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## **ID 1497 | SHAPING PROCESS AND IMPACT MECHANISM OF THE THIRD SPACE UNDER BLOCK RENEWAL: AN CASE BASED ON KNOWLEDGE & INNOVATION COMMUNITY RENEWAL PROJECT**

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### **1 INTRODUCTION**

In the rapid process of urbanization and modernization in China, many cities have made great changes in function, structure, space capacity, infrastructure and other aspects. (Tong Ming, 2014). However, as a public space for daily life, alienation has not brought into full play its social value. For example, privatization is serious, attractive and dynamic, loose in relation to the region. Compared with those of traditional city life is full of modern city, the trial in a rational level, but the life experience and cultural characteristics, is almost completely failure (Camino Sitte, 1990). As China's economic development has

entered the new normal, some cities have gradually expanded from denotative expansion to connotative upgrading, and entered the stage of urban renewal. But the social significance of public space has not been returned (Liu Jiayan, 2010). Urban renewal should be the unification of four dimensions, namely, the promotion of regional functions, the inclusion of vulnerable groups, the protection of historical threads, and the construction of site features (Tang Zilai, 2016). In the actual game of multiple interests, it often becomes a tool for market profit seeking. Many of the public and the diversity of the old neighborhood and Historic District, a closed area aristocratic commercial space or standardized in the renovation of the developers, single function, social exclusion, context and the lack of characteristic, exacerbated by the modern city life is dull and boring. At the same time, along with the development of industrial city some period after entering, become the new city of creative city development concept (Tong Ming, 2010). The relationship between innovation activities and urban space has attracted more and more attention. It is an important challenge for urban planning and urban design to create a new space to stimulate urban innovation in the new round of block renewal.

In 1982, American sociologist Ray Oldenburg put forward the concept of "third space" for the first time. He believes that the third space is informal public places except the family and work, is a kind of mixed function, enhance the vitality of the city to promote the spatial form of social interaction (Oldenburg R, Brissett D, 1982). Compared with the traditional public space, the third space emphasizes sociality (Oldenburg, R, 1989), which is beneficial to stimulate group activities and social interaction, and then to promote knowledge spillover and innovation. However, the related research has just started. Most scholars have made a qualitative description based on sociological perspective, and paid no attention to the spatial attributes (Feng Jing, Zhen Feng, Jing Wong, 2015). Specific empirical research, there is still room for further improvement.

Shanghai has taken the lead in the development of stock planning and even reduction planning, and the restoration and reconstruction of public space is the core issue. A new round of "Shanghai 2040 master plan" clearly puts forward the development goal of "more dynamic and innovative city". Creative activities and creative classes are calling the city's third space (Wang Lan, Wu Zhiqiang, Qiu Song, 2016). In this context, it is of great practical significance to rethink the material characteristics and social significance of public space in urban renewal. (1) is the process of shaping the third space happening in the neighborhood renewal around us? (2) what is the mechanism of influence on regional development and revitalization? In order to answer these questions, this paper uses and improves the theoretical framework of the third space. Then to Shanghai Yangpu District University City Central Community - KIC as a typical case. Combined with field research and interviews, this paper provides a theoretical and empirical basis for the third space research in block renewal.

## 2 FRAMEWORK OF THE THIRD SPACES

In 1970s, the traditional public spaces such as parks and parks in the western developed countries were declining day by day. Many shopping centers have become a new place for public life. This kind of consumerism and the public space produced by experience economy have some characteristics of privatization. In this context, Ray Oldenburg proposed the "third space". He called home and living space "the first space", the place where a lot of time worked was called "second space", while "third space" was an informal public place outside the place of residence and work place. Such as streets, community centers, beer gardens, cafes and so on.

### 2.1 ACCESSIBILITY OF THE THIRD SPACE

Third space is a public space with high accessibility, which is convenient for people to walk easily and become a regular guest in this public space (Li Qing, 2014). Accessibility has both spatial dimension and social dimension. The accessibility of physical space is directly related to the accessibility of people on foot. Through the integration of material space, the network of communication between people can be constructed (Tong Ming, 2014). Among them, the material space access needs to be realized by the road system, including cohesion,

cohesion and trunk area fast traffic and slow traffic convergence, bus station and walk line connection, subway and Commercial Street, and so on.

## 2.2 COMFORTABILITY OF THE THIRD SPACE

Third space gives comfort and ease of space, feelings and atmosphere. It encourages people to take the initiative to enter, and to produce social interaction, exchange of information and knowledge spillovers in a good spatial mood (Feng Jing, Zhen Feng, Jing Wong, 2015). Comfort has spatial dimension and social dimension. Whether the spatial scale is suitable or not is directly related to the personal experience of the people. Through the construction of spatial scale, it can affect people's behavior and psychology in the environment. Among them, the suitable spatial scale includes the walking distance, the friendly Street section and the traditional small block model.

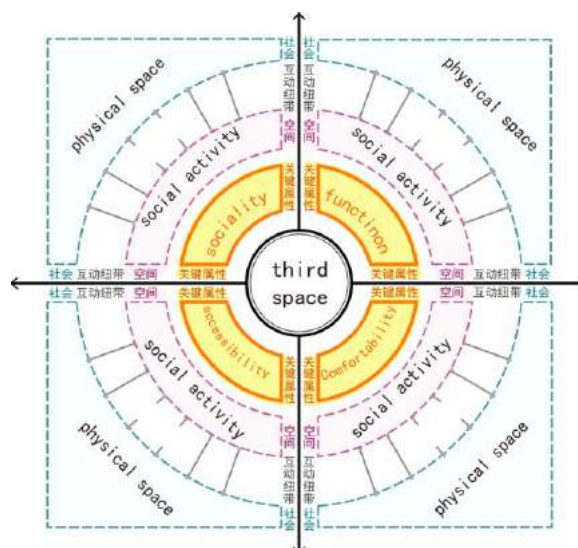


Figure 1 - Framework of the third place

## 2.3 FUNCTION OF THE THIRD SPACE

Third space has a variety of functions, including mixed use of land and multifunctional buildings (Zhou Jian, 2015). These functions are not simply superposed, but interrelated and complementary. They meet the needs of people's daily activities and trigger a chain reaction in social activities". Therefore, the function has the same spatial dimension and social dimension, and whether the function is mixed is directly related to whether people's daily activities are rich or interesting. By linking different activities with different functions, the crowd produces a hybrid, dynamic, functional, sometimes changing public space (Tong Ming, 2014). As Jan Gehl describes it, some chain of activities mostly by the other two kinds of activities extend to people in the same space, "or are close by, or just now at a glance..... "People wander about in the same space and they start social activities" (Gehl, Jan, 2002).

## 2.4 SOCIALITY OF THE THIRD SPACE

Third space is more social than any traditional public space (Li Qing, 2011). It regards public space as the stage for people to realize their social communication needs. Just as the theory of "city man" (Liang Henian, 2012), rational city people pursue the opportunity of space contact so as to create freedom, choice and communication. Sociability also has spatial dimensions and social dimensions. Whether the communication space is recurring is directly related to whether people's social intercourse is aggregated or not. Through the reasonable spatial organization way, can realize the perfect construction of the city social network (Tong Ming, 2014). This means that in the overall level of city function and public space will continue to reproduce in the local level, creating space contacts at different levels and scales for the people, the formation of large and small, each linkage social stage. This kind of self similarity plays an important stabilizing role in organizing people's social activities.

### 3 OVERVIEW OF KIC BLOCK RENEWAL

#### 3.1 SPATIAL LOCATION

KIC renewal project started in 2002, is located in Shanghai city of Yangpu District Wujiaochang City sub center, but also a key position in the University City of Yangpu District. Yangpu District was the Shanghai traditional industrial base in the early new century is put forward from the "University City" to "Knowledge Innovation Zone" strategy (Chen Bingzhao, Yang Fan, Wu Zhiqiang, 2005; van Junyong, Yang Fan, 2008), the use of university resources outstanding, actively carry out the adjustment of industrial structure and layout, implementation campus, community park, the "Three Zone interaction" (Zhang Shangwu, Chen Ye, Song Wei, et al, 2016). KIC is a demonstration project update the block. Its goal is to integrate the three district resources and create a knowledge innovation community which integrates learning, working and living together.

#### 3.2 RENEWAL PROCESS

Since the KIC project started since the development of city space has been greatly changed. We can divide the update process KIC blocks into 4 stages. That is, the stage of industrial mixed living, the preliminary carding stage of space, the shaping stage of core space and the whole northward promotion stage. Specifically, (1) industrial residential hybrid stage (2000-2005) for industrial, warehousing, residential and a small number of commercial land mixed, interwoven, poor spatial quality. (2) space preliminary carding stage (2005-2008) in accordance with the planning and design of the demolition of most of the plant in Shanghai, on both sides of the road for new commercial office building. (3) the core space shaping stage (2008-2011) removal of the entire plant Songhu Road West of the National Road and to the west direction of new building, University Road, the basic form of the prototype. (4) the overall northward stage (2011-2016) to the University for reference, along the way to promote the construction of Shanghai north, the formation of today's kic.

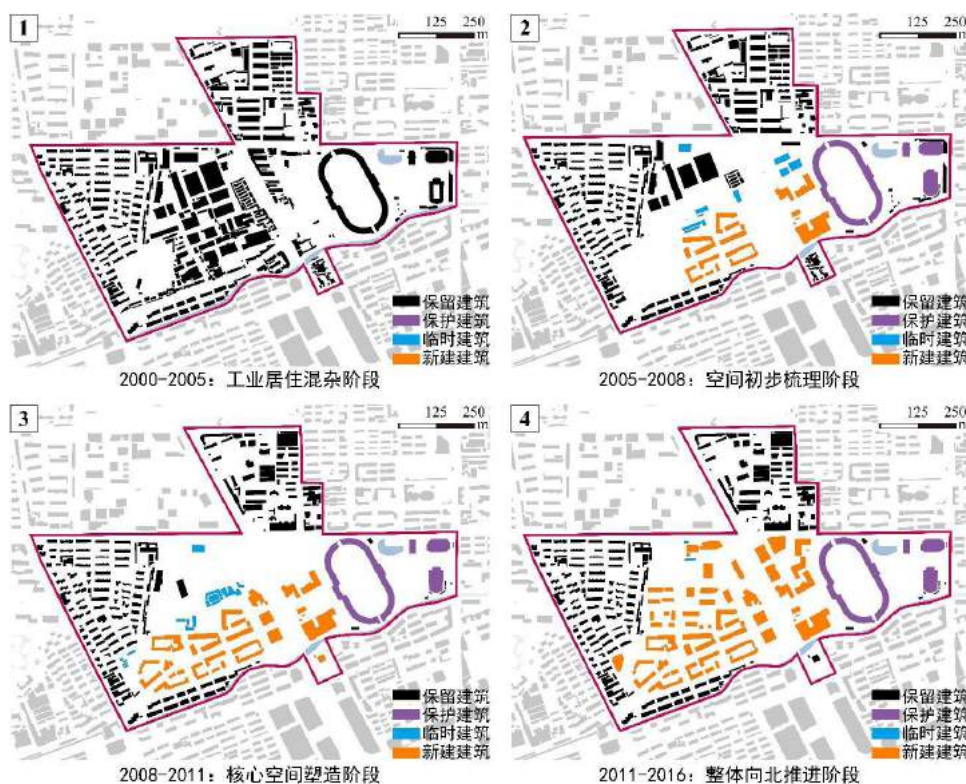


Figure 2 - Four stages of the renewal in KIC



## 4 SHAPING PROCESS OF THIRD SPACE IN BLOCK RENEWAL

### 4.1 SHAPING PROCESS OF ACCESSIBILITY

#### 4.1.1 PHYSICAL SPACE: FROM CLOSURE TO FRAGMENTATION AND OPENING TO ACCESS

The accessible physical space can provide a material basis for people's walking and social activities. The connectivity of the road system, the connectivity of the road system and the bus station are selected, and the spatial accessibility changes before and after the block renewal are taken into account. Compared with 2000 and 2017, the overall road connectivity of the blocks did not change significantly. This is due to the formation of the urban primary and secondary trunk roads in the region. More than ten years, only a small number of branches and community roads have been added. By contrast, road connections within the block have changed considerably. In 2000, Shanghai Road West is a large building, only the main channel for the vehicles, cargo transportation, roadway is not continuous, the internal block relatively closed and broken. In 2017, with the Shanghai road to the west of Powerise square, KIC square, Jiangwan Hanlin commercial and residential real estate projects have been completed, and the community branch road density increase.

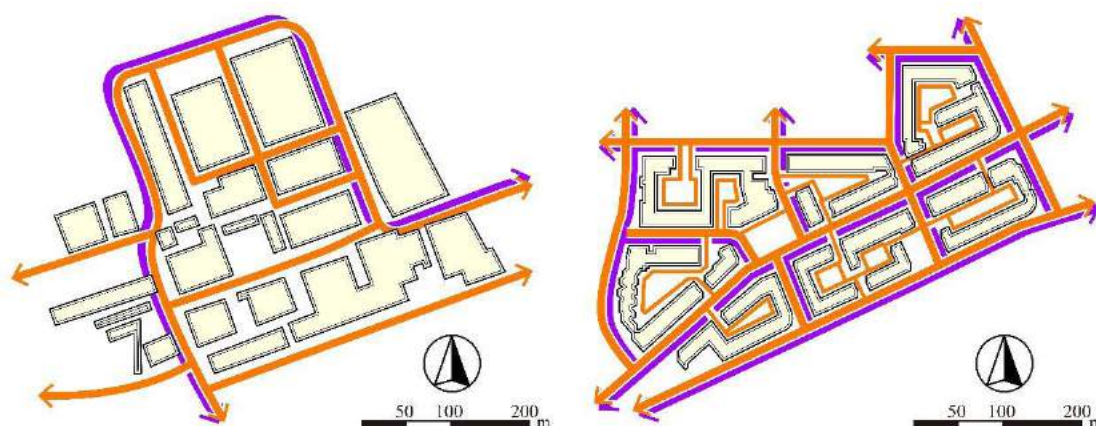


Figure 3 - Comparison in walking system of KIC between 2000 and 2017

KIC block is embedded in the region, residents not only to serve nearby and workers, and should pay more attention on the road system and bus station connection. From 2000 to 2017, with the overall improvement of public transport services in Shanghai, blocks and their surrounding areas showed a high degree of overlap between the bus station and the walking system.

The connectivity of the road system, the road system and the connectivity of the bus station were updated before and after. The car system has been improved by encrypting urban branches and community roads within blocks. Around the urban road, the construction courtyard, constructs two levels of walking streamline, has formed has the continuity and the hierarchical walking system. Roads and bus stations, especially rail sites, reinforce the overlapping relationship and generate more close spatial linkages with the surrounding areas. Therefore, before and after the KIC district renewal, physical space from the implementation of the transition to open closed fracture.

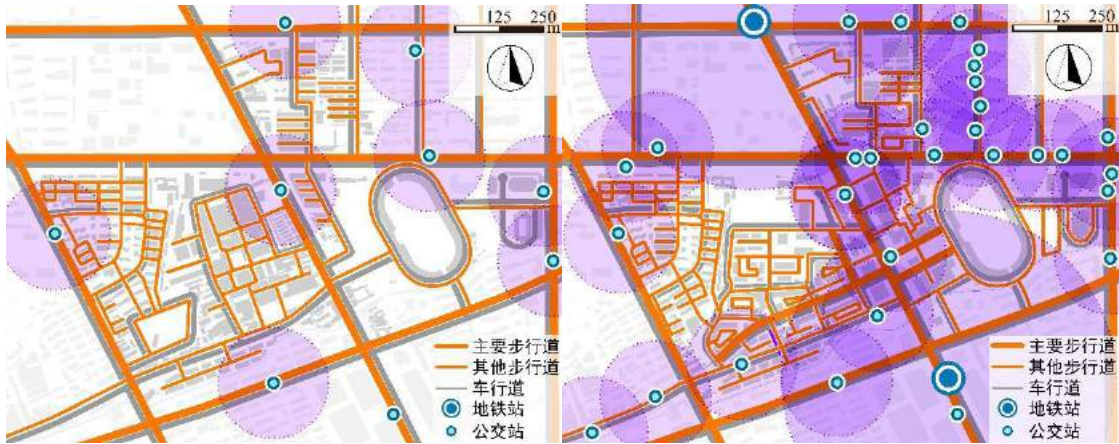


Figure 4 - Comparison of coincidence of road system and bus station in 2000 and 2017

#### 4.1.2 ARRIVE ON FOOT: FROM NO ONE TO AN ENDLESS STREAM

The carding of the material space provides the basic condition for the shaping of accessibility. What is the actual walk of people in the block? In contrast to historical photos and photos directly reflects the status of KIC blocks changed from to pedestrians in a continuous line No one shows any interest in the. Originally closed inner blocks began to open their hearts and embrace "pedestrians", and the popularity of neighborhoods grew.



Figure 5 - Comparison of pedestrian walking environment in 2000 and 2017

During the working day (Thursday) to random street interviews, selected in the KIC blocks to work or business workers, ask the working day in walking street, and assist in drawing location and walking path. Local workers can be divided into two groups, namely, working here and living here, working here, and living in his land. It can be found that the walking line of people's working day has network characteristics, and most streets have considerable popularity. The pedestrian network mainly revolves around the University Road organization, and it is easy to arouse more communication and collision. The combination of the above material space reconstruction and the actual walking survey in two aspects, that KIC block before and after the update, the material from the closed space to achieve the transition to broken open, people's actual walk to become convenient and frequent, as in a continuous line blocks by No one shows any interest in. Whether spatial or social dimensions, the accessibility of neighborhoods is truly shaped.

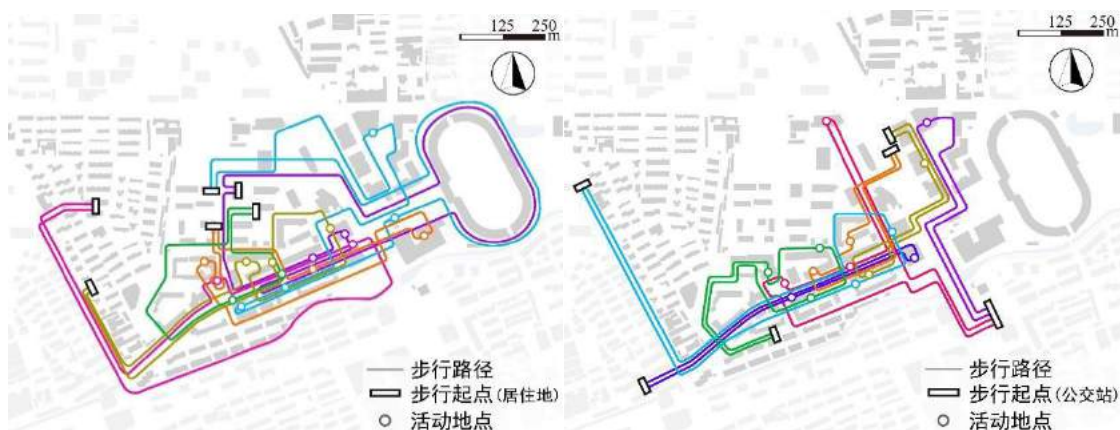


Figure 6 - Investigation on the walking route of workers in working days

## 4.2 SHAPING PROCESS OF COMFORTABILITY

### 4.2.1 SPACE SCALE: FROM BLOCK PARK TO SMALL NEIGHBORHOOD

The comfortable spatial scale can give people a pleasant experience and pleasant mood, and it is a necessary condition to attract people to walk, stay and communicate with each other in space. From 2000 to 2017, the neighborhood scale change Songhu Road East of the small, although there is a certain area renewal project is completed, but did not form a new City Road West of the road; Shanghai neighborhood scale is greatly changed, the city opened a new branch and community based road formed with a plurality of rectangular and trapezoidal blocks, the length and width of the the 40m to 120m range, and the city center area, San Francisco, New York and London neighborhood is a small scale similar to typical urban residents.

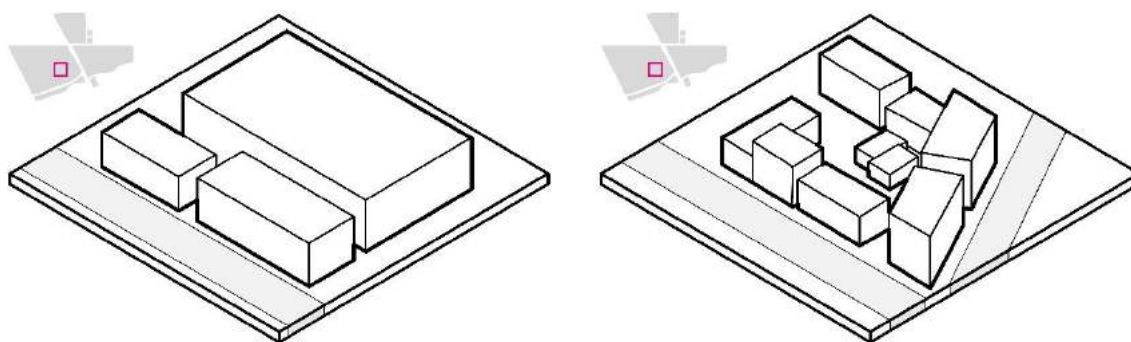


Figure 7 - Comparison of the interior courtyard space in same scale between 2000 and 2017

Deep into the neighborhood; consider the spatial structure of the compound. In 2000, the interior of the block was dominated by a large block of industrial buildings and storage buildings. These buildings form a narrow gap space and lack the inner courtyard space. In 2017, after the renewal of the neighborhood, the use of high and low, scattered, different sizes of building block combination, to eliminate the volume of construction. Enclosed in the interior to form a standard pleasant and pleasant courtyard space. In combination with the shape of the road network and neighborhood, the interior courtyard space is rectangular and trapezoidal, interesting and varied, and can accommodate a variety of outdoor activities.

### 4.2.2 PERSONAL EXPERIENCE: FROM MONOTONOUS TO FUN

Does the comfortable spatial scale really bring good experience and emotion to people? Choose between the road and the road of Wei a neighborhood in-depth investigation. Some university road, Wade road of social activities by local street building opening, from the street was introduced into the courtyard inside



the neighborhood, has formed a certain private public space, greatly enrich the experience of space, increase the interest through the. Ask in the neighborhood inside in the courtyard of several open their true feelings, some people think that drinking coffee here is relatively quiet outside, you can chat with friends better, but also to enjoy the outdoor sunshine ", some people think that drinking coffee in the yard can see the two floor of the gym and dance, this is very interesting, there are people that" if the day I love to sit in the evening more words may sit out, then the University Road, but one day the breath of life ".

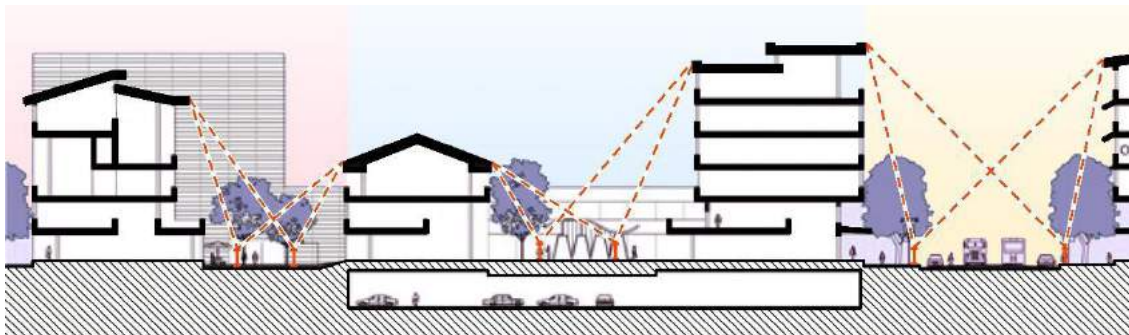


Figure 8 - University Road and Weide Road between neighborhood inside courtyard building section

The combination of the above two aspects of spatial scale and neighborhood people's personal experience, that the KIC blocks have pleasant neighborhood scale and rich inner courtyard space, replacing the original huge volume, monotonous space. In terms of spatial dimensions and social dimensions, neighborhoods attract more comfort and interest.

### 4.3 SHAPING PROCESS OF FUNCTION

#### 4.3.1 URBAN FUNCTIONS: FROM LOW-END INDUSTRIES TO MULTIPLE INTEGRATION

Only a variety of functions can stimulate diverse activities. The function is embodied in different dimensions. Based on the characteristics of the block itself, the changes of urban functions are analyzed from the aspects of land use, the combination of the functions within the land, and the combination of functions within the building. Land use situation comparison between 2000 and 2017, 2000, the block was mainly new Newworkshop factory, warehouse, the poor quality of the Old Homestead and 70s and 80s occupied two of industrial land, residential land, land for storage and a small amount of commercial land mixed arrangement. In 2017, the low-end industries were replaced by commercial, office and residential projects.



Figure 10 - Comparison of land use between 2000 and 2017

Further consider the functional organization within a single building. Among them, the function combination of the vertical buildings along the university road is the most typical. The first floor is mainly for people with greater traffic demand, higher rental capacity of commercial shops, including coffee shops, milk tea shops,



clothing stores, snack shops, convenience stores, bookstores and other formats. 2 - 4 layers for commercial office mixed use, including fitness clubs, education, training, study abroad consulting, law, accounting, dental clinics and other formats. 5 - 6 floors are mainly residential, office, mixed use, mostly using the typical form of LOFT residential units. A residential unit occupies two floors, partly single space, partly double deck space, which provides the floor height required for work activities. This semi work and semi residential space is used for small start-up companies, offices, couples, companies and even artists.



Figure 11 - Vertical function combination model of University Road building

#### 4.3.2 DAILY ACTIVITIES: FROM INDUSTRIAL PRODUCTION TO COMMUNITY LIFE

A variety of hybrid city function enriches the KIC elaborate design of physical space, but this really inspired lasting vibrant community daily activities? With Baidu maps and API interfaces, thermal charts at different time periods on weekdays and Saturday (Thursday) are obtained to reflect the continuous change in population size and activity intensity. During the working day (Thursday), the activities of people from 8 began to gather, mainly around the Songhu road and College Road, when workers, entrepreneurs are hard to start a busy working day. From the point of the beginning of 18 has dissipated, then part of workers after work directly out of blocks, but there are still people in the night Everfount University Road shopping, consumption and leisure, added popularity and maintain night busy life. At the same time, LOFT residential, Jiangwan Hanlin area with residential function plots also hold a considerable part of the residents, together they support 24 hours a vibrant community life. In the rest of the day (Saturday), the crowd began gathering from 10 points, than working days later, the same is around the Songhu road and College Road expansion. In the stage of the young people in the hard pioneer weekend will enter in the office space, the surrounding area students, teachers, ordinary residents and tourists also have to take advantage of a short weekend leisure time to participate in social activities. They discuss topics in a coffee shop, shop on the streets, chat, or exercise in a fitness club, or attend training and salons in a workshop. These rich and interesting community activities did not dissipate until after 21, even in the early morning.

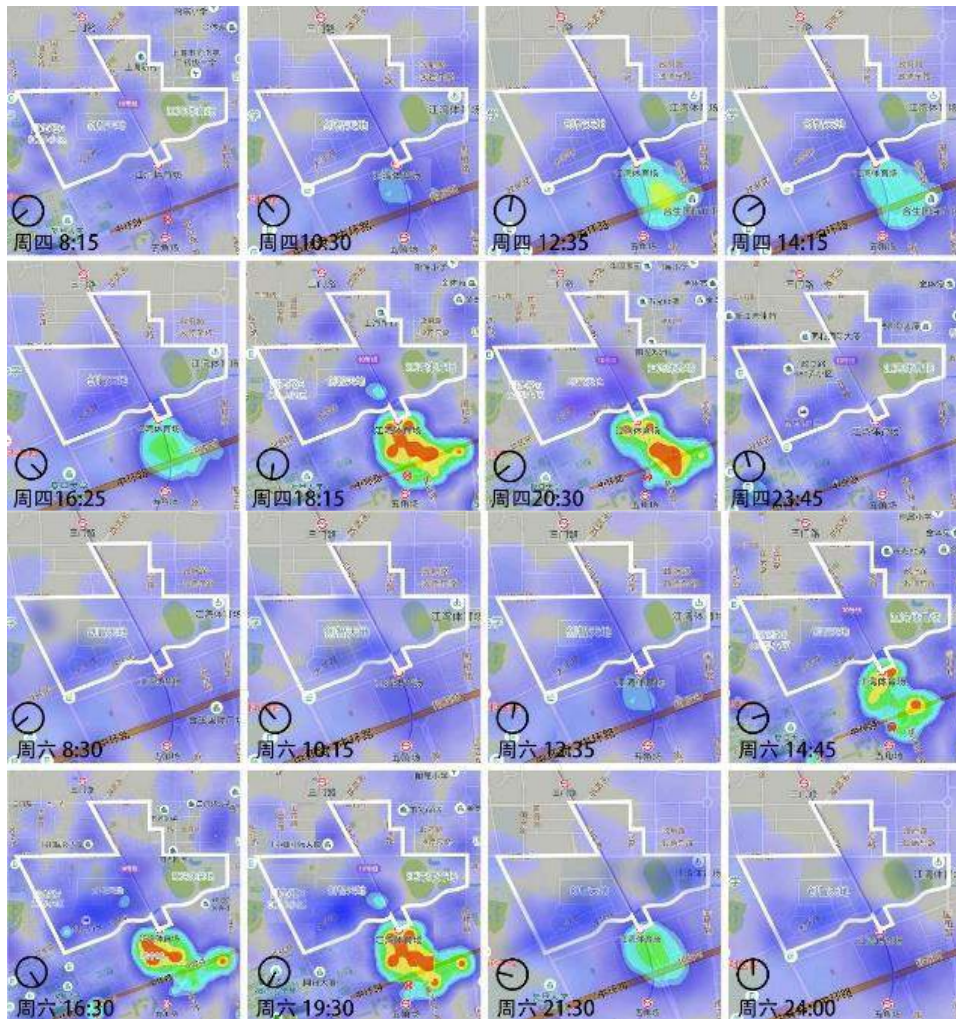


Figure 12 - Continuous change of Baidu thermodynamic diagram on working days and rest days

The combination of the above two aspects of city function and people's daily activities, that KIC block to achieve the fusion function, get rid of the low-end industrial area development to form. Relying on the function, people's social activities are also active, resulting in 24 hours of continuous vitality of community life. The functional dimension is well explained in both the spatial dimension and the social dimension.

#### 4.4 SHAPING PROCESS OF SOCIALITY

##### 4.4.1 COMMUNICATION SPACE: FROM NOWHERE TO REPEAT

Whether the communication space is recurring has a direct impact on people's social activities. Focus on the fractal characteristics of neighborhoods, to compare the changes in the communication space before and after the update. The so-called fractal characteristics, namely global and local existence of self similar characteristic, can be understood as some single building module, these modules constitute the module, and module group can progress the whole regional module group, the fractal characteristics have the stability effect on people's behavior (Tong Ming, 2014).

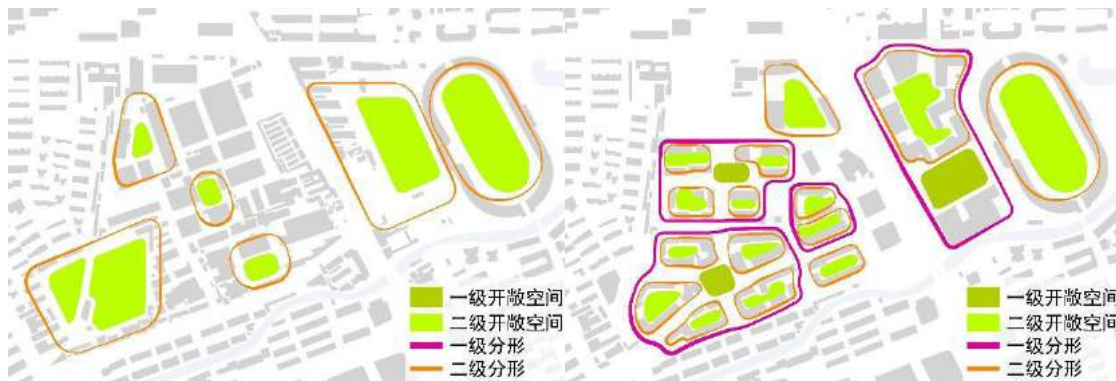


Figure 12 - Comparison of fractal characteristics between 2000 and 2017

Contrast the fractal features of public space in 2000 and 2017 blocks. In 2000 the district although there is open space, but the space is mainly used for loading, temporary storage, property does not have a public space, and combination of buildings are lack of coordination, lack of order, does not have the fractal characteristics of the scale of the communication space is nowhere. The 2017 block is the formation of fractal characteristics of closed, neighborhood buildings within the enclosed courtyard level of public space, the adjacent neighborhood is further formed larger around the square, combination of such lots in the updated constantly reproduce, constitute the different levels of the public, slightly outside the spatial difference between the system, people of different space shuttle, gain experience, prefer for the place to carry out social activities.

#### 4.4.2 SOCIAL INTERACTION: FROM LACK OF DIALOGUE TO SOCIAL ADVANCEMENT

Has the rich and recurring communication space become the space catalyst to stimulate people's social interaction? On a Thursday afternoon in December 2016, a field survey was conducted between 5 and 7 p.m. to record the type and spatial distribution of people outdoors. All kinds of social activities in the block include chatting, walking, walking dogs, shopping, open-air coffee, square dancing and so on. Some of these activities are carried out outdoors in the open space, some in the gray space inside and outside the transition, forming a flow in the block, the sound of the landscape. Among them, the university road as the core to both sides of the infiltration of the formation of the central social vitality belt, is the most dynamic neighborhoods, social activities most intensive public space. In the late afternoon, commuting, commuting and passing crowds move together in different directions on the University Road, gathering together at different nodes and carrying out their own activities. The young man dispersed from the doorway of the SOHO building. Part of them left the block directly, and part of them poured into restaurants and bars on the University road. After a hard day's work, entrepreneurs leave the LOFT house and walk into the elegant coffee shop. Soon, the coffee chairs along the street were filled with guests.

### 5 INFLUENCE MECHANISM OF THIRD SPACE

#### 5.1 REPLACEMENT OF LOW-END FORMS TO ENHANCE SPACE QUALITY AND ACHIEVE REGIONAL VALUES

According to the principle of neo classical economics, for a land mass, the timing of updating depends on the mutual change between the value of the building and the value of the land. When the value of the building is less than the value of the plot, the land will be updated. Because of the existence of the building hinders the realization of the value of land, the potential value must be reconstructed in order to realize plots (Feng Li, Tang Lai, 2013). The value reductions of different types of buildings vary with time, resulting in differences in the timing of land renewal. In the past the "industrial Yangpu" period, KIC of the block is a common space form section. Industry, warehousing, living and business are intertwined. With the construction of Wujiaochang City sub center, the block in 2000 has become an important section of the central city, and the regional conditions have changed. At the same time, in Yangpu District to create "Knowledge Innovation Zone" under the development goals, neighborhoods near the advantages of university resources are also increasingly prominent, potentially significant increase in value. The original industrial form obviously can not meet the new requirements of regional development and rejuvenation. In



time, the Yangpu District government and real estate developers, the KIC this renovation project, replacing the original plots of the low-end industrial form. They re comb the external space and optimize the quality of the environment, the university resources, new industries and community life organically combine to create convergence of popularity and creativity of the third space. In the process of district renewal, the construction of third space has a profound and positive impact on the regional space environment and economic benefits.

## **5.2 ATTRACT CREATIVE CLASSES, BUILD INNOVATIVE NETWORKS, AND LEAD CREATIVE CITIES**

Creative classes seek vibrant urban life, especially those that can participate, experience, and interact in public space, not just a job. The updated KIC blocks Integrated University Road, street, neighborhood square courtyard, open-air coffee and other public spaces, they become common area characteristic and the symbolic significance of the third space. Entrepreneurs, engineers, designers, scientists, university students and other emerging creative groups from around the University and enterprises clustered around the blocks, matching the attributes of space with the needs of the community. They were able to facilitate social interaction in the third space. At the same time, the third space provides an interesting place for daily recreation for local residents, and also provides more job opportunities for service personnel. The creative class, local residents and service personnel to become the third space users, in the frequent face-to-face contact in the form of local integration of close and extensive social network (Wang Lan, Wu Zhiqiang, Qiu Song, 2016). Can produce production services, product development cooperation, outsourcing and other formal contact network in this process, also can produce knowledge sharing, chat leisure, emotional communication informal network (Zhou Suhong, Pei Yaxin, 2016). Social networks also need the support of government, venture capitalists and developers to produce synergistic effects of innovation.

## **6 CONCLUSION**

Taking into account the spatial and social dimensions, from the accessibility, comfort, functionality and sociability of the third spaces, the development changes of the neighborhood from 2000 to 2017 are compared. Research shows that in KIC as a typical representative of the block shape update process happening in the third space, public space has third spatial attributes, encourage more people to walk, enjoy the fun of walking, experience the continued vitality of community life, development to stimulate innovation and social interaction. People arrive in the third space to find companions and social contacts, and social communication is also the essential feature and the basic purpose of the third space.

From the perspective of urban renewal, KIC updated to adapt to the changing relationship between city land value and the value of the building, to replace the low-end industrial form, the university resources, new industry, community living together, creating together popularity and originality of the third space, manifest the potential value of land, to meet the the new requirements of the development and revitalization of the area. In this process, the construction of "third space" has a far-reaching positive impact on the regional space environment and economic benefits.

From the perspective of the construction of Creative City, KIC through the integration of public space, the formation of distinctive and symbolic significance of the third space, not only to provide social places near the creative class, but also provide employment opportunities for service personnel for local residents to provide daily leisure places. Different social groups form a close and extensive social network in frequent face-to-face contact. Social networks, supported by related subjects, produce synergistic effects of stimulating innovation. The continuous synergy promotes regional innovation and innovation spillover, and finally leads to the construction of creative cities. In this process, the third space is both a catalyst and a carrier.

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