renovation, by leveling the height of the courtyard, drainage within the courtyard was effectively improved. At the same time, the accessibility issues were also taken into account. Boundaries for ramps and steps were agreed upon on-site with the residents to ensure the width of passage for bicycles, wheelchairs, and other transportation tools.



**Fig. 26.** Renovation Strategies: territorial boundaries, sunlight, accessibility

#### 4.2 Workers: More Decent Working Spaces

The Courtyard No. 7 and Courtyard No. 45 of Xizongbu Hutong both serve commercial functions. The renovation project focuses on meeting the general commercial needs and creating decent working spaces that harmonize with the traditional style of courtyard houses.

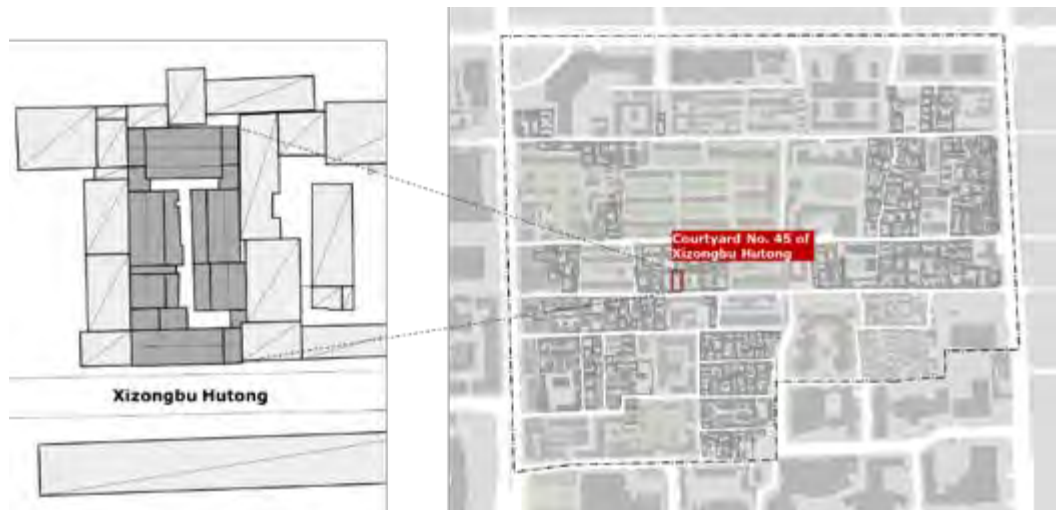
Taking Courtyard No. 7 as an example, the east and west wing building has a depth of 3 meters, which does not suit typical commercial functions. During the renovation, after removing redundant buildings within the courtyard, part of the building areas was added back to the wings to increase the space depth to 5 meters, satisfying the requirements for commercial and office space. At the same time, taking advantage of the framework structure, unnecessary partition walls were removed, forming a integrated and flexible interior space for changing functional needs.



**Fig. 27.** Adjust the depth of the wing rooms to accommodate commercial functions

Courtyard No. 45 of Xizongbu Hutong faces another issue: the courtyard is narrow, thus increasing the depth of the wing buildings would compromise the quality of the yard. In such a situation, the only option is to utilize the underground space to obtain a suitable building area. During the excavation process, it is necessary to ensure the absolute safety and integrity of historical buildings, courtyard trees, and surrounding adjacent courtyards. After comprehensive evaluation of various factors, the design selected an appropriate range for underground excavation and arranged vertical transportation in conjunction with the layout of above-ground buildings. Despite facing numerous strict restrictions, the excavation of the basement still yielded abundant area and space returns, which can be used for commercial displays, multifunctional halls, and other business activities. A underground courtyard, narrow but sufficient in size, was set up to improve the basement environment in aspects of ventilation and lighting.





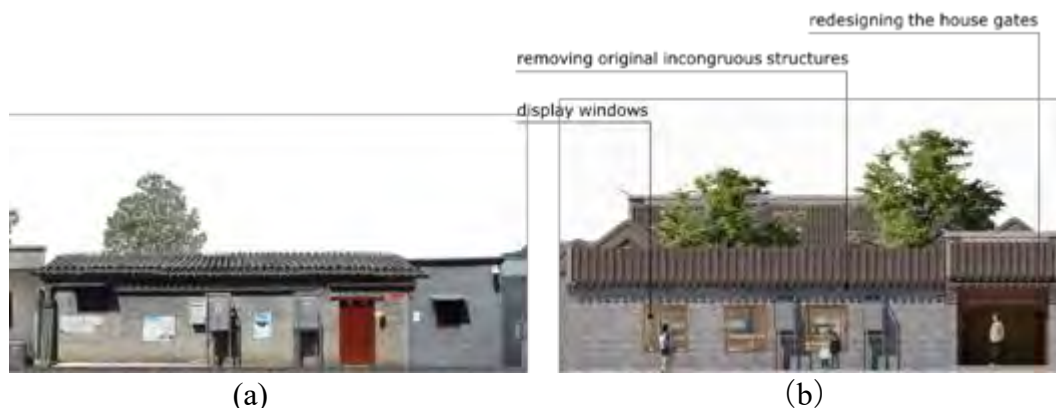
**Fig. 28.** Location of Courtyard No.45 of Xizongbu Hutong



**Fig. 29.** Renovation Strategies: underground space expansion

Negotiations between the convenience of commercial functions and street facade control is essential. The display interfaces required by businesses, such as external windows, often conflict with traditional building style. In the design process of Courtyard No. 45 and Courtyard No. 7, the design achieved a balance of design goals. The façade of the two courtyard were enhanced by removing original incongruous structures, redesigning the house gates, and other measures to achieve an appearance consistent with traditional hutong style. Thereby, we obtained the possibility of opening windows to a certain extent, greatly promoting the vitality potential of these two courtyards.

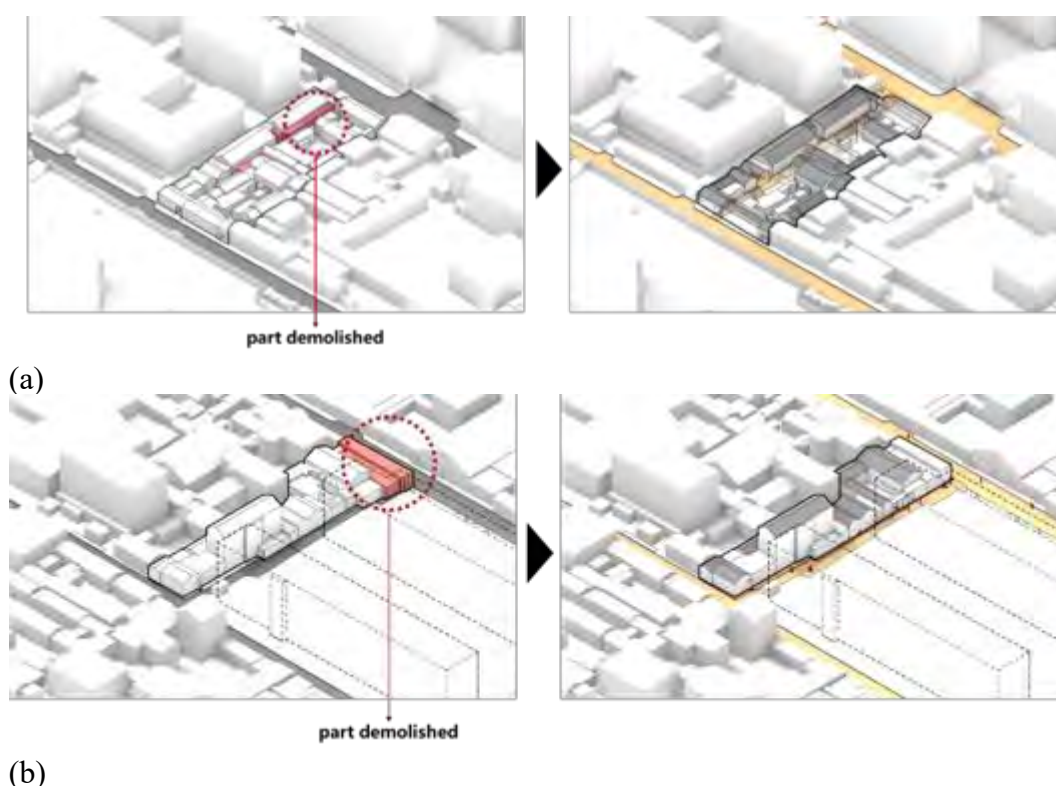




**Fig. 30.** Façade design of Courtyard No. 7 (a)original façade (b)renovation facade

### 4.3 Visitors: Enhancing the Visitor Experience

Enhancing the visiting experience is a crucial approach to enhancing the attractiveness and cultural value of the neighbourhood. Transportation is certainly one of the primary factors. In the old city area, due to the congestion of buildings, it is very difficult to increase the road network density. Within urban design, through analysis and research of all courtyards in the area, our design team eventually found a breakthrough point. By utilizing two CDC-controlled courtyards, two pathways are possible to be opened up. One courtyard borders two hutongs on its north and south sides. By demolishing a small number of buildings, a north-south connecting "inner street" was formed within this courtyard. The other courtyard adopts a strategy of partial building setbacks, successfully opening up the dead-end road blocked by buildings. The opening of these two pathways will save visitors 22% of the traveling distance, significantly improving the continuity of their visit.



**Fig. 31.** Utilizing two courtyards to open up pathways

Under the situation where many buildings cannot be visited or have disappeared, we adopt another flexible method to reflect the historical and cultural story, taking the Zonghua Book Company as an example.

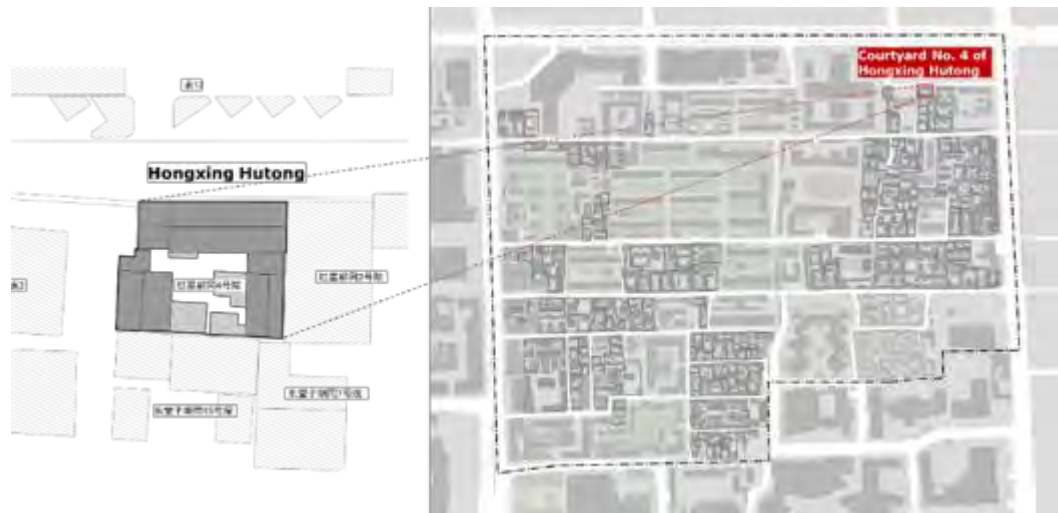
As one of China's earliest publishers, the Zonghua Book Company translated and published classic works such as Rousseau's "The Social Contract," Darwin's "On the Origin of Species," and Adam Smith's "The Wealth of Nations," making significant contributions to the enlightenment during the democratic revolution that overthrew the Qing Dynasty. Unfortunately, due to property rights issues, its former site cannot be opened to the public. The Courtyard No. 7 of Xizongbu Hutong, as the neighbour of the former site, has been designated as a reading space, providing the public with a place to continue reading and thinking. In this roundabout way, visitors are given a hint of the hidden history.



**Fig. 32.** Reading space in Courtyard No. 7 of Xizongbu Hutong

#### *4.4 Nature Being: A More Harmonious Symbiotic Relationship*

The No. 4 Courtyard of Hongxing Hutong features a typical layout of a three-sided courtyard. Its neighbour courtyard in the south has an added structure for pigeon cages, which, due to its large volume, exerts certain pressure on the yard space of No. 4 Courtyard itself. To address this issue, the design team considered a possible coexistence between humans and pigeons in the renovation project. The design added a semi-outdoor pergola on the south side of the courtyard, creating visual isolation from the pigeon cages while users of No. 4 enjoy the courtyard space, reducing the sense of intrusion and potential conflicts in the courtyard space. Additionally, the design team fully considered the impact of human activities on the pigeon's living environment. Landscape lighting was controlled to a minimum during the renovation design, adopting a low-intensity lighting scheme. The pergola was constructed using dark materials, and low-reflectance glass was used for the exterior windows of the building. When necessary, electrochromic film was employed to regulate light transmission, creating a diffuse reflection interface to minimize potential light pollution. Furthermore, low-carbon sound-absorbing materials were chosen for indoor decoration to minimize noise interference.



**Fig. 33.** Location of Courtyard No. 4 of Hongxing Hutong



**Fig. 34.** Renovation Strategies: harmonious symbiosis between humans and pigeons

In Courtyard No. 7 of Xizongbu Hutong, two trees were squeezed to the brink of death. The design team conducted partial removals around the trees to provide sufficient space for their growth, thus to save their lives. The two trees are divided into the courtyard area of the symbiotic family. We hope that they will re-participate in the daily life of hutong with more vitality.





**Fig. 35.** Protection strategies of trees in Courtyard No. 7 of Xizongbu Hutong

## 5. Conclusion

In the Xizongbu project, we have in-depth researched the challenges and possibilities in Beijing's old city. Before the renovation, preliminary investigation has provided the most important basis for subsequent design by studying and summarizing the needs and demands of four USER groups in the old city. Within the platform constructed by the community development company, the interest boundaries of all parties have been continuously adjusted through negotiations and discussions, ultimately reaching a relatively stable equilibrium.

In projects related to renovation of old city areas, due to the complex intertwining of interests, designers often face the dilemma of value orientation. It is worth noting that all spatial environments serve their users, and only by closely observing the users' living conditions can the design itself gain a solid foundation. The renovation of Xizongbu neighbourhood aim to maximize the satisfaction of users' demands through spatial strategies. When we review the 17 main objectives listed by UIA, we also find that the process of responding to users' demands is just a process of achieving different UIA objectives. These demands for a better life, although complex and conflicting with each other to some extent, are all legitimate and should be acknowledged and respected by designers.

At the same time, it should be noted that urban renovation is a complex system with multiple factors intertwined with each other. The demands of users, as a key factor in the project, is also constrained by other factors, a critical one of which is the protection of traditional urbanscape. In the practise of the three courtyards, one of the e most common problems is the conflict between functional requirements and traditional architectural style. Some proposals with rich imagination that might meet the needs of users have unfortunately not been implemented because of those confliction. How to explore the potential of space within the framework of urbanscape protection? How to negotiate with urban planning departments? Such are important topics for the next step of practice.

The renewal of the Xizongbu Neighbourhood is a long term project of our team. This article is just a first small step. As an old poem says, “ the path is narrow and too long to see the end. But I will seek for it in backs and forths”, the exploration and practise will continue.





**Fig. 36.** Site Birdview

## Acknowledgement

This research was not funded by any grant.

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