

Renew the Hutong Area? Renew Memory!

-- Renovating a Hutong Area

Ting Yang

Primary Advisor: Brian Lonsway

May 2021

Syracuse University School of Architecture

SITUATION

Hutongs are to Beijing what the canals are to Venice; they are the soul and the root of the city.

From the 13th century, when Beijing was first appointed as the capital city of China during the Yuan Dynasty, hutongs came into being and grew with this city, witnessing the development and transformation of the city. Hutongs constitute the unique urban fabric within the old Beijing city, generating an unparalleled urban landscape and holding an important place in the collective cultural consciousness. The sihuyuan that enclose hutong is not only the most traditional vernacular residence form, but also expresses classical value and life organization pattern of Chinese people. Surrounded by walls, hutongs ensure the classical intimacy of family life within a dense environment.



Figure1: Aerial view image of current Hutong situation
(Source: Photo by Ning Wang)

From their origins to today, hutongs evolved according to changing demands over time. However, facing the further acceleration of globalization and urban development, many dilapidated hutongs and siheyuans were torn down and replaced with the new modern skyscrapers. As a unique urban fabric and an indispensable element of urban memory, what methods might address the disappearing hutongs and siheyuans? Could we find new opportunities and new challenges for hutongs? Apart from brutal tearing down and reconstruction, what else can we do to meet the contemporary and future requirements as well as maintaining the historical heritage context? Could we integrate the past, present and future through redeveloping hutong areas?

TOPIC

Renovating a Hutong Area

Make the **traditional historical hutong area** to sustainably meet **the modern and future needs.**

GOALS

Demonstrate speculative design strategies to **preserve the historical hutong area of Beijing**, while introducing new architectural functions and providing more vitality, in order to **combine the past with the present and the future.**

What is a Hutong?

Starting from the Yuan Dynasty(1271–1368), in order to facilitate administration and form an efficient transportation system, the emperor designed and used the grid-like urban fabric. In this urban fabric, the roads are divided into different sizes and levels, and the smallest ones with a width of about 30ft that crisscross the city like veins are called hutongs, linking each family and each siheyuan. Generally, each two hutongs are separated by 250ft, about the width of a normal siheyuan. The overall layout of the Imperial City of Beijing remains intact until now, in the central of Beijing city, the majority of hutongs are oriented east-west and most main streets are oriented in a north-south direction.

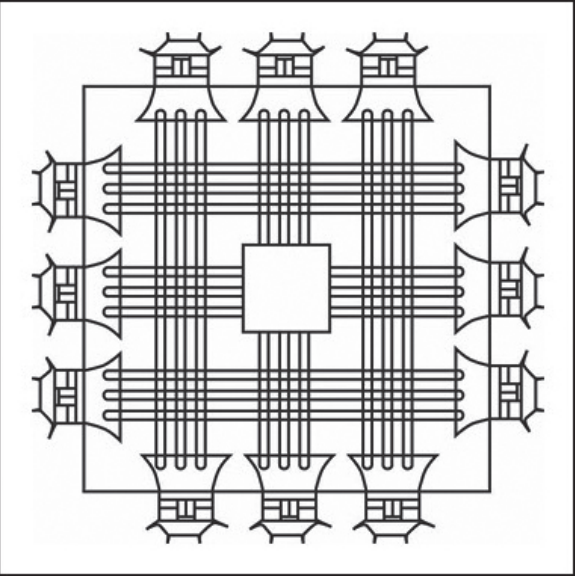


Figure 2: The Urban Plan
(Source: Kao Gong Ji)



Figure 3: The District Plan
(Source: Yuwei Wang, Persistence of the Collective Urban Model in Beijing)



Figure 4: The Urban Fabric
(Source: Yuwei Wang, Persistence of the Collective Urban Model in Beijing)

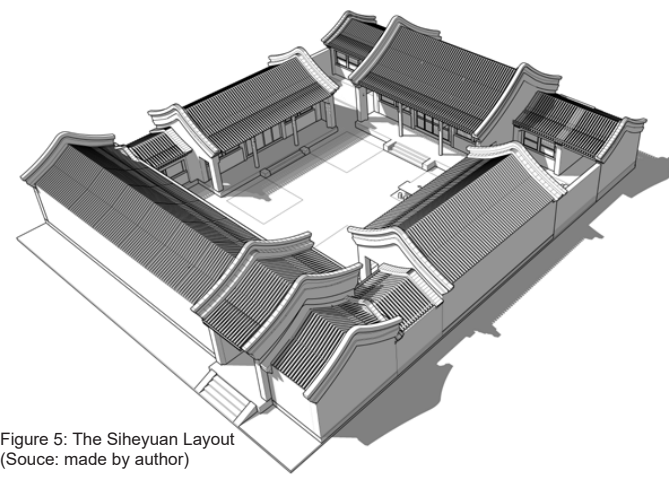


Figure 5: The Siheyuan Layout
(Source: made by author)

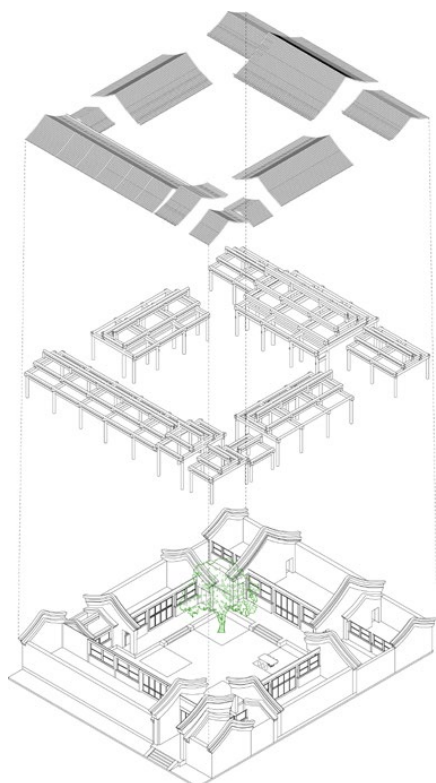


Figure 6 : The structure of Siheyuan
(Source: made by author)

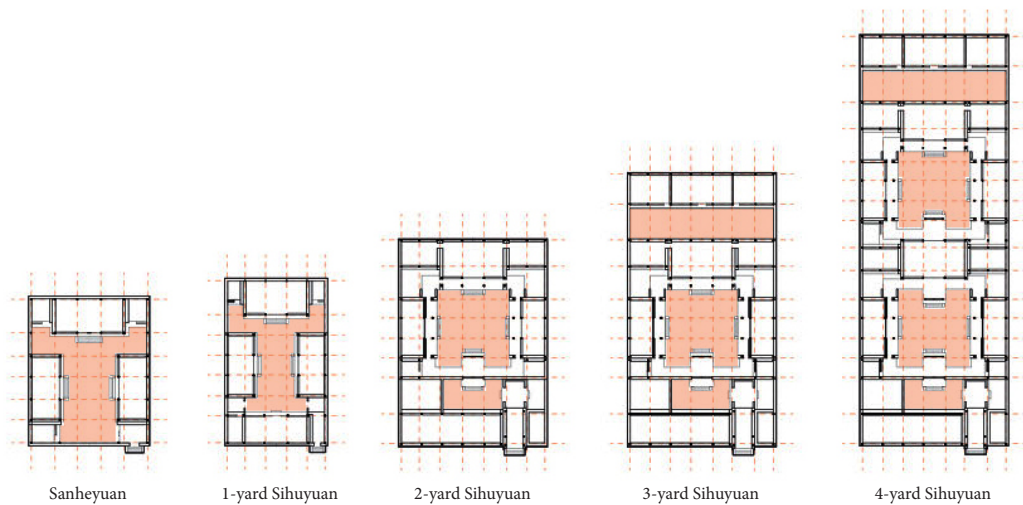


Figure 7: Siheyuan Layouts. Orange tones are added by author in order to clarify the location and size of courtyard. The size and quantity of siheyuans would vary according to the wealth of the family; nevertheless the basic principles of spatial arrangement and distribution remained the same.

A siheyuan is a traditional Chinese quadrangular or courtyard house with a central rectangular courtyard surrounded by single story houses on all sides and partial exterior walls.

Siheyuan survived through 3000 years of history since the Zhou Dynasty. Employed most extensively and perfected during the Yuan Dynasty(1271–1368), before the end of Qing Dynasty(1636-1921), each siheyuan only accommodated a single family. In the feudal period, the social status and wealth of a family determined the size and quantity of courtyards; nevertheless the basic principles of spatial arrangement and distribution remained the same. However, at the end of the Qing Dynasty, almost all the single-family siheyuan were occupied by multiple families. Because of the population explosion, the war and strife, the central courtyard was gradually encroached upon as much as possible in order to achieve maximum housing occupancy, including sheds built as kitchens, storage or even bedrooms. This chaotic mutli-family courtyard is named "Dazayuan". By the end of the 1970s, about two-third of Beijing's 8.5 million people resided in hutong neighborhoods(Guo & Klein, 2005). Since, the Beijing government decided to remove such illegal siheyuan and replace them with modern apartments. More than 200,000 families were relocated and their siheyuans were demolished. At 2005, fewer than 25% of Beijing's 13.82 million people still live in the hutong area(Guo & Klein, 2005).

A Foundational Living Arrangement in a Siheyuan

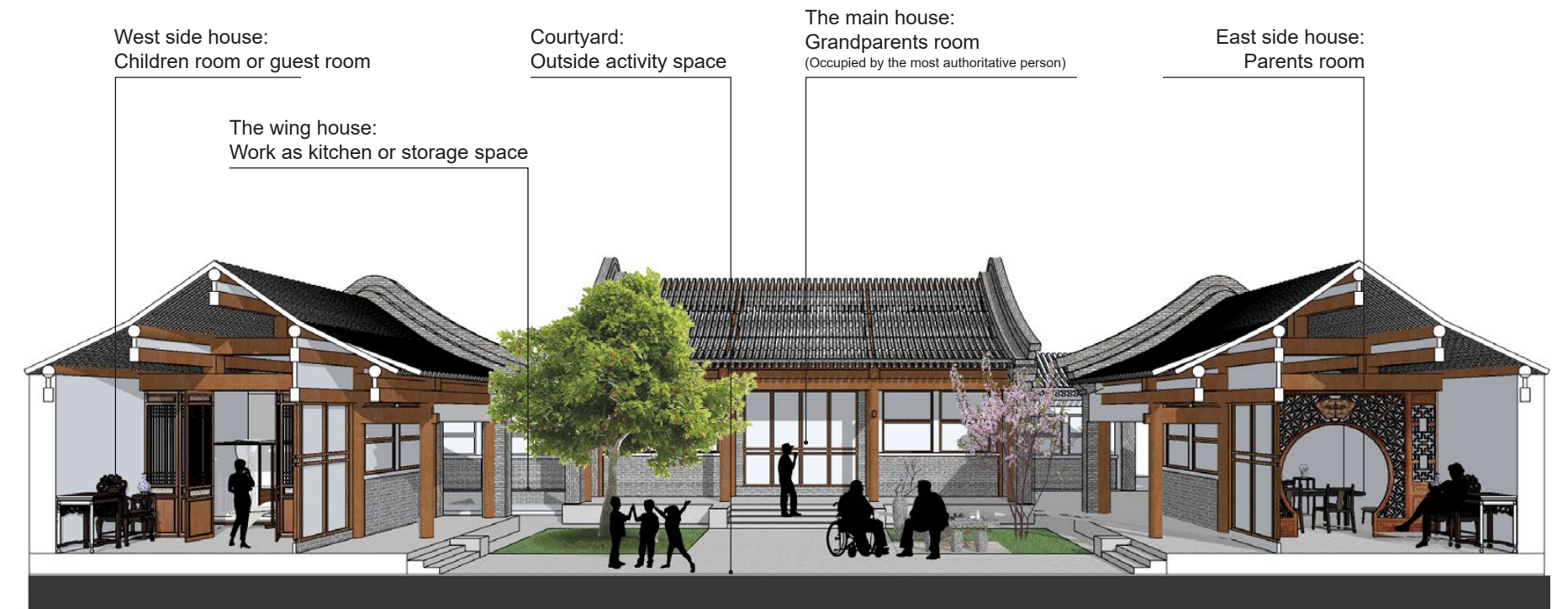


Figure 8: The diagram of siheyuan living condition
(Source: made by author)

This figure shows a single-family siheyuan. Typically, the siheyuan is oriented in a north-south direction with the gate located in the southeast corner of the courtyard. Each side house includes a complete set of functional spaces, including living space, guest space and office space. These three spaces are separated by wood screens or doors. The original idea behind this organization was to allow an extended family to live together, but also to have separate spaces. But at the same time, this form of organization also provides the basis for later multi-family siheyuan.

History of the Hutong

HUTONG

13/14 C

17-19 C

20C

Current




Figure 9: Zhuanta Hutong
(Source: Kknews. com)




Figure 10: A Historical Hutong
(Source: Kknews. com)




Figure 11: A Hutong under Demolition
(Source: Sohu. com)




Figure 12: A Current Commercial Hutong
(Source: Kknews. com)

The oldest surviving hutong, Zhuanta hutong, was built in the Yuan Dynasty. There are 384 hutongs built during this time. In the 15C, expanded by Ming Dynasty, there were 1,236 hutong.

The overall layout of the Imperial city of Beijing was further developed. As more and more hutongs were added on the original basis, hutongs become narrower and shorter.

By the 1920s, the number of hutongs had increased to 3,200. However, after the foundation of People's Republic of China in 1949, Beijing began to expand and modernize as the capital city. During this phase, hutong and siheyuan began to disappear.

In recent years, the government and designers have begun to pay attention to the restoration of the hutong and siheyuan. Beijing's New Master Plan proposed an overarching agenda designed to preserve the city's historical and cultural heritage.

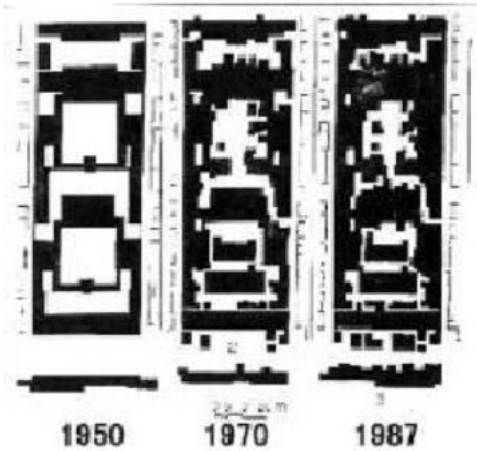


Figure 13: The Historical Changes of Siheyuan in Beijing
(Source: Beijing Municipal Planning Commission)

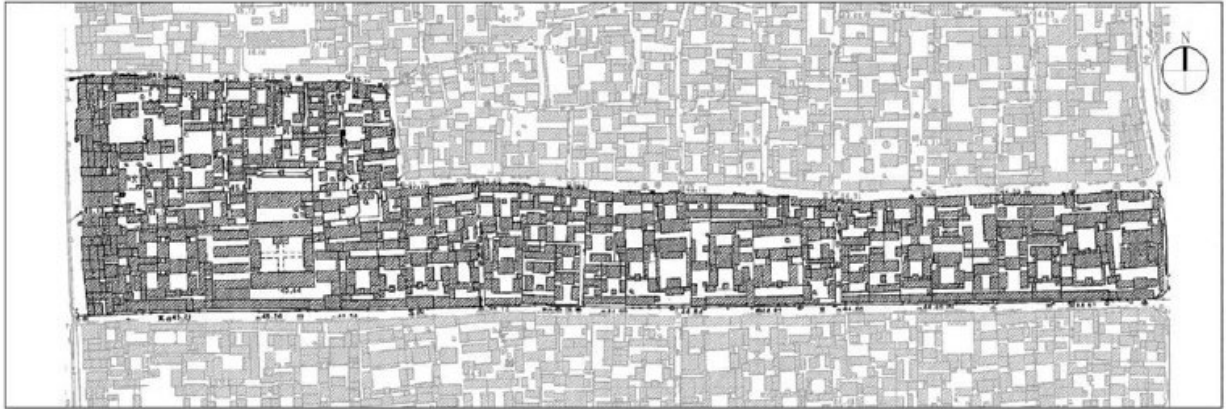


Figure 14: Block network of Dongsì Street at 1950s
(Source: Beijing Municipal Planning Commission)

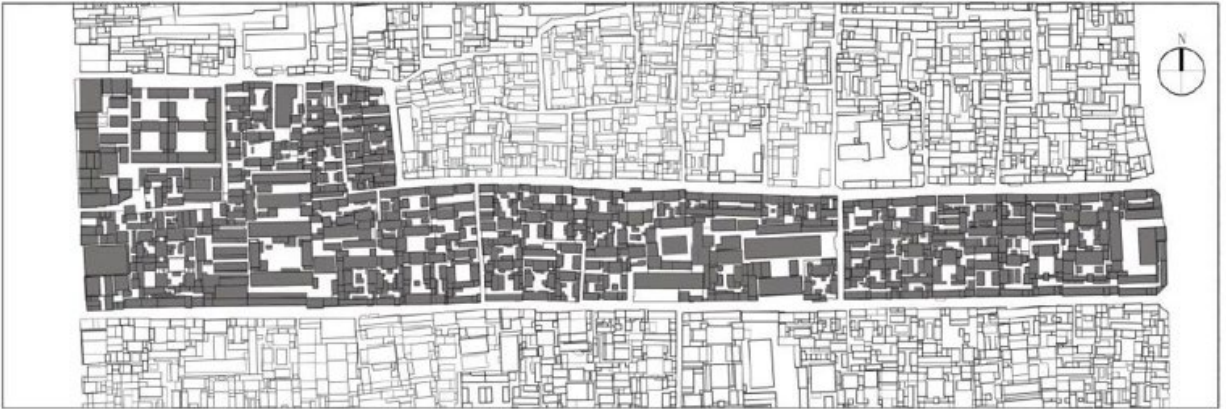


Figure 15: Block network of Dongsì Street at 2016
(Source: Beijing Municipal Planning Commission)

In recent decades, because of the population exploration, almost all the single-family siheyuan were occupied by multiple families, the central courtyard was gradually encroached as much as possible in order to achieve maximum housing occupancy. Due to the rapid urbanization demand, hutong becomes more and more smaller, the original layout of the siheyuan and the urban fabric become chaotic.

Current Situation



Figure 16: Hutong under Demolition
(Source: Sina News, 2012)



Figure 17: Hutong under Reconstruction
(Source: Sina News, 2012)

However, due to the rapid urbanization demand, this precious vernacular architecture and residential form gradually lost its vitality in the past few decades. Regrettably, some of the abandoned hutongs were brutally pushed and rebuilt into modern skyscrapers, but there are still some hutongs that have been maintained till now. **What future do they face? Is there any other way to save these inherent living modes that are disappearing, and at the same time, to save the lost and submerged traditional culture and history of the city, besides completely tore them down for reconstruction?**

QUESTION

Taking the **white pagoda hutong neighborhood** of Beijing as an example, combining Brandi's theory and Wang's urban memory framework, **how might one reimagine and update the hutong area to enhance its urban memory and pass on its history and culture?**

1. As an unique urban fabric and an indispensable element of urban memory, what methods can address the disappearing hutongs and siheyuans?
2. Could we find any new opportunities and new challenges for hutongs?
3. Apart from tearing down and reconstruction, what else can we do to meet the contemporary and future needs while maintaining historical heritage contexts? Could we integrate the past, present, and future through redeveloping hutong areas?
4. How can architecture be used to reflect or strengthen the inheritance of traditional culture and history? Can we do something to balance the value of the past, present, and the future?
5. In the renovation project of historical buildings, should old buildings be restored and the original memory of traditional culture be maintained, or should new cultural elements be integrated?
6. How can a design ensure comfortable living environments for residents and create better travel experiences for tourists?

What is Urban Memory?

"One can say that the city itself is the collective memory of its people, and like memory it is associated with objects and places. The city is the locus of the collective memory. This relationship between the locus and the citizenry then becomes the city's predominant image, both of architecture and of landscape, and as certain artifacts become part of its memory, new ones emerge."

-- Rossi, A, (1966), The architecture of the city.

Siheyuan and hutong, traditional residential forms and urban fabric, have witnessed and inherited the development and transformation of Beijing. However, what is the specific method of the passing on the history and culture contained in them? How are these traditional customs and culture handed down that are not recorded in history books? The answer is the memory of people, the collective memory of generation after generation. These collective memories transcend individual memories and are essentially a kind of historical inheritance.

Aldo argued that the city is a place of collective memory, intertwined with history and personal records. When the memory is triggered by some city fragments, the past history is presented with the personal memory. Moreover, urban memory is the soul of the city; it is this kind of collective memory that is constituted by individuals' experiences within places and through their history, social, and urban space environment. Urban memories of a place allow us distinguish one city from others.

So what exactly are the urban fragments that trigger collective memory to pass on history and culture? Figure 9 illustrates an Urban Memory System Framework proposed by Limin Wang. Through analyzing and modifying her system, I tried to find valuable urban fragments scattered in the hutongs.

For example, when walking in this area, people could see the red wall of temple and white pagoda, gray tiles of siheyuans, the traditional doors and windows form and curved stone with the marks of time. All of these pieces form our memories of this hutong area.

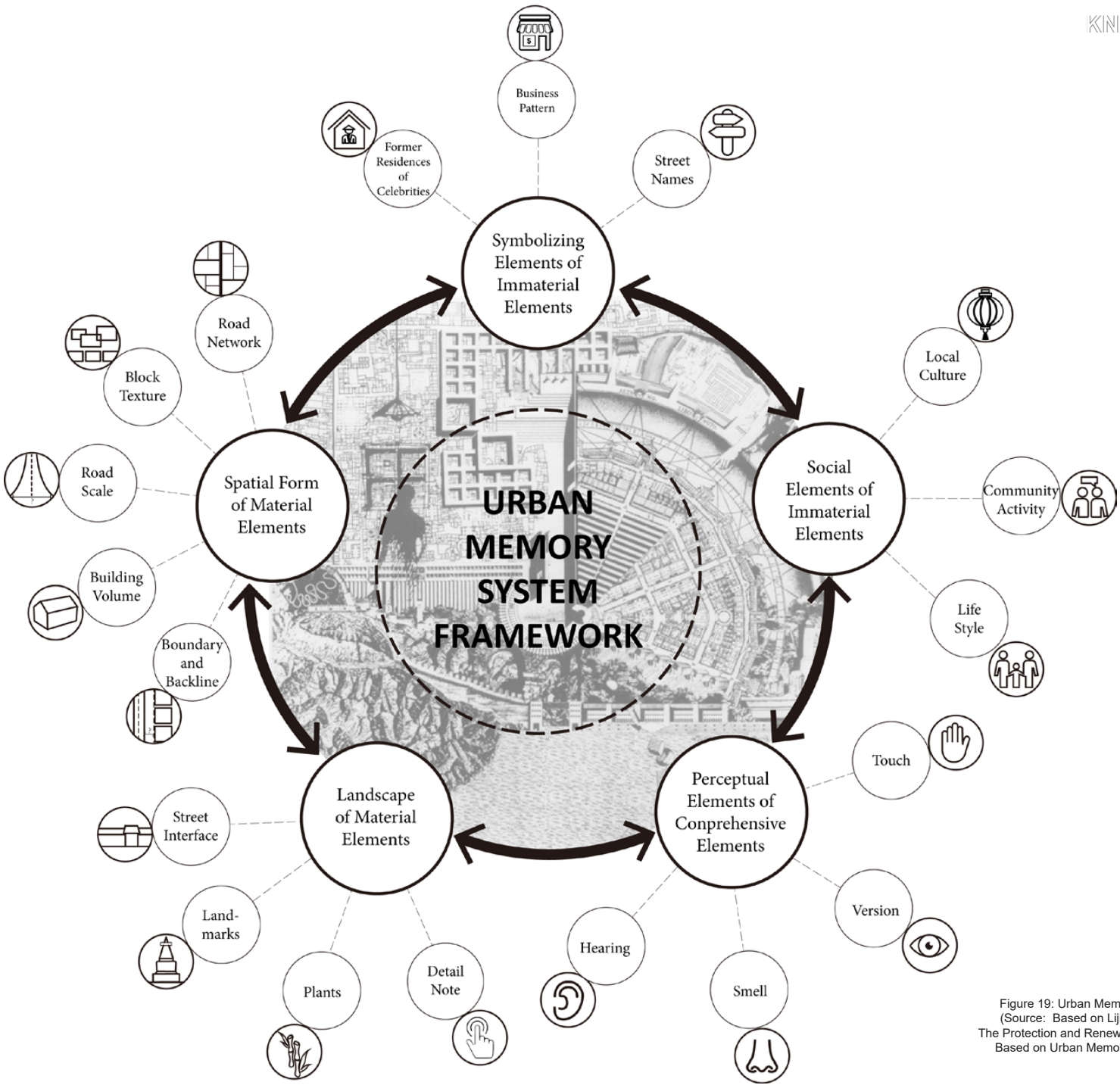


Figure 19: Urban Memory System Framework (Source: Based on Lijing Wang, Research on The Protection and Renewal of Hist Dist in Beijing Based on Urban Memory, 2017, the diagram is drawn by author.)

Cesare Brandi's Theory of Restoration

Critical Restoration / Conservation Restoration

"Restoration consists of the methodological moment in which the work of art is recognised, in its physical being, and in its **dual aesthetic and historical nature**, in view of its **transmission to the future**."

-- Cesare Brandi, Theory of Restoration

Two principles of Restoration:

1. "Only the material form of the work of art is restored."
2. "Restoration should aim to re-establish the potential oneness of the work of art, as long as this is possible without committing artistic or historical forgery, and without erasing every trace of the passage through time of the work of art."

Brandi argues that restoration project need to preserve the historical work of art from two perspective, the aesthetic and historical nature. The restoration project also should respect the every trace of the passage through time of the work and in view of its transmission to the future. This means that for the hutong restoration project, we should consider and formulate strategies from both aesthetic and historical perspectives. From the aesthetic point of view, the original urban fabric, architectural structure, architectural materials and original color pattern should be maintained. From the perspective of history, it should be combined with the urban memory system to protect and maintain every architectural details and life pattern that can inherit the history and bear the memory of the city. While preserving and inheriting history and culture, we also need to take into account the transmission to the future. Through the renovation of the historic hutong area, trying to use the architecture to integrate the past, present and future.

Querini Stampalia Foundation



Figure 20: The Entrance of Querini Stampalia Foundation



Figure 21: The Quay Space of Querini Stampalia Foundation



Figure 22: The Garden Detail of Querini Stampalia Foundation



Figure 23: The Portego of Querini Stampalia Foundation
(Source: Archvibe.com)

Scarpa took advantage of the ubiquitous bridge elements in Venice, replacing the original main entrance gate with side Windows, allowing people to enter the building through the bridge instead of directly from the boat. When you come to the quay space, which is the original entrance of the building, you will see the metal grated doors and water could enter the building through the door. There, the steps down are also cleverly designed -- each step leads in a different direction as one steps down. Stepping into the building from the steps brings up some physical memories, perhaps reminiscent of stepping into a gondola. Through the exhibition hall, when people enter the garden, they will hear the sound of water dripping, so the ear will first tell them where to look, then will follow the flow of water, follow the path of the garden, until the water flows into a disc and disappears into a dry well. Once again, this basin of water, like a drainage lake, is an allusion to the floating state of Venice, a special state.

To Scarpa, the joints and connections between elements "are points every builder takes an interest in and always has, but the solutions are different in different periods."

Micro Yuan'er

" The preservation of hutongs cannot only respect the traditions of hundreds of years ago while ignoring the history of recent decades."

- Zhang, Ke. the architect of Micro Yuan'er

The main idea of this project is the co-living: children and the elderly, aborigines and outsiders, registered house and unregistered house, they all coexist under the big locust tree.

The courtyard of the "Micro Yuan'er" project is a typical "Dazayuan" that once housed a dozen families. Over the past 50 or 60 years, every family has added a kitchen shed to their yard -- these unregistered additions make for very interesting social networks and spatial attributes. In previous urban renewal projects, these spontaneous additions were eliminated as remnants of urban development.

"Micro Yuan'er" takes the current site characteristics as the starting point, preserves the original architectural structure, takes the volume added spontaneously by the residents as the reference, and redesigns, repairs and reuses the informal added structures in this courtyard on the premise of respecting the spatial characteristics of the courtyard. "Micro Yuan'er" not only enriches the hutong's daily life, but also preserves the original courtyard structure and maintains the original urban memory elements. This kind of life pattern and historical memory of the siheyuan can be inherited and preserved and become a valuable urban form.



Figure 24: The siheyuan situation after design

Figure 25: The siheyuan situation before design

Figure 26: Children Play Around the Tree

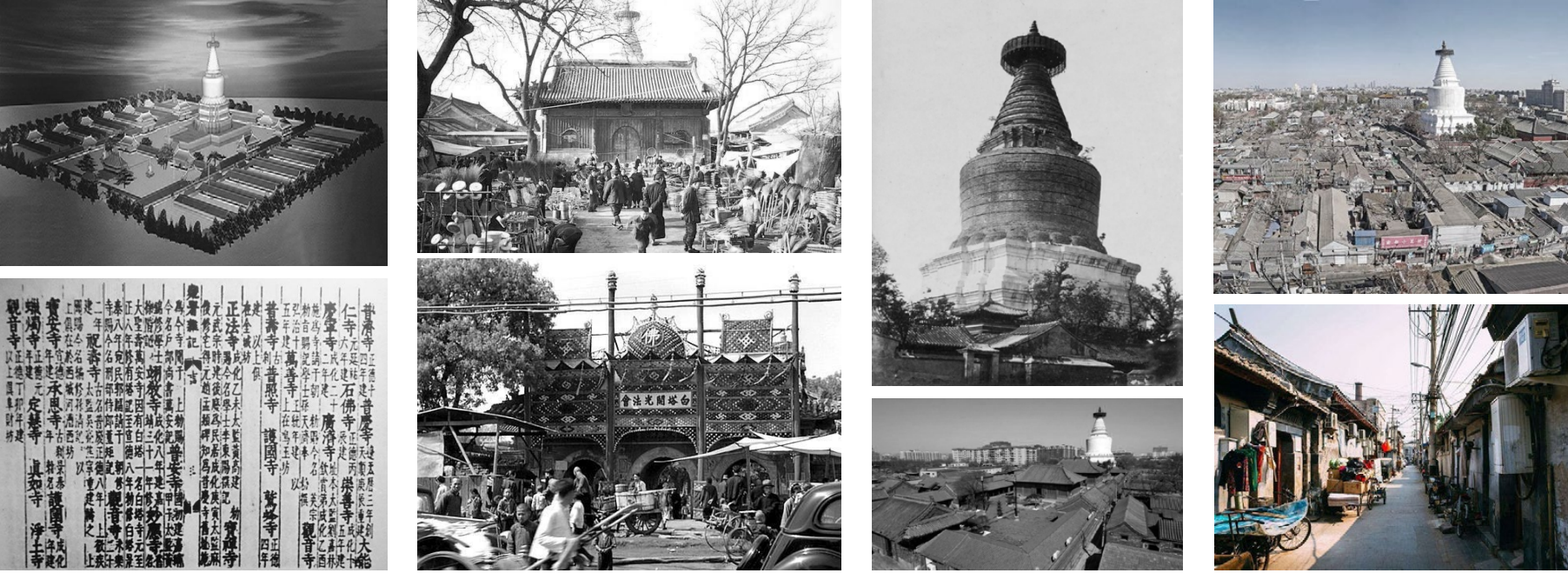
Figure 27: The Interior Space Image of Micro Yuan'er
(Source: Archdaily.com)

Site Analysis



White pagoda hutong area is a typical hutong district in Beijing, surrounding the white pagoda which is more than 700 years old. Originally, it was a royal temple. Later, with the development of the society, temples went to the folk. This neighborhood became a residential area. And because of the ancient temple, the hutongs here have not been demolished.

Site History



In 1270, the emperor ordered the construction of Wan 'an Temple, an imperial temple with the white pagoda as its center, which covered an area of about 160,000 square meters. However, in 1368, a lightning fire destroyed the temple; only the white pagoda survived. The Miaoying Temple rebuilt in the Ming Dynasty, in 1457, was covers an area of nearly 20,000 square meters.

In the Qing Dynasty (1616-1912), temples went from being exclusive to the royal family to the folk. During the 19C, a market spontaneously formed in the temple's forecourt, this was one of the largest markets in Beijing. People would come here at the beginning of each month to buy and sell things and have fun.

In 1961, the temple was to be protected as a historical landmark. Because of this, the development of the surrounding hutongs has been restricted, and they have not been demolished or rebuilt.

However, because of the urbanization and population explosion, the Hutong area around the Miaoying Temple become more and more chaotic and become dilapidated.

Figure 29: The History of Site Neighborhood (Source: Network)

The Urban Memory in Hutong Area

"The man who knows by heart how Zora is made, if he is unable to sleep at night, can imagine he is walking along the streets and he remembers the order by which the copper clock follows the barber's striped awning, then the fountain with the nine jets, the astronomer's glass tower. the melon vendor's kiosk..."

-- Italo Calvino, *Invisible Cities*

As Italo Calvino describes in his *Invisible Cities*, people's memories of the city come from the combination of historical fragments. There are countless historical pieces carrying urban memories scattered in hutongs. Undoubtedly, these historical fragments are the elements of heritage which should be protected and maintained.

In order to further analyze the specific situation of hutongs area, the white pagoda hutong area was chosen as my site. The site is located at the western side of the downtown Beijing, surrounding the white pagoda which is more than 700 years old. This temple and pagoda becomes fundamental elements of the collective memory of this area. In addition to the temple and the white pagoda, this hutong area contains many fragments of urban memory. For example, when walking in this area, people could hear the wind bells from the white pagoda, see the red walls of the temple, gray tiles of siheyuans, the traditional doors, windows form, and curved stone with the marks of time. All of these pieces form our memories of this hutong area.

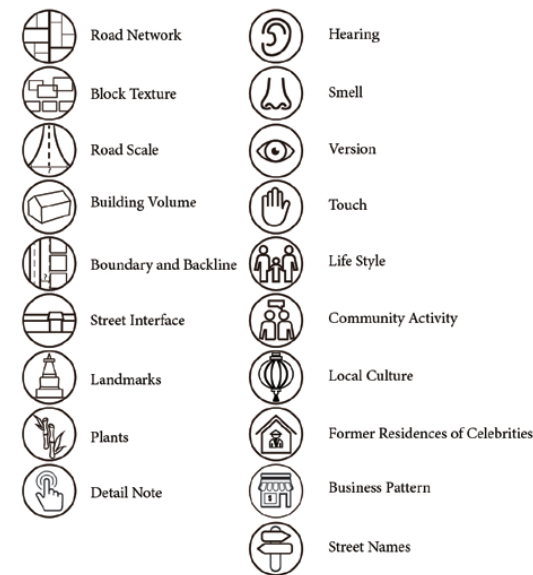
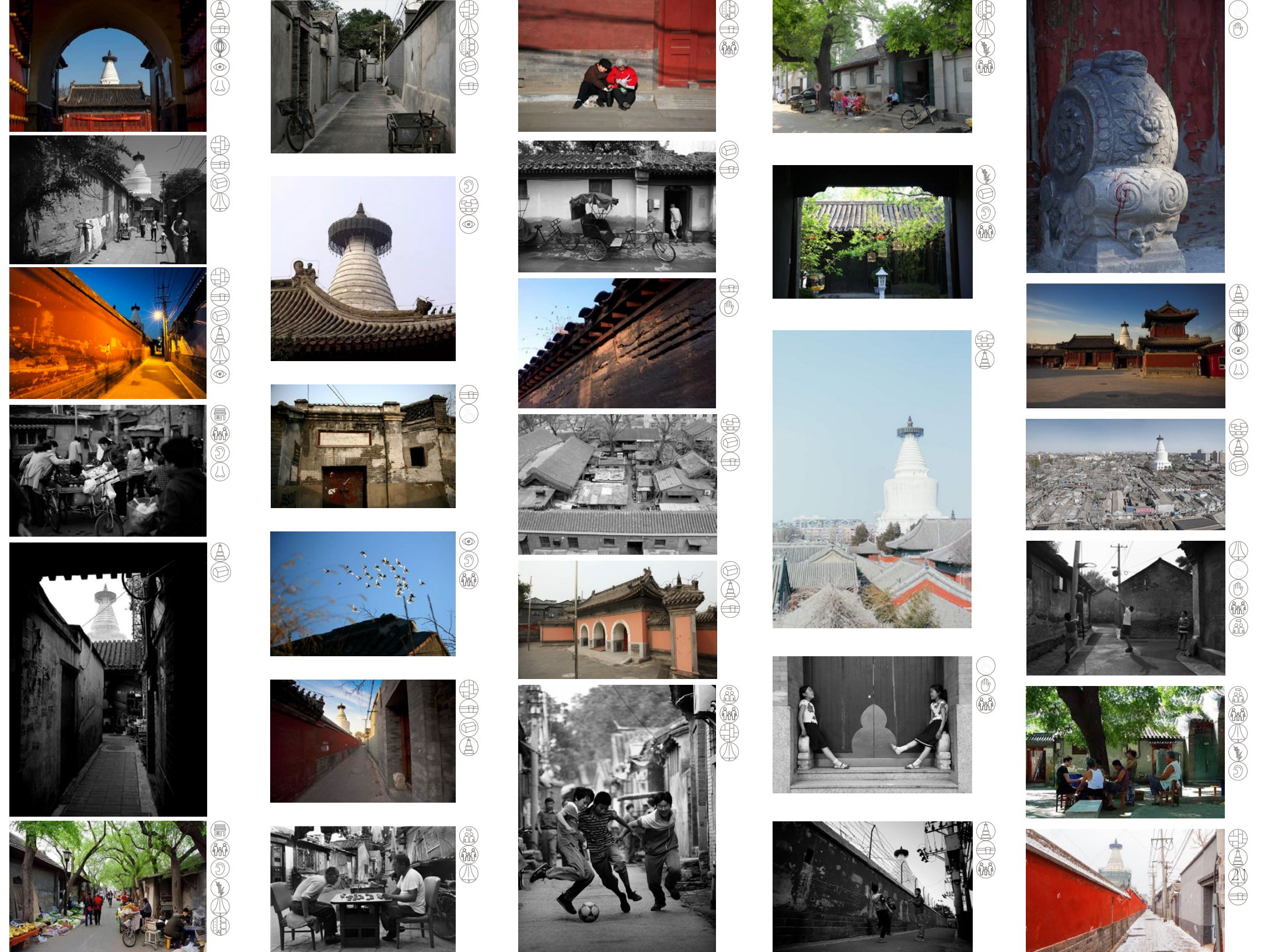


Figure 30: Urban Memory in Hutong Area
(Source: Kknews.com)



New Challenges -- Current Needs in Hutong Area

Because this area has witnessed a long history, and because of the rapid development of the city, it is beginning to fail to meet the needs of people's modern life. Many of the old siheyuans became dilapidated and lacking modern infrastructures. Due to the needs of modern life and the popularity of motor vehicles, cars parked throughout hutongs impede the traffic flow in this area. The original urban fabric has gradually disappeared as people have added illegal buildings to courtyards and hutongs in the past decades. An analysis of the current situation of the white pagoda hutong area in Beijing, reveals some current needs of the inhabitants, visitors, and vendors in this area which need to be met through any renovation project.

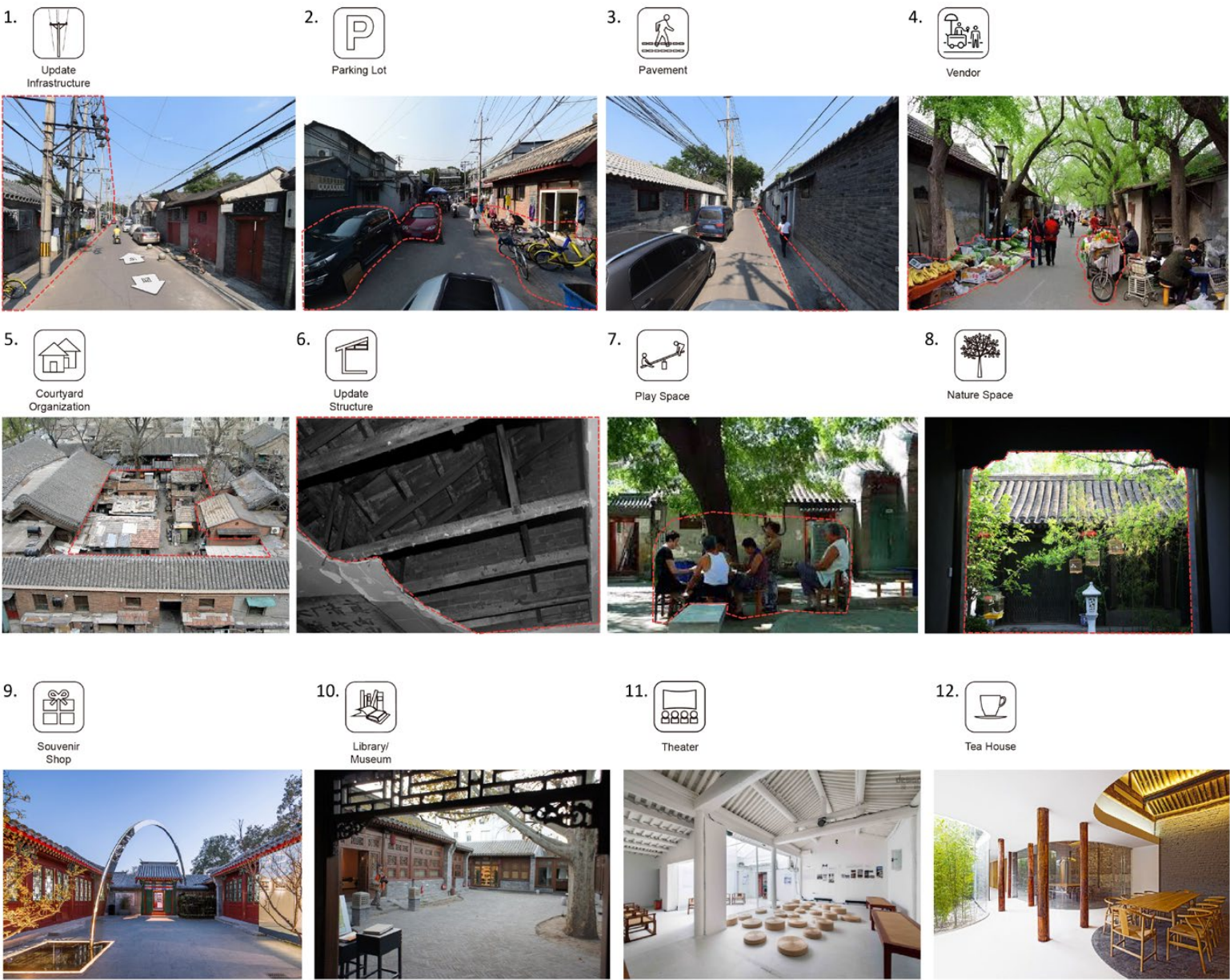
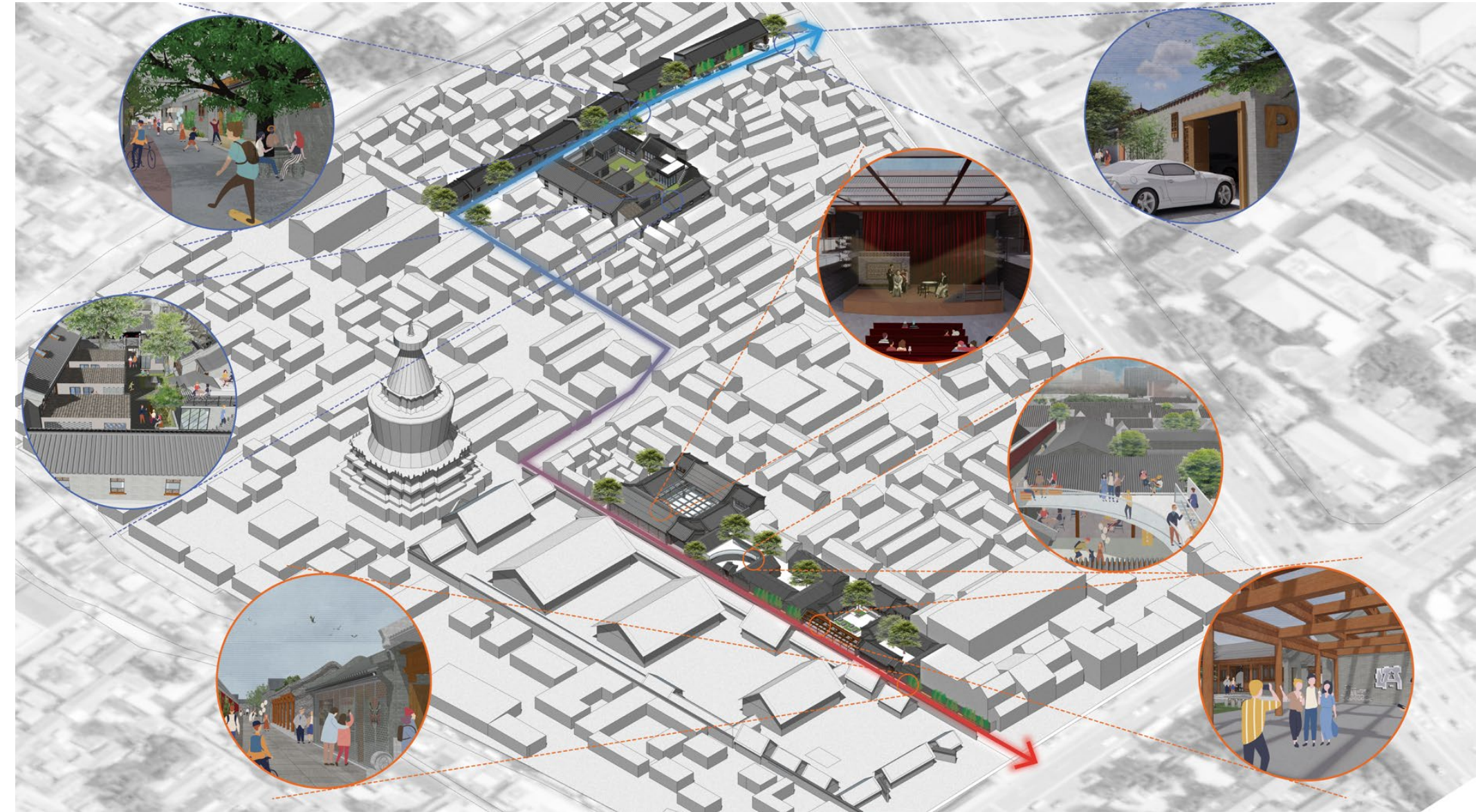


Figure 31: Current needs of hutong area

Outcomes

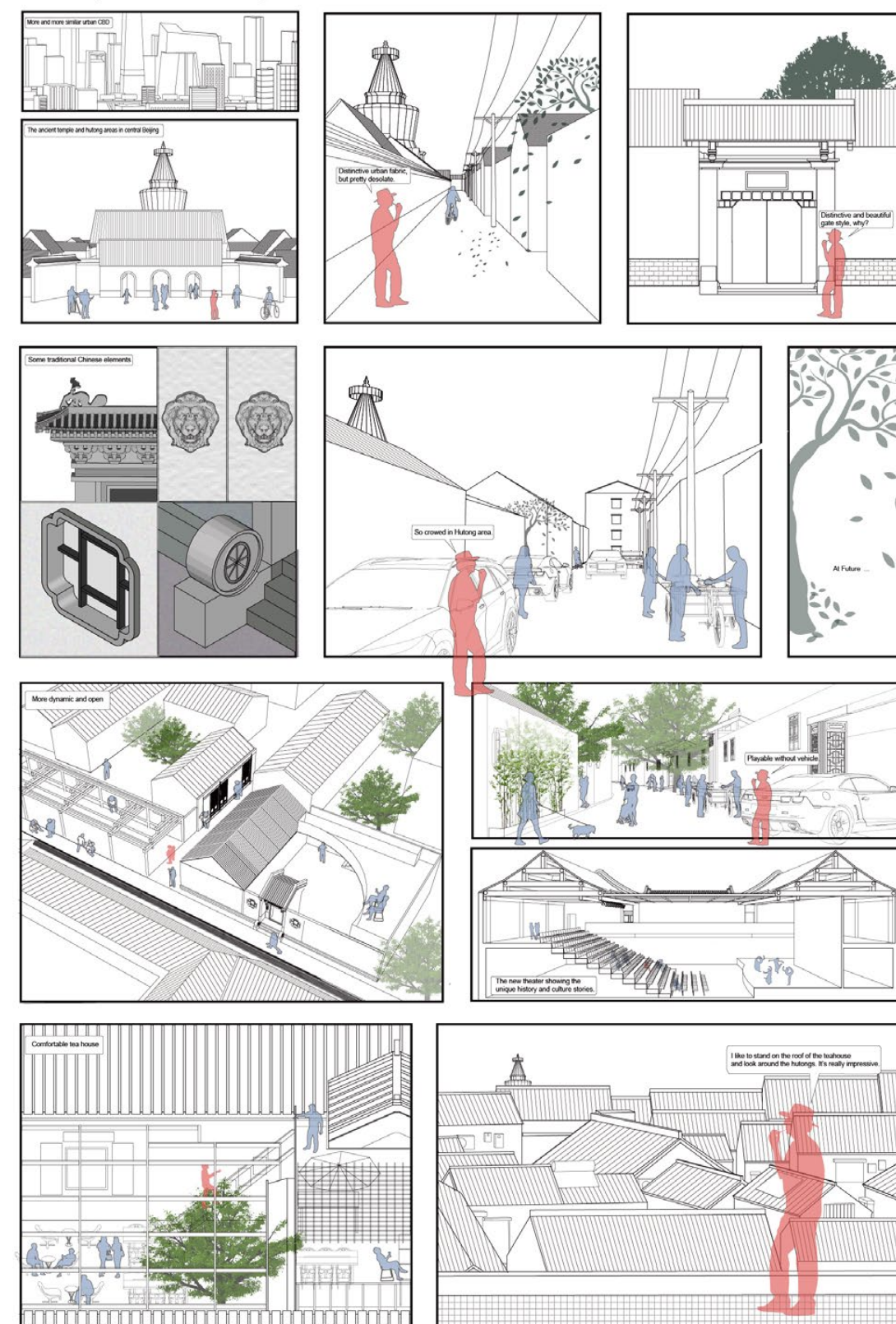
After analyzing the urban memory elements and current needs, I start to reimagine several spatial tests from two perspectives, visitors and local residences, since they are the main users of this neighborhood. For tourists, there are four spatial tests in a hutong nearby the temple, including the commercial hutong project, the open project, the theater project and the roof platform project. For residences, there are three spatial tests, including the parking project, the residential hutong and the micro community project. Each spatial test trying to explore a specific potential which could update the hutong area as well as enhance the urban memory and meet the current needs of people.



Storyboard 1 -- Ming

A visitor - Xiao Ming's story

Ming traveled here in 2015 with deep interest in Beijing's traditional hutongs. There he visited the White Pagoda Temple. He saw the white pagoda with red walls, the hutongs formed by mottled walls, the unique gate blocks and so on. But it seemed a little lost, and there was no one, no one to tell him what story was behind these interesting architectural details. He went back, carrying with his memories of this hutong area. In 2025, by chance, he came to Beijing on a business trip. After work, he walked into the white pagoda hutong again. The same red walls and white pagoda, the same narrow hutongs and the same layout of siheyuans awakened his memories of the past. Seems the same but there is a difference, he found the place changed and became more energetic. In the originally lonely alley, he walked into a siheyuan which became a small theater, showing the story of what had happened here. After watching the show, he climbed the stairs to the roof terrace and looked out into the distance. He could see the roof of surrounding siheyuans and the white pagoda in the distance. This trip finally gave him a complete understanding of Beijing Hutong and white pagoda Hutong. He was deeply impressed.



The Commercial Hutong

OUTCOMIES



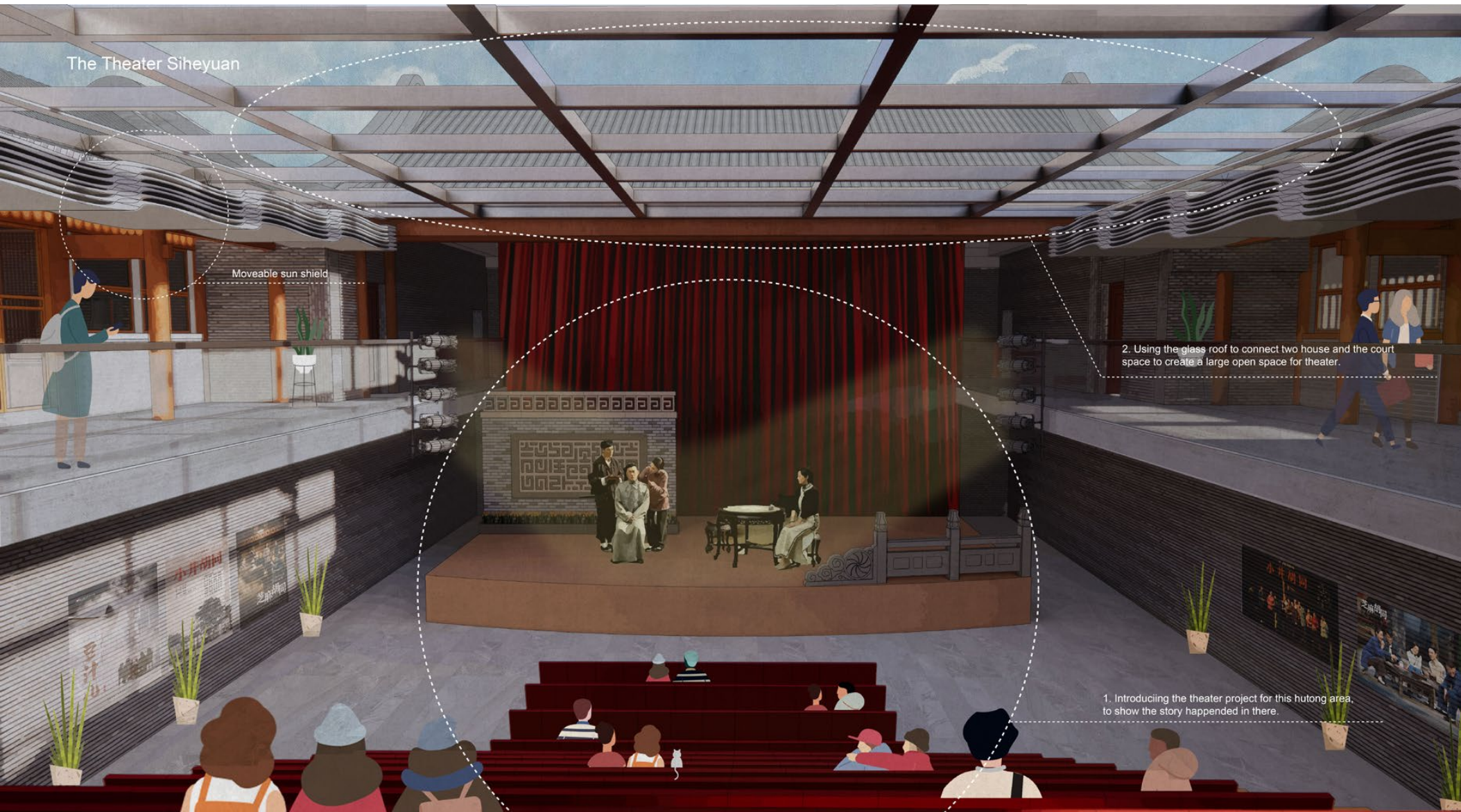
The Open Project

OUTCOMIES



The Theater Project

OUTCOMIES



The Roof Platform Project

OUTCOMIES

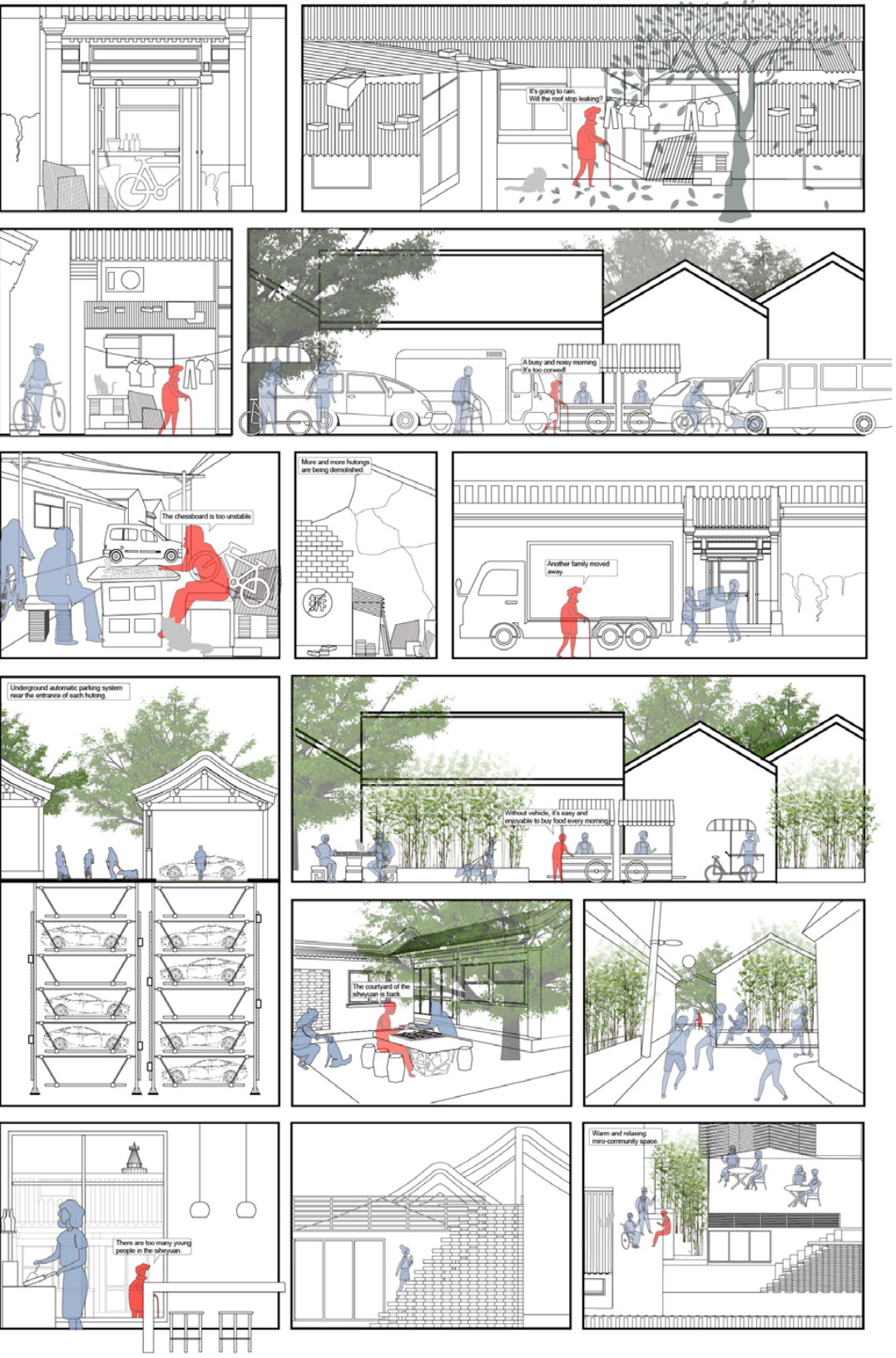


Storyboard 2 -- Aunt Wang

OUTCOMIES

A residence - Aunt Wang's story

The second story comes from Aunt Wang, A resident of this siheyuan for over 60 years. Before, her house was a bit rundown and occasionally it leaked. Everyday She need to go through really crowded hutongs. And because the poor infrastructure, her neighbors moved out one by one. Now, things have changed. With the underground parking system designed near the entrance of each hutong, there are no cars in hutongs and it become more comfortable with more activity space and green space. The siheyuan has become a micro-community, with many young people moving in again. They cook together in the shared kitchen and chatting together in the courtyard. Hutongs and Siheyuans are still the original appearance in her memory, but they seem to have completely changed.





The Micro Community Project

OUTCOMES



MEDIOGRAPHY

List of Illustrations:

1. Rossi, A. *The architecture of the city*. Cambridge, MA: MIT Press, 1966.

2. Calvino, Italo. *Invisible Cities*. New York :Harcourt Brace Jovanovich, 1978.

3. Brandi, Cesare. *Theory of Restoration*. Firenze;Roma,: Istituto centrale per il restauro, 2005.

4. Guo, H., & Klein, B. *Bargaining in the shadow of the community: neighborly dispute resolution in beijing hutongs*. Ohio State Journal on Dispute Resolution,(2005), 835.

5. Lijing Wang, *Research on The Portection and Renewal of Hist Dist in BEIJING Based on Urban Memory*, Beijing University of Technology, 2017.

6. Wilson, R. *Collective memory, group minds and the extended mind thesis*. Cognitive processing, 6(4),(2005), 227-236.

7. Othman, S., Nishimura, Y., & Kubota, A. *Memory association in placing making: A review*. Procedia - Social and Behavioral Sciences, 85, (2013), 554-563.

8. Griffin, L., & Thomspen, A. *Appalachia and the South - collective memory, identity, and representation*. Appalachian Journal, 29(3), (2002), 296-327.

Figure 1: Aerial view image of current Hutong situation
"Folding Courtyard by ARCHSTUDIO", Moool, accessed at 22 Mar 2021. Retrieved from <https://moool.com/en/folding-courtyard-by-archstudio.html>

Figure 2: The Urban Plan, source from Kao Gong Ji.

Figure 3: The District Plan
Yuwei Wang, "Persistence of the Collective Urban Model in Beijing," AAPC, August 13, 2012. Retrieved from <http://projectivecities.aaschool.ac.uk/portfolio/yuwei-wang-beijing-collective/>

Figure 4: The Urban Fabric
Yuwei Wang, "Persistence of the Collective Urban Model in Beijing," AAPC, August 13, 2012. Retrieved from <http://projectivecities.aaschool.ac.uk/portfolio/yuwei-wang-beijing-collective/>

Figure 5: The Siheyuan Layout, made by author.

Figure 6 : The structure of Siheyuan, made by author.

Figure 7: Siheyuan Layouts,
The original map is created by Yuwei Yang in "Persistence of the Collective Urban Model in Beijing", the figure of Courtyard house: spatial orders and power hierarchy. Orange tones are added by author in order to clarify the location and size of courtyard.

Figure 8: The diagram of siheyuan living condition, made by author.

Figure 9: Zhuanta Hutong
"砖塔胡同是怎么来的?", 每日头条, 烽火视野, April 10, 2017. Retrieved from <https://kknews.cc/zh-my/culture/gvp852y.html>

Figure 10: A Historical Hutong
捞史馆, "老照片, 清末和九十年代北京金鱼胡同的变化", 搜狐, November 27, 2020, Retrieved from https://www.sohu.com/a/434757685_120073393

Figure 11: A Hutong under Demolition
Chen Xi, "名人故居频被拆 代表委员吁修改《文物保护法》", 中国文化报, March 12, 2012, Retrieved from <http://www.chinanews.com/cul/2012/03-12/3737472.shtml>

Figure 12: A Current Commercial Hutong
"北京最值得去的十大胡同——烟袋斜街", 每日头条, 杏花天, July 04, 2017, Retrieved from <https://kknews.cc/travel/gq22n9l.html>

Figure 13: The Historical Changes of Siheyuan in Beijing.
Source from Beijing Municipal Planning Commission, retrieved from <http://ghzrzyw.beijing.gov.cn/>

Figure 14: Block network of Dongsì Street at 1950s.
Source from Beijing Municipal Planning Commission, retrieved from <http://ghzrzyw.beijing.gov.cn/>

Figure 15: Block network of Dongsì Street at 2016.
Source from Beijing Municipal Planning Commission, retrieved from <http://ghzrzyw.beijing.gov.cn/>

Figure 16: Hutong under Demolition
Source from Sina News, retrieved from <https://news.sina.com.cn/c/2019-09-20/doc-icezueu7145434.shtml>

Figure 17: Hutong under Reconstruction
Source from Sina News, retrieved from <https://news.sina.com.cn/c/2019-09-20/doc-icezueu7145434.shtml>

Figure 18: The diagram of audiences, made by author.

Figure 19: Urban Memory System Framework
Source: Based on Lijing Wang, Research on The Protection and Renewal of Hist Dist in Beijing Based on Urban Memory, 2017, the diagram is drawn by author.

Figure 20: The Entrance of Querini Stampalia Foundation
Rory Stott. "Spotlight: Carlo Scarpa" 02 Jun 2019. ArchDaily. Accessed 9 May 2021. <<https://www.archdaily.com/638534/spotlight-carlo-scarpa>> ISSN 0719-8884

Figure 21: The Quay Space of Querini Stampalia Foundation
Rory Stott. "Spotlight: Carlo Scarpa" 02 Jun 2019. ArchDaily. Accessed 9 May 2021. <<https://www.archdaily.com/638534/spotlight-carlo-scarpa>> ISSN 0719-8884

Figure 22: The Garden Detail of Querini Stampalia Foundation
Rory Stott. "Spotlight: Carlo Scarpa" 02 Jun 2019. ArchDaily. Accessed 9 May 2021. <<https://www.archdaily.com/638534/spotlight-carlo-scarpa>> ISSN 0719-8884

Figure 23: The Portego of Querini Stampalia Foundation
Rory Stott. "Spotlight: Carlo Scarpa" 02 Jun 2019. ArchDaily. Accessed 9 May 2021. <<https://www.archdaily.com/638534/spotlight-carlo-scarpa>> ISSN 0719-8884

Figure 24: The siheyuan situation afere design
Yifan Zhang. ""Reporting from the Front" in China: A Talk with Zhang Ke of ZAO/standardarchitecture" 09 May 2016. ArchDaily. Accessed 9 May 2021. <<https://www.archdaily.com/787041/reporting-from-the-front-in-china-a-talk-with-zhang-ke-of-zao-standardarchitecture>> ISSN 0719-8884

Figure 25: The siheyuan situation before design
Yifan Zhang. ""Reporting from the Front" in China: A Talk with Zhang Ke of ZAO/standardarchitecture" 09 May 2016. ArchDaily. Accessed 9 May 2021. <<https://www.archdaily.com/787041/reporting-from-the-front-in-china-a-talk-with-zhang-ke-of-zao-standardarchitecture>> ISSN 0719-8884

Figure 26: Children Play Around the Tree
Yifan Zhang. ""Reporting from the Front" in China: A Talk with Zhang Ke of ZAO/standardarchitecture" 09 May 2016. ArchDaily. Accessed 9 May 2021. <<https://www.archdaily.com/787041/reporting-from-the-front-in-china-a-talk-with-zhang-ke-of-zao-standardarchitecture>> ISSN 0719-8884

Figure 27: The Interior Space Image of Micro Yuan'er
Yifan Zhang. ""Reporting from the Front" in China: A Talk with Zhang Ke of ZAO/standardarchitecture" 09 May 2016. ArchDaily. Accessed 9 May 2021. <<https://www.archdaily.com/787041/reporting-from-the-front-in-china-a-talk-with-zhang-ke-of-zao-standardarchitecture>> ISSN 0719-8884

Figure 28: The Satellite Map of Site, Source: Google Map

Figure 30: The History of Site Neighborhood

30-1 "白塔寺的故事", source from Beijing Municipal Bureau of Cultural Relics January 05, 2018. Retrieved from <http://wwj.beijing.gov.cn/bjww/wwjzcs/1m/1730488/1730490/1730493/1730495/1730953/index.html>

30-2 "白塔寺的故事", source from Beijing Municipal Bureau of Cultural Relics, January 05, 2018. Retrieved from <http://wwj.beijing.gov.cn/bjww/wwjzcs/1m/1730488/1730490/1730493/1730495/1730953/index.html>

30-3 "民国时是北京“五大庙会”之一, 如今清静了, 就剩这些老照片", 网易, January 21, 2021. Retrieved from <https://www.163.com/dy/article/GOSLPV560518R9T7.html>

30-4 "民国时是北京“五大庙会”之一, 如今清静了, 就剩这些老照片", 网易, January 21, 2021. Retrieved from <https://www.163.com/dy/article/GOSLPV560518R9T7.html>

30-5 "民国时是北京“五大庙会”之一, 如今清静了, 就剩这些老照片", 网易, January 21, 2021. Retrieved from <https://www.163.com/dy/article/GOSLPV560518R9T7.html>

30-6 "白塔寺: 北京现存最早藏传寺院的今与昔", 新浪, MAY 31, 2016, Retrieved from <http://fo.sina.com.cn/culture/mountain/2016-05-31/doc-ifsqxqu4738004.shtml>

30-7 Yadan Zhao, March 01, 2018. Retrieved from <http://tuku.qianlong.com>

30-8 "实拍北京白塔寺下的百姓故事", 每日头条, November 20, 2016. Retrieved from <https://kknews.cc/travel/89oy8r4.html>

Figure 31: Urban Memory in Hutong Area

31-1 Changhong Xu, "北京白塔寺", International travel photography network, Februray 06, 2018. Retrieved from <http://www.gjljisy.com/NewsHtml/PhotoTour/20180206154420.html>

31-2 "白塔寺下的胡同生活, “加班狗”你不一定能读懂", 每日头条, May 10, 2016, Retrieved from <https://kknews.cc/travel/38ezvo.html>

31-3 "白塔寺下的胡同, 原来如此之美", 每日头条, November 02, 2015. Retrieved from <https://kknews.cc/travel/29486og.html>

31-4 "白塔寺下的胡同生活, “加班狗”你不一定能读懂", 每日头条, May 10, 2016, Retrieved from <https://kknews.cc/travel/38ezvo.html>

31-5. 实拍北京白塔寺下的百姓故事", 每日头条, November 20, 2016. Retrieved from <https://kknews.cc/travel/89oy8r4.html>

31-6. 青山周平, "被房价逼疯的中国人, 你是选择蜗居还是跳出樊笼?", March 12, 2017, Retrieved from <http://www.anyv.net/index.php/article-1146978>

31-7.Shushutom, "游走在白塔寺周边", September 17, 2010. Retrieved from https://pp.fengniao.com/424354_3.html

31-8."它是元大都的地标建筑, 也是老北京的 700 余年", 每日头条, June 19 2017, Retrieved from <https://kknews.cc/travel/nx29o4q.html>

31-9."这样逛胡同, 专治“假期无聊”, 每日头条, May 27, 2017. Retrieved from <https://kknews.cc/travel/5avz4m2.html>

31-10."天这么好, 骑个单车逛胡同去吧", 每日头条, February 26,2017. Retrieved from <https://kknews.cc/travel/vmk9mx.html>

31-11."白塔之下有人家", February 28, 2009, Retrieved from <https://pp.fengniao.com/158005.html>

31-12. Yong Jia, "胡同碎影", China Photographers Association, updated at May 08, 2019, Retrieved from http://www.cpanet.org.cn/detail_picdetail_120956.html

31-13. "重阳节回忆老胡同里的老人, 这些带有人情味的瞬间, 你可曾记否", 每日头条, October 08, 2016. Retrieved from <https://kknews.cc/society/qavpg8.html>

31-14. "重阳节回忆老胡同里的老人, 这些带有人情味的瞬间, 你可曾记否", 每日头条, October 08, 2016. Retrieved from <https://kknews.cc/society/qavpg8.html>

31-15. "天这么好, 骑个单车逛胡同去吧", February 26,2017. Retrieved from <https://kknews.cc/travel/vmk9mx.html>

31-16.Cui Jinze, "The former residence of JUNQ", accessed at 22 Mar 2021, Retrieved from <https://mapio.net/pic/p-1176584/>

31-17. "妙应寺白塔, 矗立闹市, 见证京城 700 年历史沧桑", 每日头条, October 20, 2017. Retrieved from <https://kknews.cc/culture/rq2k8qx.html>

31-18 "90 年代小学生的 一天", 每日头条, June 05, 2016. Retrieved from <https://kknews.cc/zh-cn/news/z39xxgp.html>

31-19. 青山周平, "被房价逼疯的中国人, 你是选择蜗居还是跳出樊笼?", March 12, 2017. Retrieved from <http://www.anyv.net/index.php/article-1146978>

31-20."天这么好, 骑个单车逛胡同去吧", 每日头条, February 26,2017. Retrieved from <https://kknews.cc/travel/vmk9mx.html>

31-21. "北京周末旅行——白塔寺的守望", 每日头条, August 11, 2018. Retrieved from <https://kknews.cc/travel/ze3e923.html>

31-22. "白塔寺下的胡同生活, “加班狗”你不一定能读懂", 每日头条, May 10, 2016, Retrieved from <https://kknews.cc/travel/38ezvo.html>

31-23."白塔寺下的胡同生活, “加班狗”你不一定能读懂", 每日头条, May 10, 2016, Retrieved from <https://kknews.cc/travel/38ezvo.html>

31-24. Shushutom, "宫门口头条", October 29, 2010. Retrieved from https://pp.fengniao.com/444343_2.html

31-25."它是元大都的地标建筑, 也是老北京的 700 余年", 每日头条, June 19 2017, Retrieved from <https://kknews.cc/travel/nx29o4q.html>

31-26.Yadan Zhao, posted at March 01, 2018. Retrieved from <http://tuku.qianlong.com>

31-27.Yong Jia, "胡同碎影", China Photographers Association, updated at May 08, 2019, Retrieved from http://www.cpanet.org.cn/detail_picdetail_120956.html

31-28. 青山周平, "被房价逼疯的中国人, 你是选择蜗居还是跳出樊笼?", March 12, 2017, Retrieved from <http://www.anyv.net/index.php/article-1146978>

31-29 sujpi, "老北京白塔寺胡同", Nipic, post at November 8, 2018. Retrieved from <http://www.nipic.com/detail/huitu/20181108/100549135070.html>

Figure 32: Current needs of hutong area

32-1 to 32-4: Source from Baidu Map, retrieved from [https://map.baidu.com/search/%E5%8C%97%E4%BA%AC%E5%B8%82/@12954421.54,4828057.97,21z,87l,93.27h?querytype=s&da_src=shareurl&wd=%E5%8C%97%E4%BA%AC%E5%B8%82&=1&src=0&wd2=%E5%8C%97%E4%BA%AC%E5%B8%82&pn=0&sug=1&l=4&b=-\(4138582.039999999,-3448235.2527318697.96,12427860.75\)&from=webmap&biz_forward=%7B%22scaler%22:1,%22styles%22:%22pl%22%7D&sug_forward=1f062db5bf2e12b5b04c49e6&device_ratio=1#panoid=09002200121902031635286252L&panotype=street&heading=266.72&pitch=0&l=21&n=B_NORMAL_MAP&sc=0&newmap=1&shareurl=1&pid=09002200121902031635286252L](https://map.baidu.com/search/%E5%8C%97%E4%BA%AC%E5%B8%82/@12954421.54,4828057.97,21z,87l,93.27h?querytype=s&da_src=shareurl&wd=%E5%8C%97%E4%BA%AC%E5%B8%82&=1&src=0&wd2=%E5%8C%97%E4%BA%AC%E5%B8%82&pn=0&sug=1&l=4&b=-(4138582.039999999,-3448235.2527318697.96,12427860.75)&from=webmap&biz_forward=%7B%22scaler%22:1,%22styles%22:%22pl%22%7D&sug_forward=1f062db5bf2e12b5b04c49e6&device_ratio=1#panoid=09002200121902031635286252L&panotype=street&heading=266.72&pitch=0&l=21&n=B_NORMAL_MAP&sc=0&newmap=1&shareurl=1&pid=09002200121902031635286252L)

32-5: Retrived from <http://www.obj.com/thread-49078-1-1.html>

32-6:"实拍北京白塔寺下的百姓故事", 每日头条, November 20, 2016. Retrieved from <https://kknews.cc/travel/89oy8r4.html>

32-7 "重阳节回忆老胡同里的老人, 这些带有人情味的瞬间, 你可曾记否", 每日头条, October 08, 2016. Retrieved from <https://kknews.cc/society/qavpg8.html>

32-8 "重阳节回忆老胡同里的老人, 这些带有人情味的瞬间, 你可曾记否", 每日头条, October 08, 2016. Retrieved from <https://kknews.cc/society/qavpg8.html>

32-9 "Dongsì Culture Centre / March Urban Art Centre", ArchDaily. Accesed May 09, 2021. Retrieved from <https://www.archdaily.com/cn/910552/dong-si-hu-tong-bo-wu-guan-dong-si-7hao-yuan-sheng-jl-gai-zao-xiang-mu-bei-jing-chi-tu-gong-gong-yi-zhu-zhong-xin>

32-10 "Shi Jia Hutong Museum" Ifeng, Accesed May 09, 2021. Retrieved from http://fashion.ifeng.com/travel/photo/hd_2013_12/01/31702143_0.shtml#p=1

32-11 "刘海胡同微剧场", Chiasmus, Accesed May 09, 2021. Retrieved from <http://www.ar-chiasmus.cn/zh-hans/PERFORMING>

32-12 "Luanqing Hutong Courtyard House / URBANUS" 04 May 2021. ArchDaily. Accessed 9 May 2021. Retrieved from <https://www.archdaily.com/961027/quad-of-gourd-n7-luanqing-hutong-urbanus>, ISSN 0719-8884