

# Exploring the Quality of Public Space and Life in Streets of Urban Village: *Evidence from the Case of Shenzhen Baishizhou*

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## Abstract

The rapid economic development in China has resulted in the huge migration of people into city and the continuous expansion of urban areas, in which a new kind of urban landscape, named urban village has formed. Due to the high density of buildings and the status of disordered land utilization in urban village, many special and typical street and lane spaces are formed, which are usually neglected or simply managed. However, the crowds of people need a proper public space and public life for adjustment of all kinds of social and mental problems aroused from long-term staying in a narrow indoor and outdoor space in urban village.

This research uses counting method, observations, interviews and space syntax to investigate the status quo of public space and public life in streets of Baishizhou Urban Village. Results show that the space accessibility of street is weak and the space comprehensive quality is low. The majority of public activities are necessary activities. People tend to expect different types of activities and functional facilities, as well as a comfortable, safe and green environment. We suggest establishing a slow traffic; providing rest and landscape facilities; enhancing safety, and increasing the use of boundary space, which can solve most of the problems considering economic and practical aspects. The approach to investigate the public space and life in this study can be applied to other urban villages, and even different types of public space. The results and improvement suggestions are suitable for other research for the quality of public space and life in streets of urban village.

**Keywords:** urban village, public space, public life, street

## 1. Introduction

### 1.1 Urban Village Description and Case Study

In the process of urban modernization, China sees a phenomenon that the villages are gradually encircled by the city and a mixed development of urban and rural areas featuring in dual urban landscape and spatial structure, and such village is generally called urban village (De Tong, 2009). During the transformation period of society, the deficiency of standard of social value caused the disordered state of city, especially the urban village. However, the urban public space, with public life as noumenon value, shows the interaction between space and people and the role of space in real world (Hao Li, 2011). The core value of public space is to become a "place" with unique charm, which attracts people to take part in the public activities (Jiashan Fan, 2007).

Shenzhen, the first special economic zone set after China's implementation of reform and opening-up, has created a remarkable "Shenzhen Speed". Urban planning in Shenzhen was ambitious in its reach, using 'experimental reform' as a vehicle for institutionalising changes in management of the land resource (Zacharias, 2010). In October 2003, Shenzhen Municipal People's Government promulgated the Suggestions on Acceleration of Shenzhen's Urbanization Process and by the end of 2004, the number of urban villages has been increased from 91 to 320 only in one year's time (Qiang Xu, 2005). Shenzhen takes the lead in becoming China's first city without rural areas. In addition, in order to ensure the housing status of medium-and low-income citizens, Shenzhen decided to build 240,000 indemnificatory housings in the 12th Five-year Plan Period, which is even higher than the total number in 30 years (Yun Tan, 2012).

The problem of urban village aroused under Shenzhen's special background is focused in China even the world. For the distribution of urban villages, Shenzhen's Nanshan District witnesses the largest scale and residential population of urban villages. Baishizhou of Nanshan District, covering an area of 450,000sq.m, has approximately 2,300 farmer buildings and a total of about 100,000 residential populations, thus making it one of the urban villages in Shenzhen which have the largest number of buildings and highest density of residential population (Xiaoyun Liu, 2007). Apart from that, Baishizhou also has a special geographical location, which is situated at the side of flourishing Shennan Road, and adjacent to the prosperous top-grade community of the Overseas Chinese Town and three theme parks. Therefore, it is of special significance to conduct analysis on the status quo of public life of the residents. In addition, for the majority of urban villages in China including Baishizhou, they seldom have many large squares and green land; instead, most of street spaces are narrow. For this reason, it is extremely important to make analysis on the public space of streets in Baishizhou.

Thus, this paper will conduct analysis on status of public space and public life in Baishizhou and conclude the existing problem of street space and cause for its formation, in order to provide suggestions on improvement of its residential environment and restore the most plain and core functions of street space of urban village.

### *1.2 Literature Review*

While investigations into public places and concepts are the mainstay of environmental psychology (Altman & Zube, 1989; Talen, 2000; Voyce, 2006; Nemeth & Schmidt, 2007), some architects, urban designers, and sociologists have long investigated public space and public life. The relationship between human and environment, namely the experience of environment is expanded to urban space field (Lynch, 1960). The urban environmental cognition also provides from the real material space to the space meaning (Barnett, 1982). Public space is occupied an important position in the city, due to it is a platform for people's activity in daily life and social communication, making individuals united into social (Carr, 1992). Some human-oriented proposals are highlighted after reviewing the development history of the old city to explore the reasons behind the failure of these large-scale plans (Jacobs, 1961). William H. Whyte (1983) researches a series small urban space using the discontinuous photograph technique and the behavior observation. It is noteworthy that how to research public space and public life and how to collect and use data of public life to provide basis for urban planning is an important connection in public space and public life researches (Gehl, 1996). A number of important physical elements of public space, such as attractive building facade, (Gehl, 2002, CABE & DETR, 2001) and interesting scene and details (Gehl, 2002; Gehl, 2006), emphasizes the importance of first defining why and how people use public space. Many studies give information that public space relates to the quality of public life aspects, such as physical and psychological health, social interaction, rate of crimes and economical value of property (Cattell, 2008; Jackson, 2002; Song et al, 2007).

The relevant research of the urban space in China, commonly draw lessons from foreign theories and research methods. Some scholars discuss the existence value of urban public space in the perspective of sociology view (Hao Li, 2011; Baojun Yang, 2006). Some studies show the morphology and spatial-temporal characteristics of public space from the history perspective (Bo Zhou, 2005; Xinsheng Wang, 2005). With the research developing, some scholars also rise to the humanistic care level, taking the citizens' daily lives and ordinary people as the focus of the observation and research (Yanzhi Zhang & Wei Wei, 2011). Domestic scholars focus more on the space form, policy system, evaluation of research model, then turn to social problems and humanistic perspective in recent years.

The street space as a part of the urban space is also found in the discussion of scholars both in China and abroad. Combined with China's actual situation, the typical streets space is a representative of public space in urban village, while lack of attention from academic field, as well as human-oriented perspective of public life.

## **3. Method**

### *3.1 Public Space & Public Life Survey (PSPL)*

A method for assessing the quality of public spaces and public life is the Public Space & Public Life Survey (PSPL), developed by the Danish urban designer Jan Gehl and his team (Gehl, 1996). It aims to find and understand people's activities and behavior patterns in the public space, and its results presented by quantitative and qualitative analysis to provide supports for urban public spaces construction and remodel that lead to creating high quality of public space for citizens' use (Gehl & Binzhang Zhao, 2012). The main methods of PSPL are map-marker method, counting method, observations and interviews, according to different space emphasize particular points. In addition, observations contain the street frontages assessments (Figure 1) and space comprehensive quality assessments (Figure 2), which are assessed by surveyors.



Figure 1. Street facade assessments

<b>Protective Property</b>	<b>Prevent traffic accidents – feel about safety</b> <ul style="list-style-type: none"> <li>•Ensure pedestrians feel about safety</li> <li>•Keep away from noise and gas contamination</li> <li>•Avoid traffic accidents</li> <li>•Eliminate the sense of fear caused by traffic environment</li> </ul>	<b>Prevent crime and violence – sense of safety</b> <ul style="list-style-type: none"> <li>•Ensure public space is active</li> <li>•Ensure there are always some people moving on the street</li> <li>•Ensure different activities happen both in the daytime and at night in the space</li> <li>•Lightening with high quality</li> </ul>	<b>Prevent displeased sensory experience brought by external environment</b> <ul style="list-style-type: none"> <li>•Wind</li> <li>•Rain/snow</li> <li>•Cold/hot</li> <li>•Environmental pollution</li> <li>•Dust, noise or glare</li> </ul>
<b>Comfort</b>	<b>Provide comfortable environment for walking</b> <ul style="list-style-type: none"> <li>•Leave space for walking</li> <li>•Ensure there is no obstacle at walking space</li> <li>•Attractive interface</li> <li>•Good accessibility</li> <li>•Interesting vertical facade</li> </ul>	<b>Provide comfortable environment for standing and stay</b> <ul style="list-style-type: none"> <li>•Edge effect</li> <li>•Provide interesting view for standing and stay</li> <li>•Provide reliable interface for standing</li> </ul>	<b>Provide comfortable environment to have a rest</b> <ul style="list-style-type: none"> <li>•Ensure there is somewhere to stay and sit down</li> <li>•View, sunshine or people</li> <li>•Enough and cosy seats</li> <li>•Provide benches to have a rest</li> </ul>
	<b>Offer the opportunities to see more things</b> <ul style="list-style-type: none"> <li>•Design vision distance that is suitable for viewing</li> <li>•Transparent sight</li> <li>•Rich visual field</li> <li>•Lighting in the dark</li> </ul>	<b>Offer the opportunities to talk and listen</b> <ul style="list-style-type: none"> <li>•Low noise</li> <li>•Street furniture provides space and platform for talking</li> </ul>	<b>Offer the opportunities to play and take exercise</b> <ul style="list-style-type: none"> <li>•Invite people to hold various outdoor activities and sports</li> <li>•Activities and sports can be taken both in the daytime and at night, and both in winter and summer</li> </ul>
<b>Enjoyment</b>	<b>Measures</b> <ul style="list-style-type: none"> <li>•Architecture and space shall be designed according to people's measures</li> </ul>	<b>Offer the opportunities to enjoy positive points of the climate</b> <ul style="list-style-type: none"> <li>•Sunshine/shady and cool</li> <li>•Warm/cool</li> <li>•Breeze</li> </ul>	<b>Positive sensory experience</b> <ul style="list-style-type: none"> <li>•Good detail design</li> <li>•Comfortable materials</li> <li>•Rich and interesting visual field</li> <li>•Trees, greenbelt and water</li> </ul>

Figure 2. Space comprehensive quality assessments

### 3.2 Accessibility Analysis Based on the Space Syntax

Considering that the spatial accessibility is one of the most important factors affecting the quality of public space

(Jin Zhou, 2003), this study uses DEPTHMAP software to analysis space accessibility according to the space syntax. Space syntax is a series of theory and methods to explore the nature and function of housing and urban space. It believes that space is inseparable from human activity, on the basis of how people use space to define space unit, so as to develop their connection (Xiangmin Guo, 2013).

Table 1. Research methodology

The research methodology		The data collection and analysis
Counting Method	Using a counter and a stopwatch to understand the numbers of walkers.	To collect pedestrian flow, including all day, every hour, every 10 minutes.
Observations	Using different evaluation criteria and systems to assess the research area.	(1)To evaluate the street frontages; (2)To evaluate the comprehensive space quality , etc.
Personal Interview	Interview random active individual in research area.	Why do people come to visit space? People hold what kind of view on the public space and public life; do they have any suggestions and expectation?
Space Syntax	Using DEPTHMAP software to draw space's sight integration.	Divide public space into a series ofsegment, and express them as some vertexes of no-direction and no-weight, adding to digital axes, then draw space's sight integration for spatial accessibility.

### 3.3 Classification of Public Life

Due to the openness and transparency of public life, broader impact on citizens and society, this article refer Jan Gehl's classification to divide activities into three categories (Gehl, 1971).

Table 2. Classification of public activities

Classification	Conditions	Activities
Necessary activity	Occurs in any condition	a. passing by; B. shopping; C. other personal affairs
Spontaneous	People willing to participate in appropriate time and place	residents, visitors and staff stroll, do sports, go shopping, have dinner, sit down and rest, etc
Social activities	depends on other individual's social activities	a. communicating and chatting with each other, playing games, B. sports, culture, entertainment activities, etc

Source: Jan Gehl, 1971

### 3.4 Research Object

As shown in Figure 3, this research analysis seven entrances in Shahe street which is the main road in Baishizhou(red A ~ G); four nodes of internal laneways(blue A ~ D)in Baishizhou. Because of the summer, the public life of residents are much abundant and typical (Figure 4). We observe the research points carefully on the first week of May, 2104. With summarizing the activity routines of people flows and public life, we pick up ten days in May and June to investigate specific content (Table 3).



Figure 3. Baishizhou research point arrangement



Figure 4. Different types of public space and public life in Baishizhou

Table 3. Baishizhou research time and content arrangement

Date	location	Content
May 7th 2014, Wed. May 8th 2014, Tues. May 12nd 2014, Mon. May 17th 2014, Sat. May 18th 2014, Sun.	Red A ~ G	1) people flow statistics: in the peak time period at 10:00-10:30 and 16:00-16:30 every day; 2) Personal interview: 10 interviews every day at each Lane entrance A, C, G, namely each entrance has 50 interviews in five days. 3) To assess the street facade space and comprehensive quality.
June. 6th 2014, Fri. June. 9th 2014, Mon. June.11th 2014, Wed. June.21st 2014, Sat. June.22nd 2014, Sun.	Blue A ~ D	1) people flow statistics: in the peak time period at 14:00-16:00 and 19:00-21:00 every day; 2) Personal interview: 30 interviews in all at A~D Landways in five days 3) To assess the street facade space and comprehensive quality.

#### 4. Research Results

##### 4.1 Analysis on Public Space of Lane Entrance of Shahe Street

Shahe Street is the main trunk road running through Baishizhou, which also sees the busiest people flow. The crossing area between other horizontal streets and Shahe Street forms into a lane entrance space where is busy with abundant and frequent mass crowd's activities. Conducting analysis on these lane entrances is favorable for finding out the service conditions and existing problems of the relatively open form of streets inside urban villages. Table 4 shows space description of seven lane entrances with different sizes.

Table 4. Space description of lane entrances of Shahe Street ranging from lane entrance A to G

	Width (m)	cleanliness	Landscape of front	Steps	green plants	sunlight during the day	Night lighting
A	2.3	Very dirty	In front of the crossing	None	None	Dusky	1 street lamp Dusky
B	1.7	Medium	In front of the crossing	None	None	Partial sunshine	2 street lamp Dusky
C	2.5	Clean	Big tree	30 cm high	Shaped bush	Insufficient light	4 street lamp Brightly
D	2.6	Medium	Clutter buildings	None	Border trees	Partial sunshine	3 street lamp Dusky
E	2.6	Medium	Big tree	None	None	Insufficient light	2 street lamp Dusky
F	2.5	Dirty	In front of the crossing	None	None	Brightly	1 street lamp Dusky
G	2.6	Relatively clean	Big tree	35 cm high	Border trees	Insufficient light	4 street lamp Brightly

##### 1) Statistics of People Flow

This research selects the record of people flow in Baishizhou in two time intervals for conducting statistics and

making summary, namely, the people flow in time interval ranging from 10:00a.m to 10:30a.m and from 16:00p.m to 16:30p.m, which sees the highest people flow. Please see Figure 5 for the statistical results. Based on the statistics of people flow, we find out that Lane Entrance C and Lane Entrance G witness a higher people flow, where shows plentiful slow activities and flourishing commercial vitality. However, the other lane entrances see a relatively low people flow, in addition, the people flow at weekends is higher than that in working days.

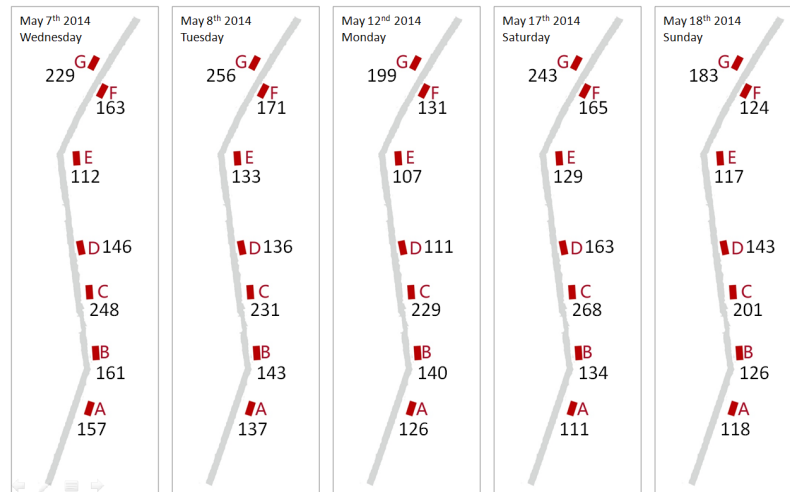


Figure 5. Statistics of people flow of lane entrances of Shahe Street ranging from lane entrance A to G

## 2) Records of Stopping Activities

As shown in Figure6, the size and color of the circle express the number of stopping activities. At Lane Entrance C and Lane Entrance G, where see a higher people flow, the number of stopping activities of Lane Entrance G is obviously higher than that of Lane Entrance C, that is to say, under the same condition of higher people flow, the quality of space plays a critical role in deciding the quality of activities, especially for the social activities and spontaneous activities. According to Figure7, we can further conclude that except Lane Entrance G, the number of stopping activities in space of other lane entrances only accounts for one third of the total people flow, and the main form of people flow is pass-type activity, demonstrating the relatively weak attraction, the relatively poor quality of activities and the single type of activities in space of most lane entrances, where are generally gloomy and lack of vitality.

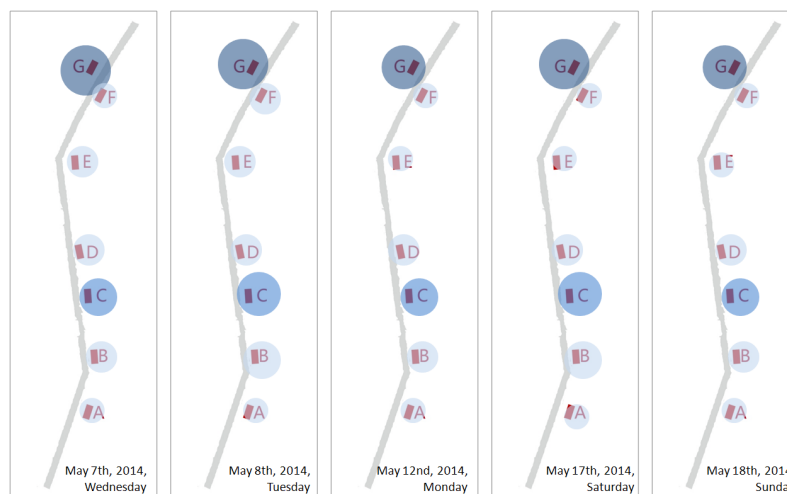


Figure 6. General situation of stopping activities in lane entrances of Shahe Street ranging from lane entrance A to G



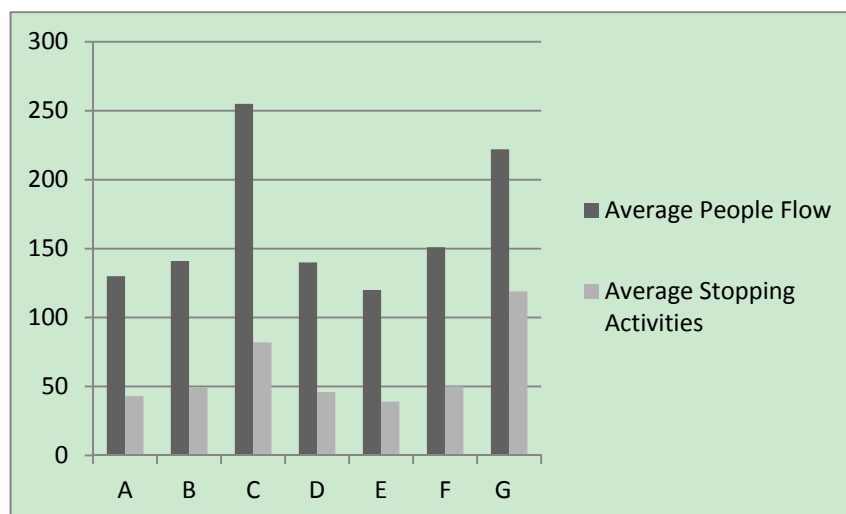


Figure 7. Comparison chart of average people flow and stopping activities in lane entrances of Shahe Street ranging from lane entrance A to lane entrance G

### 3) Interview Summary

We conducted ten personal interviews at each Lane Entrance A, C and G for five days. 90% respondents are residents in Baishizhou, whose time of activity is 30 minutes to 2 hours, with more than 50% of the respondents coming to the space for 2-3 times a week. When asked about opinions or suggestions on the space, they told us that the hidden danger of traffic, the shortage of landscape plants and resting facilities, the disordered people flow are the general defects of three lane entrances, and the problems including overshadowing, poor illumination at night and potential risk of safety are also greatly concerned by them. Regarding the opinions or suggestions on public life, people tend to expect different types of activities and functional facilities.

### 4) Analysis on Accessibility

Applying the DEPTHMAP software, we select dark red, light red, dark yellow, light yellow, dark blue and light blue for displaying the accessibility of space in a strong-to-weak order. Generally speaking, the accessibility of all lane entrances is between the light yellow and dark blue, which is below the average level. In contrast to the general situation, the accessibility of Lane Entrance C and Lane Entrance E is relatively good (Please see Figure8). What need to be noted are that though the accessibility of Lane Entrance E is relatively high, the utilization rate is relatively low, which mainly lies in the fact that the shortage of commercial activities and the poor illumination of roads restrain the participation in activities; however, the accessibility of Lane Entrance G is relatively weak, while the utilization rate is relatively high, which mainly lies in the fact that to some extent, the relatively closed and appropriate place isolates people from participation in the external activities as well as renders the inside residents with favorable space, which also limits the diversity and persistence of activities instead.



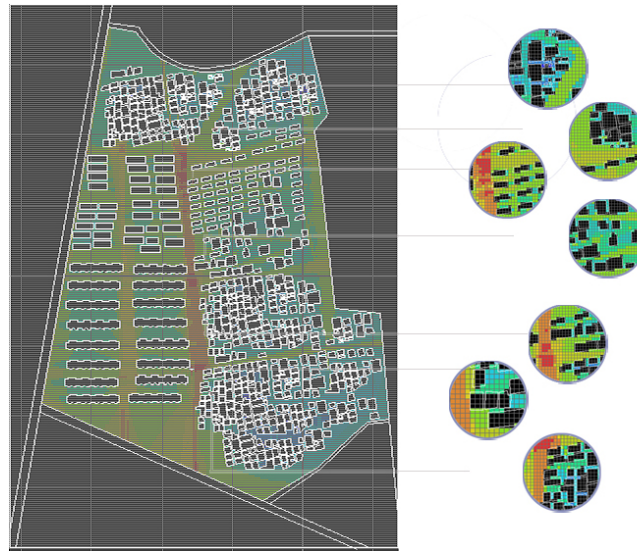


Figure 8. Analysis on accessibility of space of all selected lane entrances

#### 5) Investigation on Public Space

We apply white, light blue and dark blue to show the integrated quality, namely, good, common and bad. According to our investigation result, Lane Entrance A and F, Lane Entrance B and D, and Lane Entrance E, C, and G have the similar results. Under the situation that the integrated quality of all lane entrances is similar and generally low, this study adopts the way of comparison for selecting the major factors affecting the public space (Please see Figure9).

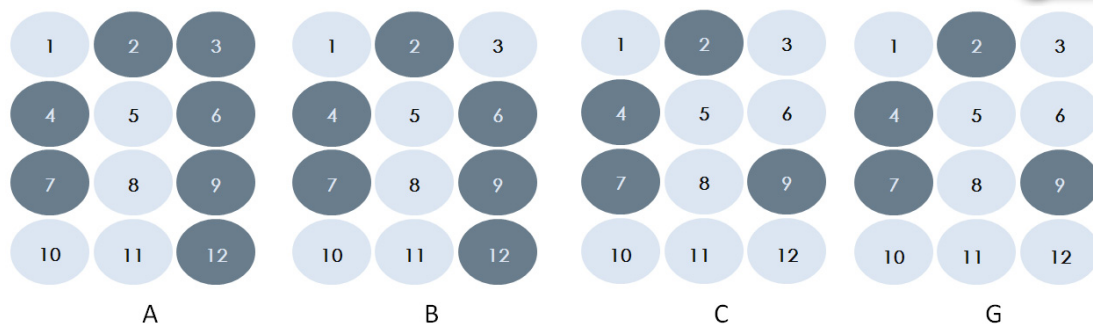


Figure 9. Comparison chart of integrated quality of lane entrances

Comparison between Lane Entrance A and Lane Entrance B: In terms of standard III, namely, "Prevent displeased sensory experience brought by external environment", B is better than A, thanks to the relatively satisfied sanitary conditions. Though the fixed users seldom mentioned the sanitary conditions in the interview and they may be used to the status quo or have no alternative, people actually have high standard for environment and only the clean and comfortable environment is helpful for human's physical and mental health.

Comparison between Lane Entrance C, G and Lane Entrance A, B: In terms of standard VI and XII, namely, "providing comfortable environment for standing and staying" and "positive sensing experience", these two groups of lane entrances are different from each other, thanks to the fact that there are trees, roadside steps and resting chairs brought by residents themselves alongside Lane Entrance C and Lane Entrance G, which all provide people with opportunity for having a rest. Therefore, we can conclude that a certain amount of resting facilities and shade plants are regarded as the important factors affecting the quality of public space of lane entrance.

With respect to the mat formation, the material of pavement is different. Though no interviewees mentioned this, the unified and linked pavement is helpful for users' identification and experiencing of space and distinguishing

of different functional spaces. For the facades alongside the street, the standards of facades of lane entrances of Shahe Street are level C and level D, most of which is grey and without any delicate designing. In addition to that, some stores are consolidated with iron door for prevention of burglary, which looks especially cold and unsafe at night. Except the necessary commercial activities, the users will definitely not be attracted by the facades.

#### 4.2 Analysis on Public Space of Laneways

The Laneways of Baishizhou are formed after separation by each house site, and there also exists the informal open space in some laneways. Four typical laneways, namely, Laneway A, Laneway B, Laneway C and Laneway D, are selected for study in this paper.

Table 5. Space description of laneways of Baishizhou ranging from laneway A to laneway D

	A	B	C	D
Spatial form	A rectangular space	A triangular space	"L" type of space	Staggered space
Area	12m <sup>2</sup>	64 m <sup>2</sup>	52 m <sup>2</sup>	30 m <sup>2</sup>
Accessibility	By three directions to enter. Medium accessibility.	Has four lanes allied to this. Good accessibility.	By three directions to enter. Medium accessibility.	Has six lanes allied to this. Good accessibility.
sight accessibility	Secluded Many buildings around	Spacious Near a big street	Secluded Many buildings around	Secluded Many buildings around
Commercial shops	Mahjong shop, small groceries, barber shops, fruit stand	A barber shop, mahjong shop, gas company service point	Small department stores, the phone shop	Mahjong shop, small groceries
Sunlight	Relatively dusky, Partial sunlight	Partial sunlight and shade of trees.	Brightly, Partial sunlight	Dusky, Insufficient light to the ground.
Sanitary conditions	Dirty and messy	Dirty and messy	Dirty and messy	Clean and tidy

#### 1) Records of Stopping Activities

Through investigation and observation, we find out that the public activities and mass crowds of the four laneways are with certain stability, therefore, this paper summarized the records of stopping activities in five days of June 2014 as follows:

Table 6. Status of space activities of laneways of Baishizhou Ranging from laneway A to laneway D

Time	Business activity description	Laneway space activities
6.30-7.00	Groceries, barber shop, and product recycling shop opened the door. Internet bars and mahjong shops opened all night.	No activity
7.00-8.00	Other shops opened the door one by one: the small yard of lane B started selling breakfast, the phone shop in lane C opened the door, and the Mahjong shop in lane C opened the door.	There were little activities mainly with passers-by and patrol guards.
8.00-9.00	Few shops opened.	There were little activities mainly with passers-by and patrol guards.
9.00-10.00	Open shops were increased, with mobile vendors emerged.	Some casual chat happened in lane B, and the guards patrolled in some points.
14.00-15.00	Mahjong shop and internet bars became noisy, small groceries had more businesses.	Many passers-by, and some shop owners sit outside the shop chatting with acquaintances.
15.00-16.00	Mahjong shop and Internet bars were very busy.	Lane C occasionally had resting people, mostly were individual activities.
16.00-17.00	Phone shop, mahjong shop was still busy, Internet bars were still booming.	Lane B occasionally had resting people, mostly were individual activities.
19.00-21.00	Mobile vendors in lane A started packing up. A lot of people gathered in the mahjong shop waiting for their turn.	Little activities, mainly shop owners sit outside the door, as well as a low wall in lane B, a bench in lane C and the corner of wall in D.

## 2) Statistics of People Flow

We select the record of people flow in two time intervals for registration, namely, the people flow in time interval ranging from 14:00p.m to 16:00p.m and from 19:00p.m to 21:00p.m, and conduct comparison between average people flow and stopping activities. Please see Figure 10. There is no great difference among Laneway A, B, C and D and the types stopping activities are relatively single, most of which are indoor mahjong and internet bars activities, however, there are relatively less people taking the outdoor activities and the activists are usually fixed.

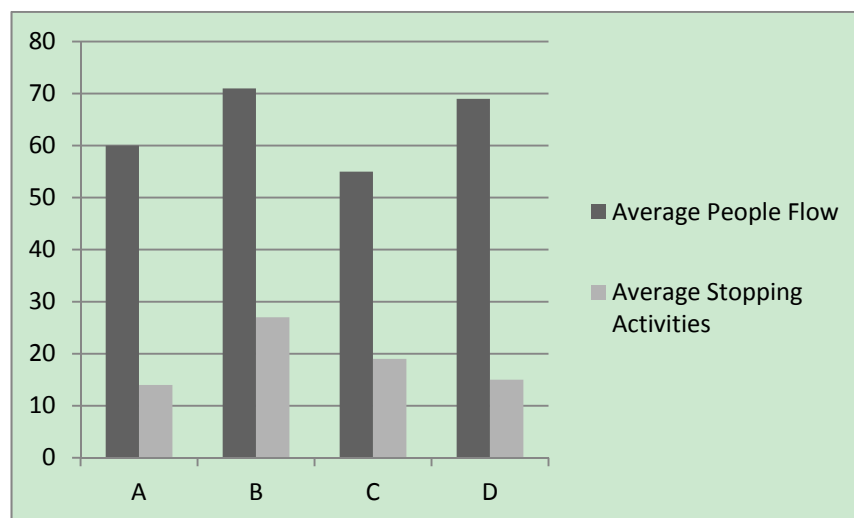


Figure 10. Comparison between average people flow and stopping activities of laneways of Baishizhou ranging from laneway A to laneway D

### 3) Interview Summary

Through the interview, we find that for the space of Laneway A to D, what people are most concerned are the facilities for carrying out activities and a certain amount of greening plants. In our on-the-spot investigation, we realize that the residents' activities have created many informal resting areas including people's creative utilization of the original objects and spontaneous installation of facilities. Based on these facts, we conclude the characteristics of activities carried out inside the laneways of Baishizhou, namely, people's demand for activity facilities and space makes people create the activities spontaneously, but not the fact that the space creates the activities. Please see Figure 11. However, the utilization of space without specific plan will become different with changes of users. Due to the decentrality and randomness of people's activities in time and space, the space activities often tend to be closed, single and repeated.



Figure 11. Informal resting facilities inside space of laneways

### 4) Investigation on Public Space

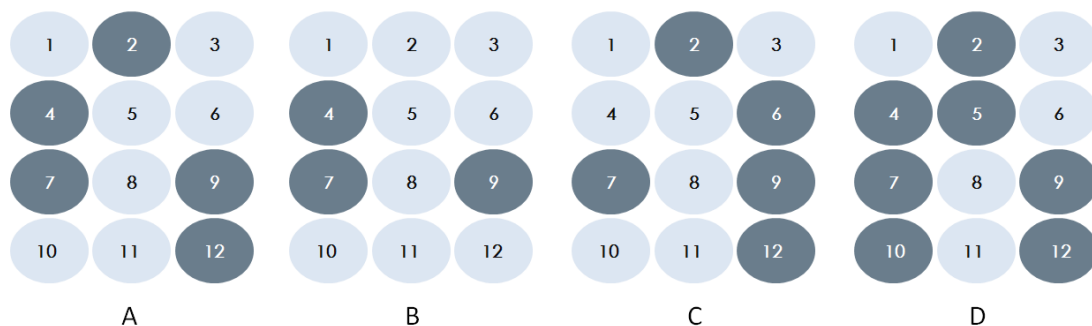


Figure 12. Evaluation on quality of space of laneways ranging from laneway A to laneway D

Regarding the “Protected Property”, the selected part of Laneway B has the common level of crime and violence prevention, thanks to its good illumination and abundant stores, making people feel reliable of the space.

With respect to the Comfort, the selected part of Laneway D is lack of management of surrounding borders and the activities here are in shortages of comfortableness, due to the limitation of area and oppression of surrounding buildings.

For the Enjoyment, in the selected part of Laneway B, there is a big tree, which provides a pleasant sensing experience. However, for other laneways, due to the intensive internal space and the poor management of borders of laneway, it is hard for people to have a joyful feeling.

## 5. Conclusions

### 5.1 Summary on Status Quo of Public Space and life of Baishizhou in Shenzhen

#### 1) Accessibility

The accessibility of public space of Baishizhou is below the average level. For respective part of Baishizhou, the accessibility of public space of Shahe Street is relatively satisfied, while the public space inside laneway is poor. The heavy people flow in part of Shahe Street restrains the public activities, and on the contrary, the poor accessibility of laneway results in the shortage of vitality of space, highlighting the insecurity as well.

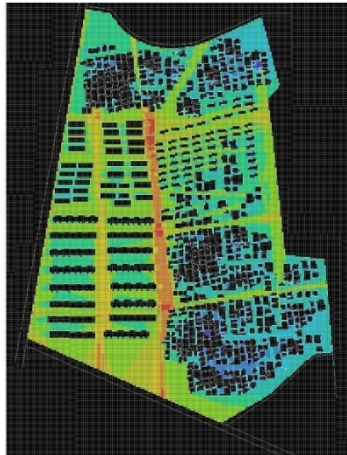


Figure 13. Accessibility of public space of Baishizhou urban village

#### 2) Status of activities

For the public space of Baishizhou, the scope of activity is relatively small. The time of utilization of entrances C and G of Shahe street is long and the utilization frequency is also high, while most of the activities are necessary; people can creatively use the space, but the crowds of activities are relatively closed and the types of activities are relatively single; the scattering space of laneway cannot be used as a place for carrying out high-quality social activities; the permanent residents have imperious demands for the facilities and functions as well as the comfortable and safe environment of space for carrying out activities.

#### 3) Resting and landscape Facilities

Both the interview or our investigation have demonstrated a fact of shortage of resting facilities, and the inappropriate layout of public space of Baishizhou is regarded as a critical problem, which is also one of the major problems resulting in the lack of spontaneous and social activities. The number of greenings and water bodies is far lower than the high-density crowds' demand in Baishizhou; a small number of featured landscape designs are also dull with uneven distribution and lack of interactivity, which virtually restrains people's motivation and excitement for carrying out activities.

#### 4) The comprehensive space quality and street frontages

With respect to the preventive feature, the public space of streets in Baishizhou is lack of illumination, and the main color tone of the public space is grey, which usually presents a relatively weak reliability of space experience. For the comfortableness, the said public space is also in shortage of resting facilities with proper layout, building elevations with designing and dynamic sense as well as attractive greenings and interesting landscapes. Regarding the joyfulness, the high density of buildings inside the laneways has imposed a strong sense of oppression, and the materials of facilities and the rough design of architectural details are also unfavorable for people to carry out activities.

### 5.2 Suggestions for Improvement of Public Space and Life of Baishizhou in Shenzhen

#### 1) To Set Vehicle and Pedestrian Separators on Shahe Streets

Some sidewalks of the main part of Shahe Street in Baishizhou are occupied by shops, and people have to walk on the roadway, which increases the potential risk of safety as well as causes the traffic jam in morning traffic management. In the areas with mixed flow of vehicles and pedestrians and heavy people flow, the slow traffic is advocated and the separators should be set for making the traffic flow and people flow harmoniously separated.

## 2) To Increase Utilization Rate of Space

There are many border spaces among the streets of Baishizhou, which have not been satisfactorily utilized, due to the pressure of high density of buildings and the cold surrounding environment. Some landscape facilities can be increased at the available border spaces, which will significantly enhance the utilization rate of space. For instance, the resting facilities can be provided through integrating the construction of flower bed and planting containers at border spaces. The background activity places can be set at the colonnades, awnings, recessions of buildings and entrances of back roads, in order to integrate these facilities with low cost and high utilization rate into the spatial environment of this urban village.

## 3) To Provide Resting and Landscapes Facilities

At Shahe Street and some major laneways, a series of resting spots with interaction shall be set every other 200m to 300m for people's rest and creating a comfortable and continuous walking experience. The resting facilities can be equipped through being integrated with the design of featured landscapes and greening plants, which will, therefore, enhance the joyful sensing experience as well as reduce spatial occupation. Some small tables and chairs can be set up at the border spaces among the landways, as well as sufficient lighting, and some green plants or featured landscape.

## 4) To Improve Visual, Walking and Functional Accessibility and Strengthen Safety of Space

For some spaces on squares in Baishizhou, especially in some internal landways, whose quality of activities is reduced due to the excessive people flow, the resting facilities should be provided at the border space and the private area for "people appreciation"; the poor accessibility makes some public spaces of the major streets in Baishizhou only used by a small number of fixed users. Apart from that, the unified shops, roadside facades and sign boards with continuous, integrated and identifiable logos shall be built. For some laneways with great privacy, the accessibility and functionality of lane entrance and exit as well as the lighting facility and sanitary conditions inside the lane shall be extremely concerned.

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