

博士論文（要約）

**Mechanism of Spontaneity in Utilization of Qilou Verandah Space:
Case Study on Amoy**

（自発性のメカニズムに注目した騎楼ベランダ空間の利活用に関する研究：
厦門を例として）

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Chapter 1: Introduction

1.1 Research Background

1.1.1 Qilou and Qilou Verandah Space

Qilou

Qilou is one of the unique vernacular architectural types in Southeast Asia and East Asia areas, such as Singapore, Malaysia, Indonesia, Hong Kong, Taiwan and some other areas in China. The appellation of Qilou is especially prevalent in mainland China, Hong Kong, Macau and Taiwan. While in other areas it is also known as shophouse. Generally speaking, part of the ground floor in Qilou building is used as the shop and the upper floors are used as the residence.

Qilou is typical arcade architecture. It is originated from Beniapukur in India being built by the British colonists with the name of "Bungalow". In the early nineteenth Century, during the design of Singapore City, it was stipulated that all buildings must have a walkway with a width of 5 feet wide, with a top cover to provide a place for business. Because the architectural form of Qilou can protect people from the sun and the rain, creating a comfortable environment under the hot and humid climate, Qilou began to be popularized in Southeast Asia. Afterwards, some overseas Chinese returned from Southeast Asia and introduced Qilou architecture in Southern China. Nowadays it has become a typical architectural type in areas such as Guangdong, Fujian, Hainan, and Guangxi.

Qilou Verandah Space

Qilou is well known for the recessed arcade space in front of the shop in the ground floor. It is the most prominent morphological symbol of Qilou building. In this research, it is referred to as "Qilou verandah space".

There are regional differences in the appellation of Qilou and the recessed space as shown in the figure below. For comprehension and universality, in this study the word "Qilou" is applied to refer to the arcade building, and "Qilou verandah space" is applied to refer to the recessed space on the ground floor.



Fig. 1-2 Qilou in Asian cities (source: Google Earth and Baidu Map)

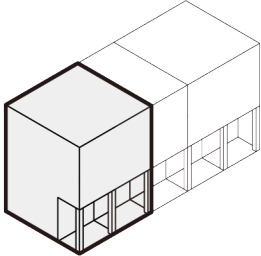
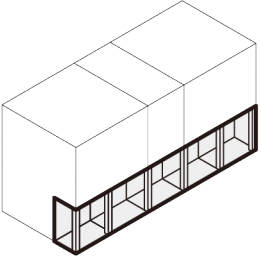
		
Mainland China	骑楼 (Qilou)	骑楼底 (Qiloudi) 五脚基 (GohKaKi)
Hong Kong	店屋 (Shophouse) 骑楼 (Kee Lau)	骑楼走廊 (Verandah) 骑楼底 (Kee Lau Corridor)
Taiwan	街屋 (Shophouse / Jiewu)	骑楼 (Qilou / Chilou) 亭仔脚 (tíng-á-kha)
Singapore	店屋 (Shophouse) 骑楼 (Qilou) Arcade building	五脚基 (Five-foot-way) (GohKaKi) Verandah
in this research	Qilou	Qilou Verandah Space

Fig. 1-1 Regional difference of terms (made by author)

1.1.2 Utilization of Qilou Verandah Space

The particularity of Qilou verandah space is reflected on the right of use and its actual utilization.

In different countries, Qilou verandah space is owned by different parties. In areas such as Singapore and Taiwan, Qilou verandah space is owned by the household; while in Hong Kong and mainland China, Qilou verandah space is owned by the state.

Despite the different ownership in different regions, in most of the cases, it is regulated by laws that Qilou verandah space has to use as the public walkway for the pedestrians, including Singapore¹, Taipei², and Amoy³. The right of use is limited to the transportation, and unauthorized occupation of Qilou verandah space for other uses is prohibited.

City	Year	Law	Clause	Content
Singapore	1906	Miscellaneous Offences (Public Order Nuisance) ACT	Part II -13	Prohibition of placing obstacles in the roads
	1995	Street Works ACT	Part V - 32A	Prohibition of placing obstacles that might interfere pedestrian's traffic in the street and verandah
Taipei	1986	Street and Traffic Managing Regulations of Taiwan	3	Qilou space belongs to the category of the road, which is the space for pedestrians to pass through
			82-1-1	Articles placed in roads will be cleared out as garbage
Amoy	2008	Management of City Appearance and Environmental Sanitation Regulations of Amoy City	21	Shopkeepers on both sides of street and public places must not do business in open space outside the building
	1994	Management of City Appearance and Environmental Sanitation Regulations of Fujian Province	9	Companies and individuals must not occupy roads for business, storage or other production and operating activities

Fig. 1-3 Laws applied to regulate Qilou verandah space (made by author)

¹ Singapore Government, <https://sso.agc.gov.sg/Act/MOPONA1906>, <https://sso.agc.gov.sg/Act/SWA1995>.

² <https://www.npf.org.tw/3/6949>.

³ <http://law.npc.gov.cn/FLFG/flfgByID.action?txtid=64&flfgID=256011&showDetailType=QW>, <https://baike.baidu.com/item/福建省城市市容和环境卫生管理办法/16829765>.

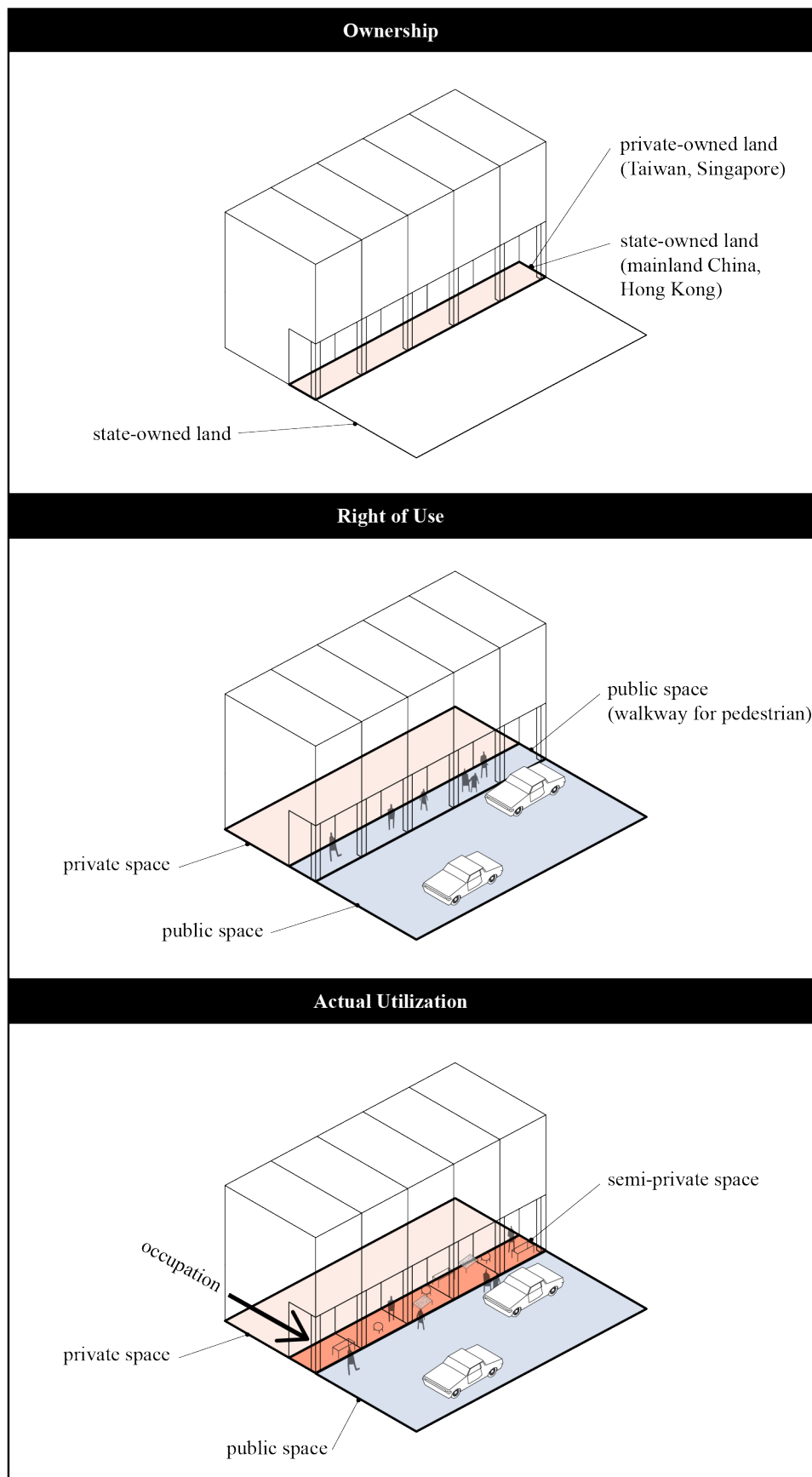


Fig. 1-4 Ownership, usage rights and occupation (made by author)

1.2 Spontaneity in Utilization of Qilou Verandah Space

1.2.1 Definition

In real life, Qilou verandah space is functioning way beyond a walkway. It has become not only a space for traffic but also a space for diverse activities, utilized by different users for different reasons, regardless of law and regulation. By applying Google Map, it is shown that this phenomenon is a worldwide issue. In cities including Singapore, Hong Kong and Taipei, articles such as commodity, table, chair, plant, bicycle, are occupying Qilou verandah space.

The occupation of Qilou verandah space is not a planned behavior, but a spontaneous behavior. Defined as "spontaneous behavior against authorized planning"¹, the word "spontaneity" is used for describing such a phenomenon in this research.

¹ Wiktionary, <https://en.wiktionary.org/wiki/spontaneity>, and David G. Epstein, *Brasília, Plan and Reality: A Study of Planned and Spontaneous Urban Development* (University of California Press, 1973).



Singapore



Hong Kong



Taipei



Amoy

Fig. 1-5 Utilization of Qilou verandah space (source: Google Map and Baidu Map)

1.2.2 Spontaneity as Urban Issue

Spontaneity can be seen as an urban issue. Generally speaking, Qilou verandah space is planned as the public walkway for pedestrians by authorities in most of the regions, and occupation for personal use is strictly prohibited nowadays.

The battle between planning (planned as walkway) and spontaneity (occupation for other uses) in Qilou verandah space has been ongoing for a long time. If the occupation of Qilou verandah space is found, law enforcement officers will punish the shopkeeper. Therefore, contradictions and conflicts are happening sometimes. Shopkeepers also have their countermeasures against law enforcement, such as the use of mobile phones to share information, and to occupy Qilou verandah space after the officers left. As a result, this phenomenon can be suppressed for a short period, but it is difficult to be eliminated completely. The battle between planning and spontaneity continues.



Quanzhou



Quanzhou



Duanzhou



Haikou

Fig. 1-6 Law enforcement in Qilou verandah space (source: www.baidu.com)

1.2.3 Spontaneity as Regional Townscape

Spontaneity can also be seen as the regional townscape. In Southern China, the vast construction of Qilou streets took place during the process of street renovation in downtown areas, which started around 1920 and ended around 1937¹. As shown in some of the old photos, Qilou verandah space was not utilized merely as the walkway since early days. It was occupied as the market, as recreational space, as working space, also parking space, just like today. This is to say the way people utilizing Qilou verandah space can be seen as regional and traditional townscape that has been lasting for almost a decade. Also, such townscape represents the characteristics and the uniqueness of Qilou street and the region.

¹ Li Lin, "Historical Origin of the Architecture of Guangdong Qilou", *Building Science*, 2006, 12: 87–90.



1930s



1980s



1980s



1980s

Fig. 1-7 Qilou in old days (source: 厦门老照片 and 厦禾路的变迁)

1.3 Problem Statement: Case Study of Amoy

Amoy (厦門 , Xiamen) is a city located in Fujian Province, China. With the widely distributed Qilou streets, spontaneity is a common phenomenon in the old town area. Because of two significant problems regarding spontaneity, Amoy is chosen as the case study.

1.3.1 Conflict Between Spontaneity and Planning

The first problem is that Amoy is one of the battlefields of planning and spontaneity, and the situation in Amoy might be even more urgent than some other cities. As a famous tourist scenic city located on the southeast coast of China, Amoy has been titled with "UN-Habitat Scroll of Honor 2004"¹, "World's Top 200 Characteristic Charming Cities"², "China's Top 10 Livable Cities"³ and so on. On July 8, 2017, Kulangsu (鼓浪嶼 , also known as Gulangyu), a small island belonging to Amoy, was listed in the World Heritage list as "Kulangsu, a Historic International Settlement", becoming China's fifty-second World Heritage site⁴.

As a result, Amoy has always attached great importance to the management of townscape, in which Qilou is an indispensable component. The government has carried out maintenance and management of Qilou street in various aspects, including the renovation of the Qilou facades⁵, the reinforcement of the structure in Qilou buildings⁶, renovation of the Qilou streets⁷, and so on. Of course, countermeasures are also taken against the illegal behavior by strengthening law enforcement⁸, however, unlike other issues that can be fixed easily, the spontaneous behavior of utilizing Qilou verandah space can not be fixed completely, and it has become one of the biggest headaches for Amoy.

As Kulangsu become world heritage, Amoy's attention on townscape might be more

¹ UNHABITAT website, <https://unhabitat.org/>.

² Global Times website, <http://www.globaltimes.cn/content/611364.shtml>.

³ CNR website, http://news.cnr.cn/native/gd/20160616/t20160616_522413144.shtml.

⁴ UNESCO World Heritage Covention website, <https://whc.unesco.org/en/list/1541>.

⁵ 镇邦路老旧骑楼将换新颜 改造预计年中完工, <http://www.taihainet.com/news/xmnews/shms/2016-03-31/1706621.html>.

⁶ 厦门镇邦路骑楼加固, https://www.sohu.com/a/122186016_416376.

⁷ 厦门大同路将于 20 日开始道路改造 实施道路管制, <http://fj.qq.com/a/20140718/057109.htm>.

⁸ 思明城管查处老城区占道乱象, <http://www.taihainet.com/news/xmnews/gqbd/2016-01-19/1642697.html>.

concentrated, and the battle between planning and spontaneity in Qilou verandah space might become even more intense¹.

1.3.2 Lost of Regional Townscape

The other problem is the "lost of regional townscape", and it can be seen as the consequence of the conflict between spontaneity and planning. In some of the most important shopping streets, the management of Qilou verandah space is comparatively more strict and stiff, and everything that is occupying Qilou verandah space would be cleared out unexceptionally. Therefore, even though the streets become clean and orderly, the features of the streets are demolished. As a result, some of the streets have become all the same, and the regional townscape of Amoy is gradually losing. Moreover, due to the recent recession of shop and business, the lively regional townscape might continue disappearing in the future.

¹ 鼓浪屿昨迎来申遗成功后的市容整治 今后将建立长效机制,
<http://www.gly.cn/cms/zhengwugongkai/meitibaodao/content-6099.html>.



Simingxi Road



Simingxi Road



Zhongshan Road



Zhongshan Road

Fig. 1-8 Lost of regional townscape (photos taken by author)

1.4 Objective and Research Question

1.4.1 Objective

Facing the problems stated previously, questions are raised, including "Is spontaneity purely negative?", "Why does spontaneity happen?", "What shall we do to control spontaneity?", "Would it be beneficial to preserve spontaneity?", "Who is responsible for spontaneity?" and so on.

To answer these questions, and to make clear the nature of spontaneity, the objective of this research is to find out the underlying mechanism behind the spontaneity in utilization of Qilou verandah space.

The findings of this research might be helpful in aspects listed below:

- 1. Provide insight and reference for the preservation of regional townscape;*
- 2. Provide problem-solving ideas for achieving the balance between planning and spontaneity, public and private;*
- 3. Work as a reference with a bottom-up perspective for the policy makers, planners and designers.*

1.4.2 Research Question

The main research question of this study is:

What is the underlying mechanism behind the spontaneity in utilization of Qilou verandah space?

The main research question is divided into 3 sub-questions:

- 1. How do people utilize Qilou verandah space? (Chapter 3)*
- 2. Why do people utilize Qilou verandah space? (Chapter 4)*
- 3. How do stakeholders manage Qilou verandah space? (Chapter 5)*

1.5 Literature Review

1.5.1 Spontaneity

The word "spontaneity" is widely applied in domains such as economy, art, sociology and psychology. Sometimes it is also used in architectural and urban studies.

In the book "People and Housing in Third World Cities: Perspectives on the Problem of Spontaneous Settlements"¹, Dwyer used the word "spontaneous settlement" to refer to an informal, but major urban form in developing countries following with growth of population and process of urbanization in the background of 1970s.

In the book "Brasília, Plan and Reality: A Study of Planned and Spontaneous Urban Development"², both spontaneous structure and planned structure are examined. The word "spontaneous" is applied to describe the building behavior against the law and the wishes of the authorities and the planners.

Tzu-Wei Chiang studied the spontaneous development of entertainment for elderly in Taipei. In his work, the word "spontaneous" is used to referred to "informal choices making process which is not based on explicitly stated model or theories"³.

The notion of "spontaneous place making"⁴ is also proposed in a study focusing on the change of space and communal identity caused by Chinese square dancing. The word "spontaneous" is used to describe the property of "self-organized" and "bottom-up", suggested as the supplement to the professional design and top-down planning.

¹ Denis John Dwyer. *People and Housing in Third World Cities: Perspectives on the Problem of Spontaneous Settlements* (Longman, 1975).

² David G. Epstein. *Brasília, Plan and Reality: A Study of Planned and Spontaneous Urban Development* (University of California Press, 1973).

³ Charles Chiang, *Spontaneous Development of Entertainment Environment for Elderly in Taipei* (the University of Tokyo, 2015): 8.

⁴ Siyu Liao, *The Spontaneous Activity of Place Making: Chinese Square Dancing that Activates City Open Space and Reconstructs Communal Identity*.

1.5.2 Qilou Verandah Space

Utilization of Qilou veranda space has been examined from diverse angles. While the majority of the domestic studies are focusing on history, culture, and architectural environment. Some studies majoring in the environmental behavioral study are listed as below.

In a series study on the Qilou building in Guangzhou, Cong Chen and others research on the utilization of outdoor space in Qilou districts. By using the method of observation and questionnaire, he indicates that Qilou verandah space is an essential component of outdoor community space for residents¹.

Focusing on temporary elements, Ming-Shih Chen and others researched on how the articles in Qilou verandah space are being used and recognized with questionnaire survey, leading to the finding that shop owner and pedestrian have different opinions towards the ownership and the right of occupation².

Chien-Chung Chen³ researched on the human behavior of sitting in a suburban village of Kaohsiung City, where Qilou buildings are distributed. The relationship between behavior and urbanization are made clear by counting applying filed survey and Google map to capture "scene".

Shih-Hai Chen took on Qilou verandah space from the viewpoint of safety. He found out problems that exist in Qilou verandah space caused by inappropriate utilization⁴. And by taking a commercial street in Amoy as case study, Yang Gao⁵ studied on the tendency of utilization in outdoor commercial space and human behavior qualitatively by observation survey.

In summary, the existence of spontaneity has been discussed by many scholars, yet there is not a specialized quantitative research method for describing the feature of

¹ Cong Chen, Joonho Kim, and Nobuo Mitsunashi, "The Actual Use of Outdoor Spaces and the Formation of Community in Qilou Districts", *Archit. Plann. Environ. Eng.*, AIJ, No.629 (2008.07): 1425–1432.

² Ming-Shih Chen et al., "How Temporary Elements in Gi-lou Spaces are Used and Recognized", *Archit. Plann. Environ. Eng.*, AIJ, No.528 (2000.02): 171–178.

³ Chien-Chung Chen, 台湾の都市化集落における道路整備後の屋外着座場面の継承に関する研究 (the University of Tokyo, 2014).

⁴ Shih-Hai Chen, and Tarao Ochiai, "Research on the Safety and the Quality of Life to "Qi-Lou" in I-Lan City, Taiwan", *Bulletin of JSSD*, Vol. 54, No. 2 (2007): 43-48

⁵ Yang Gao, *Present Utilization Research on Exterior Space of Datong Commercial Street in Old City Zone of Xiamen* (Huaqiao University, 2013).

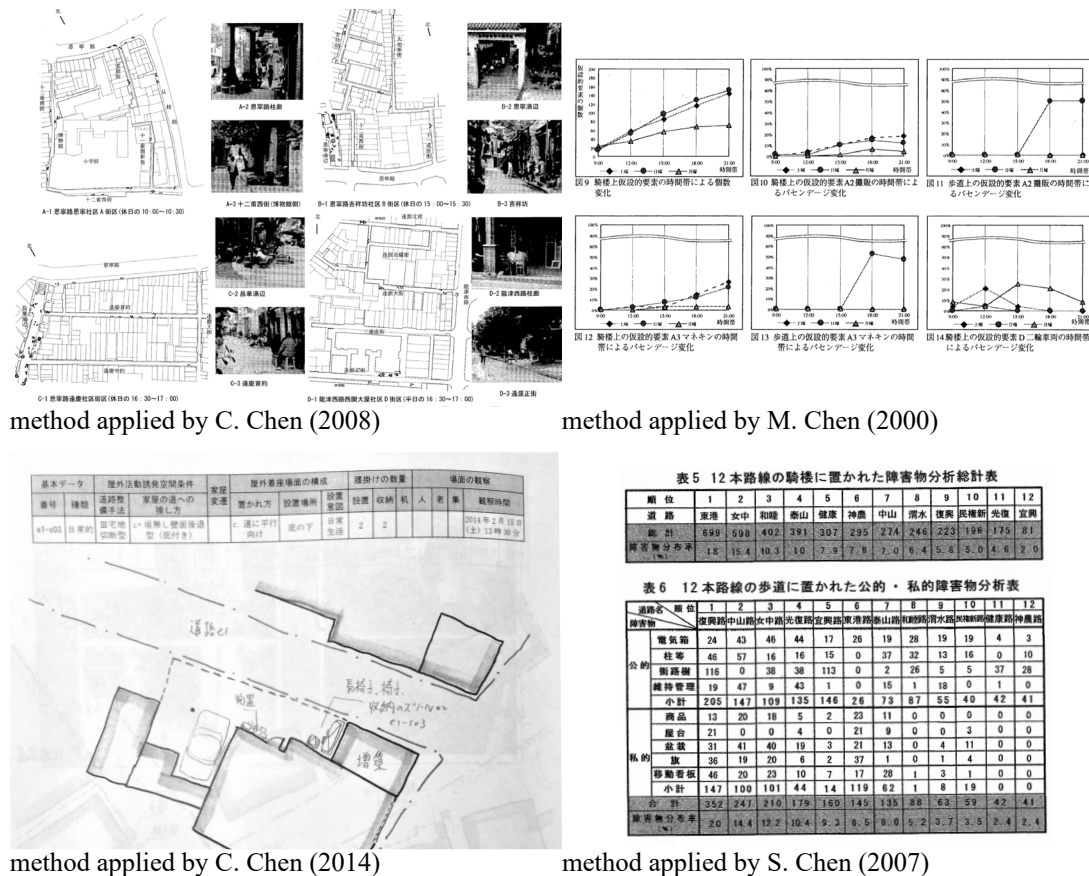


Fig. 1-9 Methods applied by scholars (sources refer to footnote)

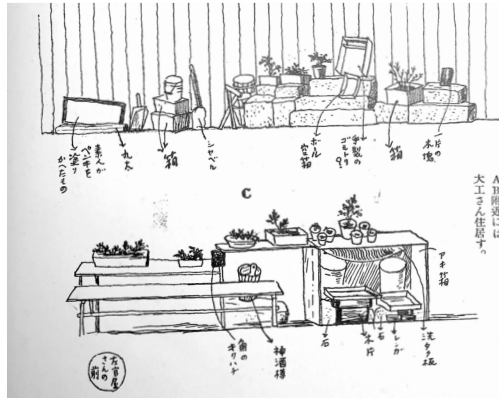
Qilou verandah space. Moreover, the mechanism that is lying behind the phenomenon has not been discussed. Thus a systematic study combining both representation, cause and control would be helpful in understanding the phenomenon of spontaneity

1.5.3 Utilization of Street Space and Outdoor Space (concept)

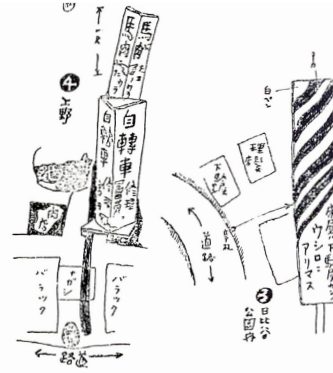
Two concepts are widely adapted for describing the changeable physical environment.

The concept of "semifixed-feature elements" was proposed by Amos Rapoport. "Semifixed-feature elements range all the way from the arrangement and type of furniture, curtains and other furnishings, plants and "what-nots," screens and clothing to street furniture, advertising signs, window displays in shops, garden layouts and lawn decorations, and other urban elements."¹ "These can, and do, change fairly

¹ Amos Rapoport, *The Meaning of the Built Environment: A Nonverbal Communication Approach* (Tucson: The University of Arizona Press, 1982), 89.



method applied by W. Kon (1931)



method applied by G. Akasegawa (1986)

Fig. 1-10 Methods applied by scholars (sources refer to footnote)

quickly and easily.¹

Another similar idea is the concept of "secondary profile (二次輪郭線)" defined by Yoshinobu Ashihara². Different from the "primary profile" of architecture, the "secondary outline" is the outline of billboards, decoration and other attachments.

In comparison, the concept of "semifixed-feature elements" is more focused on the property of the space, while the concept of "secondary outline" is more focused on the visual effect perceived by people. In Qilou verandah space, the spontaneity is mainly represented by easily movable and changeable articles. Thus "semifixed-feature elements" is an appropriate method of reading the space and environment in Qilou verandah space.

1.5.4 Utilization of Street Space and Outdoor Space (qualitative)

Applying the concept of modernology, Wajiro Kon recorded the articles that appear in the street, including advertisement signs, table and chair, plants, rubbish, construction material and so on³. He focused more on recording the type and form of these elements, to reveal the culture and customs in a specific period.

Genpei Akasegawa and Terunobu Fujimori proposed the concept of "study of street

¹ Amos Rapoport, *The Meaning of the Built Environment: A Nonverbal Communication Approach* (Tucson: The University of Arizona Press, 1982), 89.

² Yoshinobu Ashihara, *街並みの美学*, (岩波書店, 2001).

³ Wajiro Kon, *考現学採集* (建設社, 1931), 226.

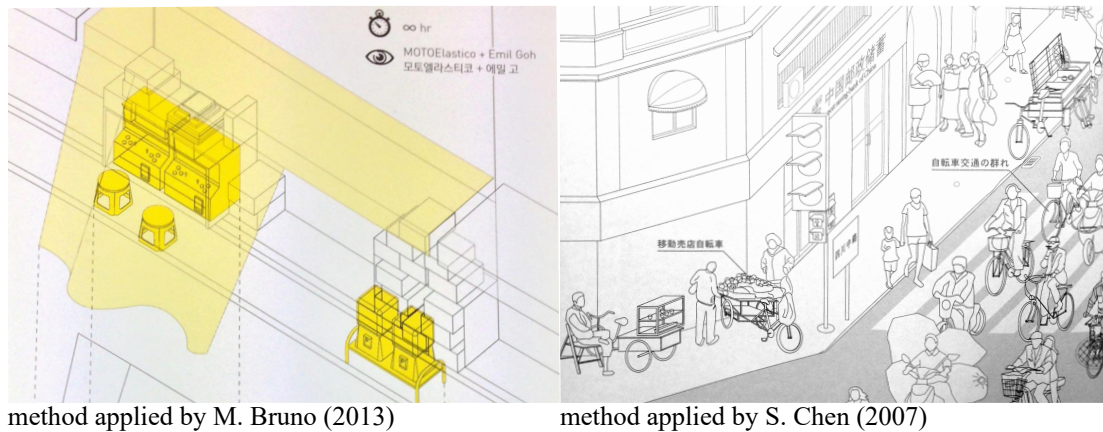


Fig. 1-11 Methods applied by scholars (sources refer to footnote)

observation"¹. Their work is similar to Wajiro Kon's. They observed and recorded the street elements with drawings and sketches to capture the way people utilizing the street.

Marco Bruno and others analyzed the articles occupying street space of Korea qualitatively with the concept of "borrowed space"². They used axonometric drawings to show the phenomenon of people occupying streets space with personal items.

Yoshiharu Tsukamoto and others studied on the topic of commonality by making axonometric drawings of urban space including street space³. Street furniture, vehicles, commodities, people, and activities were recorded qualitatively.

In summary, these studies were conducted with a qualitative approach. They are relatively easy to comprehend due to the graphic representation. At the same time they cannot be further analyzed statistically.

1.5.5 Utilization of Street Space and Outdoor Space (quantitative)

Studies about utilization of street space and outdoor space with quantitative approach can be categorized into two types. Some scholars have been focusing on the physical

¹ Genpei Akasegawa, Terunobu Fujimori, and Shinbou Minami, *路上観察学入門* (筑摩書房, 1986), 70.

² Marco Bruno, Simone Cabena, Minji Kim, *BORROWED CITY* (DAMDI Publishing, 2013), p.30.

³ Yoshiharu Tsukamoto et al., *COMMONALITIES* (LIXIL Publishing, 2014).

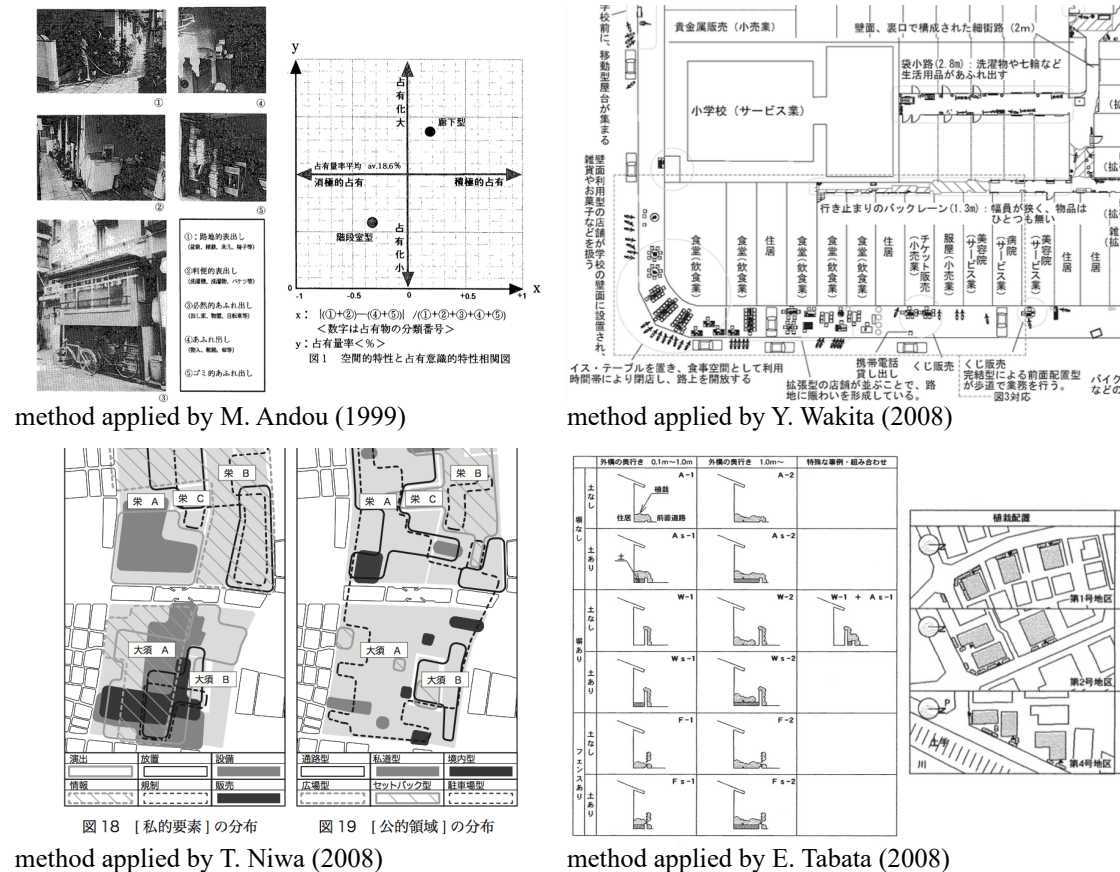


Fig. 1-12 Methods applied by scholars (sources refer to footnote)

environment of utilization of street space. Motto Andou and others¹ studied on the occupation of the common space by dwellers in a residential area. He categorized the behavior of occupation into 5 types, and the ways of utilization are discussed with positive/negative and the ratio of occupation area.

Yoshihisa Wakita and Hideo Shiraishi² researched on the utilization of exterior space on urban blocks in Phnom Penh, Cambodia. The method they applied is to categorize the typology of inside-outside relationship and to map the articles placed on the street in master plans, and then the correlation between ways of utilization and the logi space is made clear.

Takayuki Niwa and others³ studied on the mixed use of public and private in urban

¹ Motoo Andou, Seiji Terakawa, and Minoru Kouda, "A Study on Management of the Exterior Space and Occupation of the Common Space by Dwellers of the Prewar Improved Dwellings", *Archit. Plann. Environ. Eng.*, AIJ, No.517 (1999.03): 251–259.

² Yoshihisa Wakita, Hideo Shiraishi, "Utilization of Exterior Space on the Urban Blocks in Phnom Penh, Cambodia", *Archit. Plann. Environ. Eng.*, AIJ, No.631 (2008.09): 1939–1945.

³ Takayuki Niwa, Shigeru Wakayama and Yoshinori Natsume, "A Study on the Mixture Use of

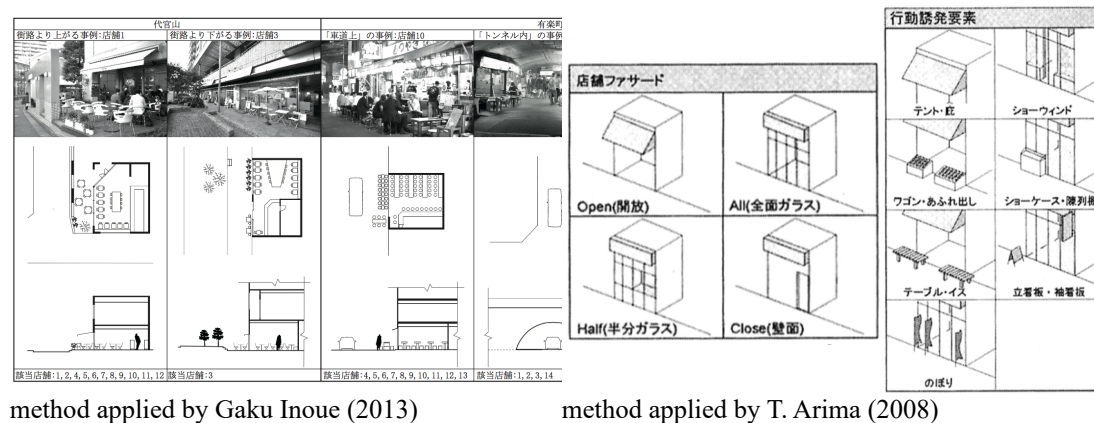


Fig. 1-13 Methods applied by scholars (sources refer to footnote)

space by taking Nagoya as the case study. In their research, six private elements are categorized, and the distribution of these elements are displayed by the method of mapping.

Eisuke Tabata and Kazuhiko Nishide¹ regarded the arrangement of outdoor space as a result of a regulation called "Sangenkyoutei" authorized by the local government. By focusing on two aspects: the physical environment and meaning, and the effect of regulation are measured by spatial outcome.

Expansion of shop space is studied in Gaku Inoue's research² by focusing on the spatial characteristics and the utilization of street terrace seating in Daikanyama and Yurakucho. Seen as a trigger for urban liveliness, the research suggests the necessity to develop guidelines adapted to diverse urban situations.

Some other scholars have been relating the physical environment with human behavior. Takafumi Arima and others³ conducted research on the relationship between the action trigger elements and pedestrian's activities on shopping streets. The relations among street type, shop facade, activity trigger and activity are analyzed.

Public and Private in Urban Area", *Archit. Plann. Environ. Eng.*, AIJ, No.628 (2008.06): 1259–1265.

1 Eisuke Tabata, and Kazuhiko Nishide, "A Study of Sangenkyoutei in Terms of the Meaning", *Archit. Plann. Environ. Eng.*, AIJ, No.629 (2008.07): 1417–1423.

2 Gaku inoue, Mio Suzuki, and Jorge Almazan, "A Study on the Spatial Characteristics and the Actual Usage of Street Terrace Seating", *AIJ J. Technol. Des. Vol. 19*, No.42 (2013.06): 699–704.

3 Takafumi Arima, Kento Oki, Atsushi Deguchi, and Takeru Sakai, "The Relationship Between the Action Trigger Elements and Pedestrian's activities on Shopping Streets", *Archit. Plann. Environ. Eng.*, AIJ, No.623 (2008.01): 1771–182.

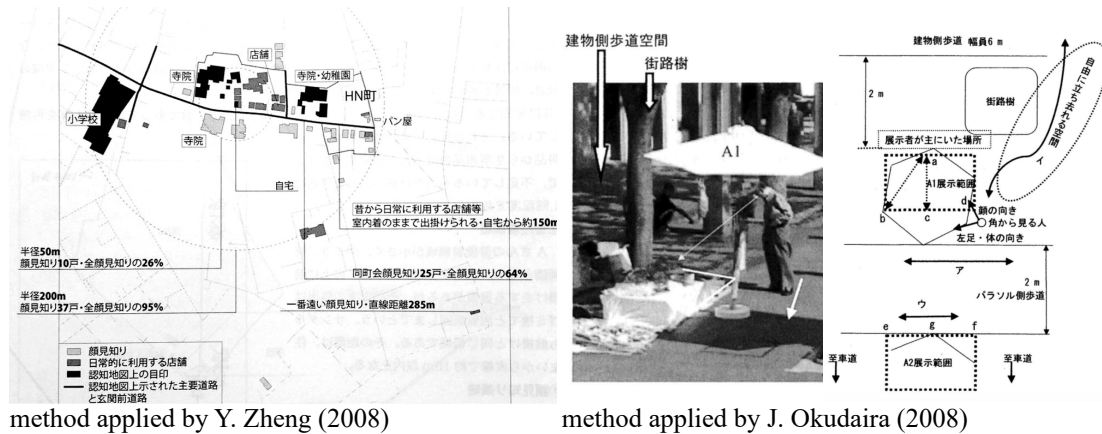


Fig. 1-14 Methods applied by scholars (sources refer to footnote)

Ying Zheng¹ researched the outdoor utilizations along the alleys of Yakana area in Tokyo. The utilization of space regards as a result of the awareness of "seikatsu ryouiki". The relation between psychology and spatial organization is bridged.

On purpose of finding out the relation between human activity and temporary setting in public space, Junko Okudaira and others² did research on "parasol gallery". By the method of observation and video taking, the relationship between physical object and behavioral pattern are made clear.

In summary, various research methods have been applied in different cases of street space study. In consideration of the features of Qilou verandah space, such as the existence of unit and the changeable feature, it is still necessary to develop an adaptable method based on the literature review. As shown in the figure below, the research method to be applied in this study is a combination of both graphics mapping and statistical analysis. Additionally, the time factor is also considered.

1.5.6 Management of Street Space

Studies on management can be divided into two types. Most of the scholars are focusing on the official management system fomulated by authorities. Takeshi

¹ Ying Zheng, 生活領域の多層性に関する研究 (the University of Tokyo, 2008).

² Junko Okudaira et al., "A Study on the Activity Brought About With a Temporary Setting in Public Space", *Archit. Plann. Environ. Eng.*, AIJ, No.623 (2008.01): 161–167.

Bias	Year	Author	Qualitative		Quantitative	Time Factor	Mapping Method		Keyword
			Element	Place			2D	3D	
Concept	1979	Y. Ashihara	√						secondary profile
	1982	A. Rapoport	√			√			semifixed-feature element
Graphic	1931	W. Kon	√					√	modernology
	1986	N. Fujimori	√					√	study of street observation
	2013	M. Bruno	√					√	borrowed space
	2014	Y. Tsukamoto	√					√	commonality
Statistics	1993	Y. Aoki			√	√	√		private use and territory
	1999	M. Andou	√		√		√		management and occupation
	2008	T. Niwa	√		√		√		mixture use of public and private
	2008	T. Arima	√		√		√		action trigger element
	2008	Y. Wakita	√	√	√		√		utilization of exterior space
	2014	D. Radivic	√	√			√	√	in-between spaces
Graphic+ Statistics	2018	S. Li	√	√	√	√		√	spontaneity

Fig. 1-15 Comparison of research methods (made by author)

Moriyama and Atsushi Deguchi¹ researched on the street management of historic districts in Singapore, in where some areas are Qilou distributed. Ways of management in three different regions are studied individually.

On purpose of learning from a successful case of temporary space management, Keiichiro Matsuo and Atsushi Deguchi² set eyes on Tan-fan market areas in Taichung . Typology of vendors, food stalls, and their distribution are clarified.

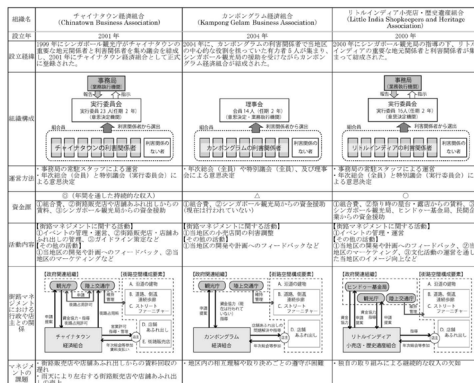
While studies on management are also taken on a "spontaneity" point of view. For example Ko Nakamura and Nobuaki Furuya³ researched on code and spontaneous order of hawkers in Bangkok. Instead of official management, the behavior of illegal utilization by hawkers is the focal point in their study. The existence of spontaneous management is proven. Afterwards, they did comparison studies on the management of hawkers in four Southeast Asian cities⁴.

¹ Takeshi Moriyama, and Atsushi Deguchi, "Street Management of Historic Districts in Singapore", *Archit. Plann. Environ. Eng.*, AIJ, No.661 (2011.03): 609-616.

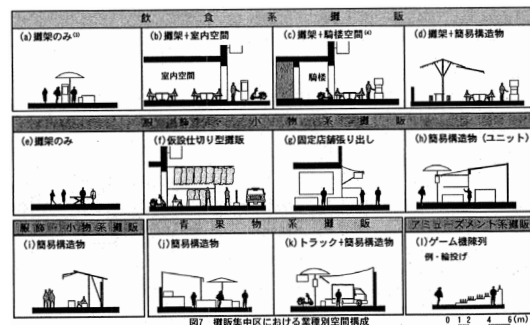
² Keiichiro Matsuo, and Atsushi Deguchi, "Analysis of Location and Changeable Space Organization of Tan-fan Market Areas in Taichung, Taiwan", *Archit. Kyushu*, AIJ, No.41 (2002.03): 353-356.

³ Ko Nakamura, and Nobuaki Furuya, "Hawker's Behavior on the Spontaneous Order as "Local Code" in Bangkok's Chinatown", *Archit. Plann. Environ. Eng.*, AIJ, No.649 (2010.03): 595-602.

⁴ Ko Nakamura, and Nobuaki Furuya, "A Study on Code and Spontaneous Order of Hawkers in 4 South-East Asian Cities", *Archit. Plann. Environ. Eng.*, AIJ, No.661 (2011.03): 583-591.



method applied by T. Moriyama (2011)



method applied by K. Matsuo (2002)

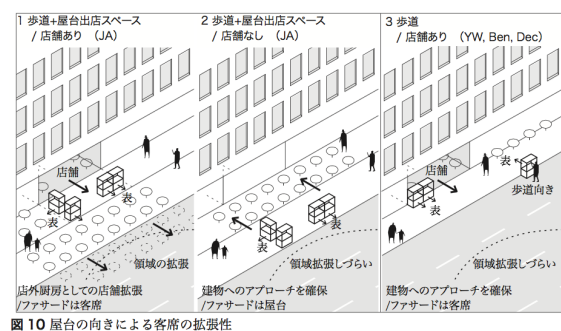


図 10 屋台の向きによる客席の拡張性

method applied by N. Nakamura (2011)

表 7 バクソイの街路上に設置される屋台・露店の種類及び設置数

soi		屋台			露店			歩道	行き止まり
		朝	昼	夜	朝	昼	夜		
1	平日	1・朝	3・昼	1・テ					
	休日	3・朝	2・昼	1・テ				○	×
3	平日						1		
	休日					3	1	○	×
3/1	平日	2・朝	2・昼			3			
	休日	2・朝	2・昼			3	3	×	×
5	平日								
	休日	1・テ	1・テ					○	×
7	平日						4		
	休日	1・昼					5	×	×
7/1	平日						6		
	休日						5	×	×
9	平日					1	4		
	休日						4	×	×
11	平日		1・昼	1・テ		2	4		
	休日		2・昼	2・テ		2	6	○	×
11/1	平日	1・朝	2・昼			3	2		
	休日					7		×	×
13	平日	1・朝	1・昼	1・テ		1	4		
	休日	1・朝	1・昼	2・テ		4	2	○	×

method applied by Y. Tsuboi (2010)

Fig. 1-16 Methods applied by scholars (sources refer to footnote)

Likewise, Yoshimichi Tsuboi¹ and others researched on the management of street space occupied by hawkers in Thailand, in which they analyzed the relationship among informal sectors and various urban and regulation factors, resulting in the calling on preserving the unique lifestyles and more flexible guidelines for management.

Toshio Otsuki² studied on the change and management of residential environment along the Roji in Shioiri, in which he described the expansion of living space and the spontaneous generated common management that is working in the Roji. And the physical environment "ohanabata" is seen as the result of common management.

¹ Yoshimichi Tsuboi, "A Study on Street Space Use in Bangkok, Thailand", *Archit. Plann. Environ. Eng.*, AIJ, No.647 (2010.01): 93–102.

² Toshio Otsuki et al., "Study on Change and Management of Residential Environment Along a Roji in Shioiri", *Summaries of technical papers of annual meeting*, AIJ, 1994 (1994.09): 179–180.

In summary, the management can be studied from two different perspectives: the official management and the exercised management. In the case of Qilou verandah space, since the phenomenon of spontaneity is contradictory to planning, it is necessary to study on the management from both sides.

1.5.7 Positioning

Regarding research subject and perspective, related studies can be classified into three clusters: neutral (studies on actual utilization), bias towards planning and management (studies of urban planning), and bias towards spontaneity (studies with the "spontaneity" perspective). And the positioning of this study is shown in the figure below.

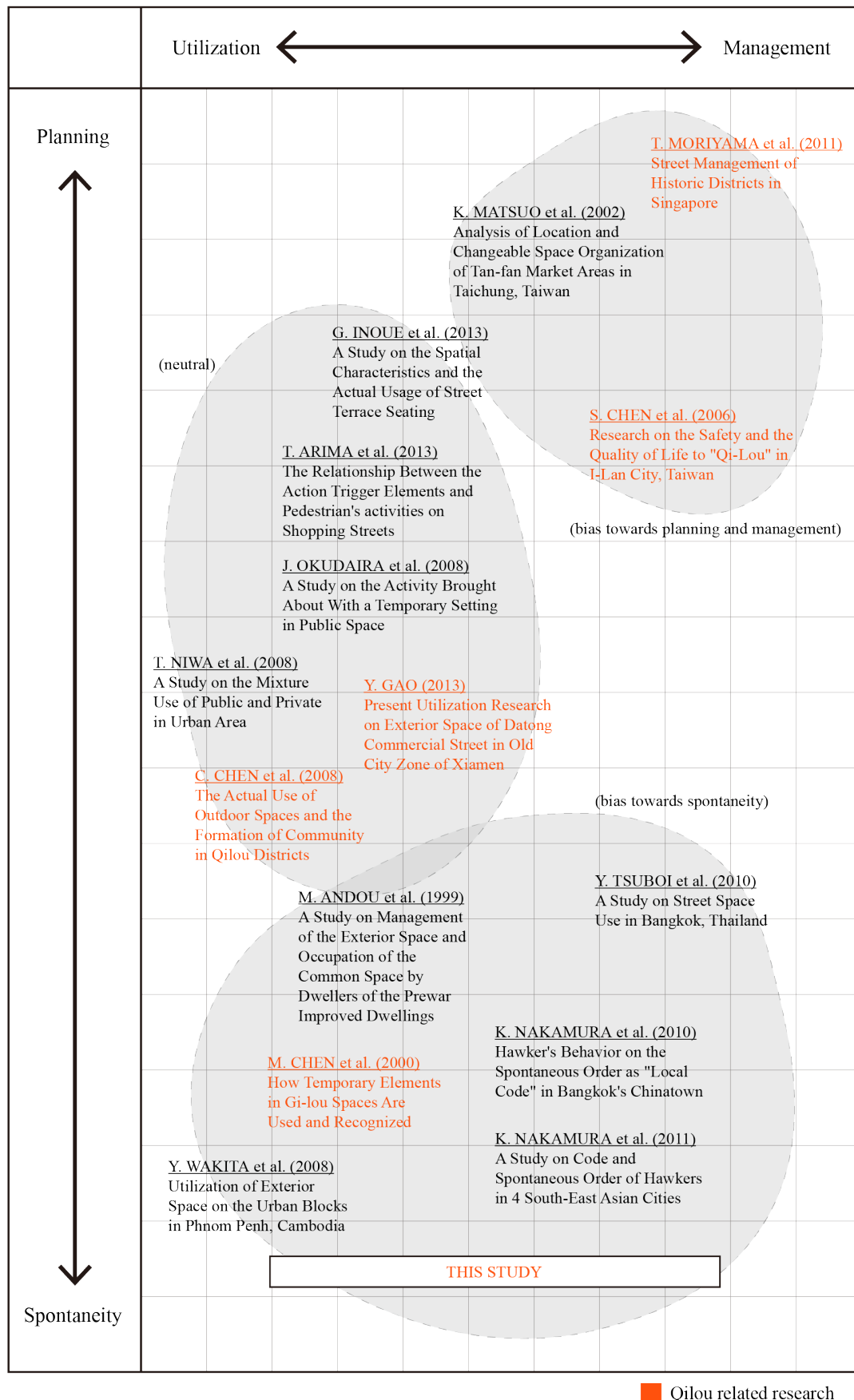


Fig. 1-17 Positioning (made by author)

1.6 Research Outline

Chapter 1, "Introduction", explains the research background, problem statement, objective and research question. The literature review is made from four aspects: spontaneity, Qilou verandah space, utilization of street space, and management of street space.

In Chapter 2 the research target, Amoy, is introduced. And according to the situation of utilization, three representative streets are chosen as the target street for this study. The background, street design, and business type of the target streets are analyzed and mapped.

Mechanism of spontaneity is analyzed with three sub-topics: "representation of spontaneity", "cause of spontaneity", and "control of spontaneity". And mixture methods are applied.

In Chapter 3, the representation of spontaneity is clarified with the research question of "How do people utilize Qilou verandah space?". Method of walk-through observation is applied, and the way people utilizing Qilou verandah space is captured and analyzed. Four analyses are conducted quantitatively: "Element", "Setting", "Behavior" and "Correlation".

In Chapter 4. the cause of spontaneity is clarified with the research question of "Why do people utilize Qilou verandah space?". Two rounds of questionnaire survey are applied with an architectural approach and personal approach. According to the data collected with the questionnaire, 4 topics are discussed quantitatively: "Architectural Problem", "Personal Reason", "Situation of Utilization", and "Spatial Network".

In Chapter 5, the control of spontaneity is clarified with the research question of "How do stakeholders manage Qilou verandah space?". Methods of interview and observation survey are applied. Three analyses are done qualitatively: "Background of Management", "Official Management", and "Exercised Management".

In Chapter 6, mechanism of spontaneity is made clear by integrating the knowledge acquired from previous chapters, and suggestions are made both generally and specifically.

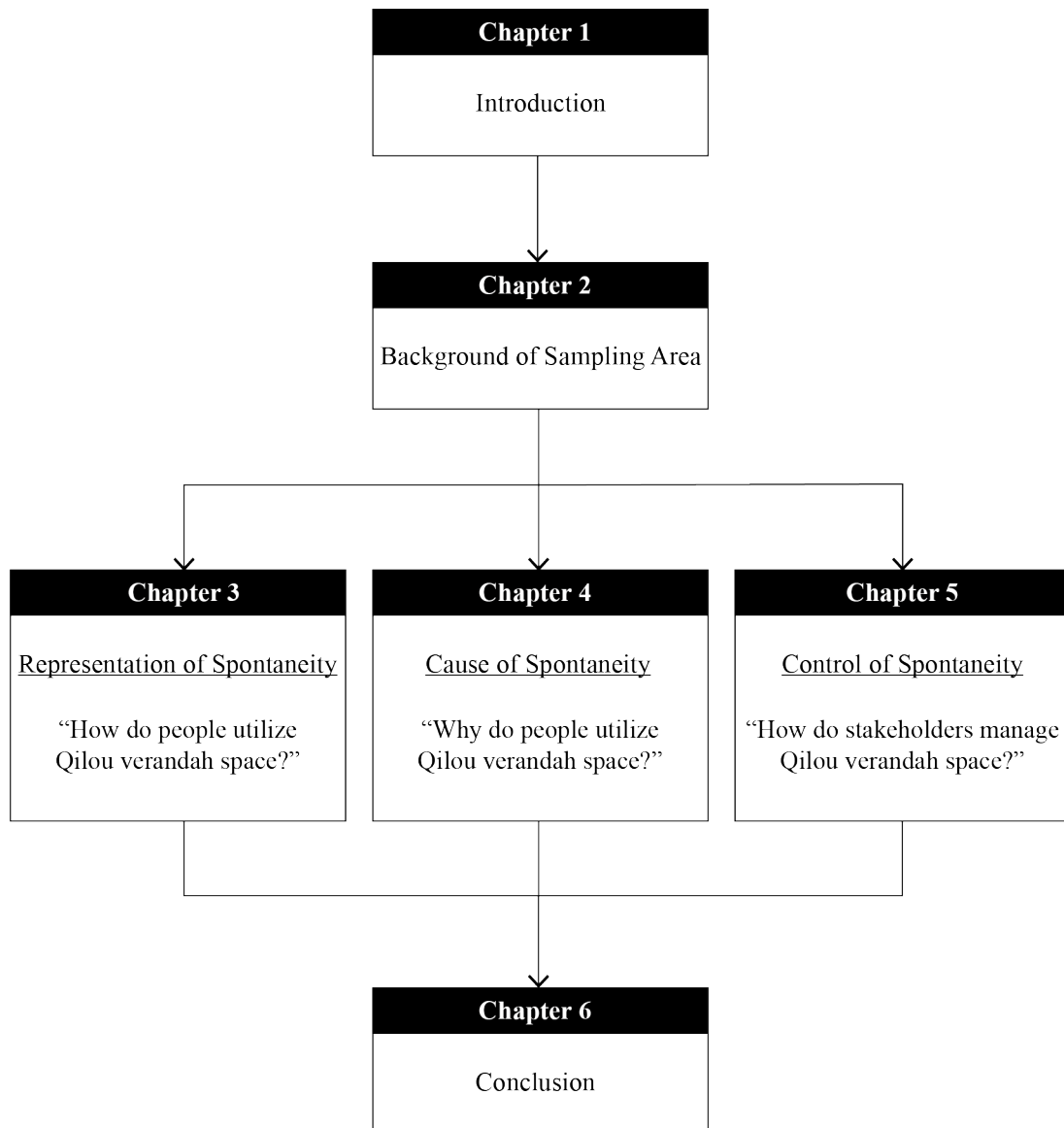


Fig. 1-18 Research framework (made by author)

1.7 Terminology

Terminology to be used in this research is listed as below:

Qilou Street

the street composed of connected and continuous Qilou buildings

Qilou Building

specific Arcade building originated from Bungalow in Southeast Asia and East Asia

Qilou Verandah Space

the recessed space on the ground floor of Qilou building

One Side of Qilou Street

one of the two sides of a Qilou street, excluding driveway

Unit of Qilou Building

the corresponding part of Qilou building in the range of one column spacing

Unit of Qilou Verandah Space

the corresponding Qilou verandah space within the range of one column spacing

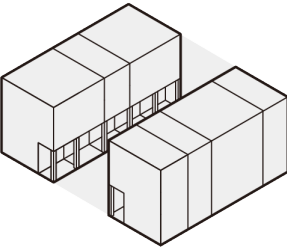
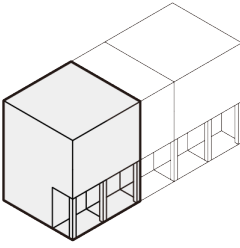
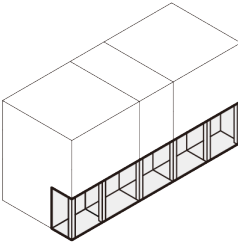
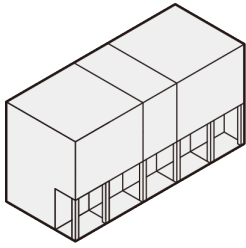
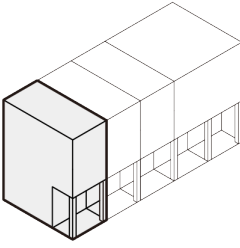
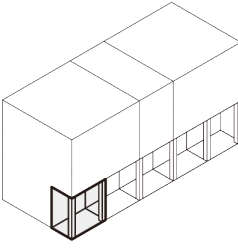
Qilou Street	Qilou Building	Qilou Verandah Space
		
One Side of Qilou Street	Unit of Qilou building	Unit of Qilou verandah space
		

Fig. 1-19 Terminology applied in this study (made by author)

Spontaneity

spontaneous behavior against authorized planning

Shopkeeper

the owner of the shop or staff working in the shop

Visitor (of a street)

people who come to the street for short-term activities, including customer of the shop, and tourist who pay a visit to the street

Resident (of a street)

people who are living in the neighborhood

Vendor

an enterprise that contributes goods or services, including street vendor, food stall, hawker and so on

City Inspector

(城管) government officer who is responsible for the management and law enforcement in the urban space including street

Functional Space

functional architectural space such as kitchen, toilet, living room and so on

3 Duties

(门前三包) an essential self-managing regulation for the shopkeepers in China

Unspoken Rule

rules imposed in the environment that are not voiced or written down

Spontaneous Order

spontaneously-emerged order without official planning

Chapter 2: Background of Sampling Area

2.1 Background of Amoy

Amoy (厦門), also known as Xiamen, belongs to Fujian Province, China. Located in the southeastern part of Fujian Province, Amoy is a major city in Southern Fujian Region (Minnan Region). It is a sub-provincial level special economic zone, also an essential central city, port and scenic tourist city on the southeast coast.

The land area of Amoy is 1699.39 square kilometers, and the sea area is more than 390 square kilometers¹. Geographically, it can be divided into two parts, the Amoy island, and the mainland. As of 2016, the built-up area of Amoy's urban area was 334.64 square kilometers, with a permanent population of 3 million 920 thousand. With the subtropical monsoon climate, Amoy is mild and rainy, with an annual average temperature of about 22 degrees Celsius.

Amoy is a famous tourist city in China. Kulangsu (also known as Gulangyu) is a small island belonging to Amoy. It used to be the concession of 15 foreign countries since 1902. And on July 8, 2017, Kulangsu entered the World Heritage list as "Kulangsu, a Historic International Settlement," becoming China's fifty-second World Heritage site, which has boosted the tourism development. Besides, Qilou is another famous tourist attraction of Amoy. The birth of Qilou is due to the international cultural exchange.

Amoy has a profound history of cultural exchange. For thousands of years, Amoy people have been fond of going abroad for business, including Southeast Asian areas of Singapore, Malaysia, Indonesia, and Philippines. That is part of the reason why in these countries nowadays there are many overseas Chinese, and the language in Southern Fujian Region is also accessible in these countries. Some of the overseas Chinese came back to Amoy, and they brought back wealth, knowledge, culture, and Qilou.

¹ Government of Amoy, <http://www.xm.gov.cn>.

Name	Amoy (廈門, Xiamen, Hsiamen)
Ground Area	1699.39 km ²
Population	3.92 million (2016)
Density of Population	2306 / km ² (2016)
Language	Mandarin / Hokkien (Taiwanese)
Climate	subtropical monsoon climate
Average Temperature	22 °C
Tourist Spot	Kulangsu, Qilou, Xiamen University, etc.
Features	special economic zone of China
	tourist city
	Kulangsu as World Heritage of UNESCO

Fig. 2-2 Background of Amoy (made by author, data from website of Xiamen Municipal Government, P. R. China.)

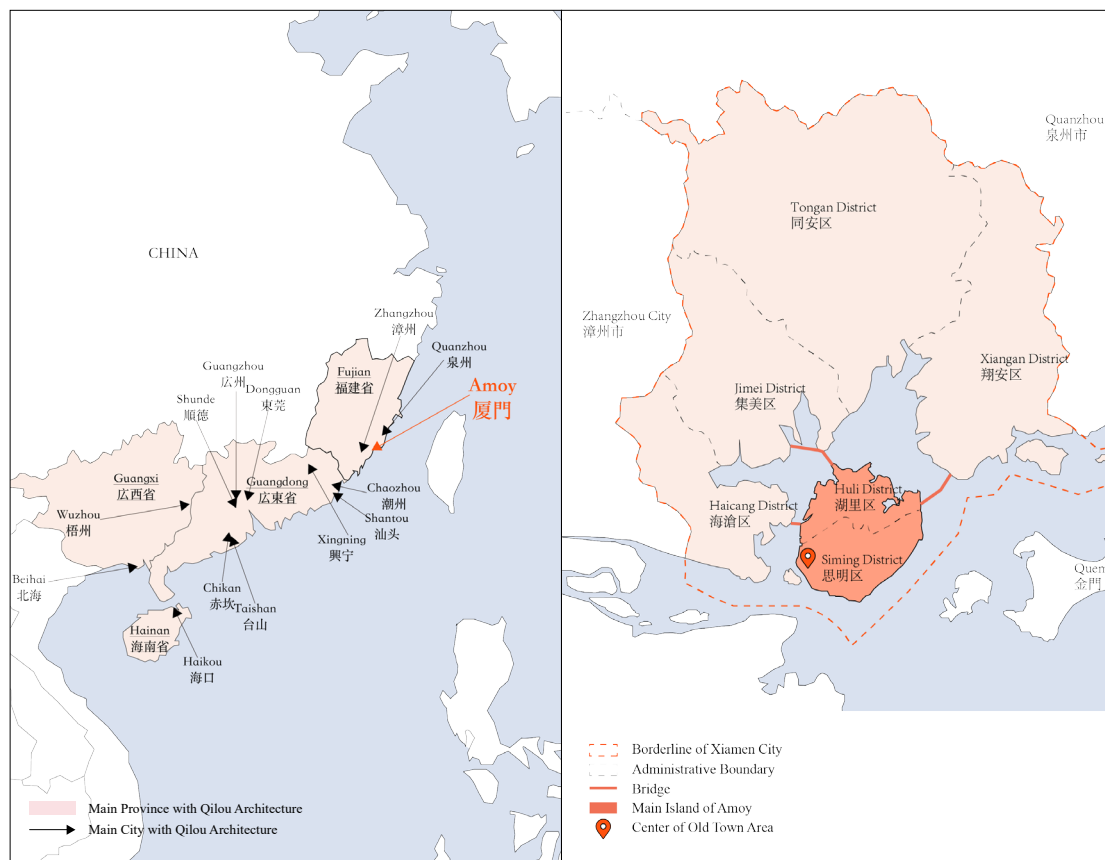


Fig. 2-3 Location of Amoy (made by author)

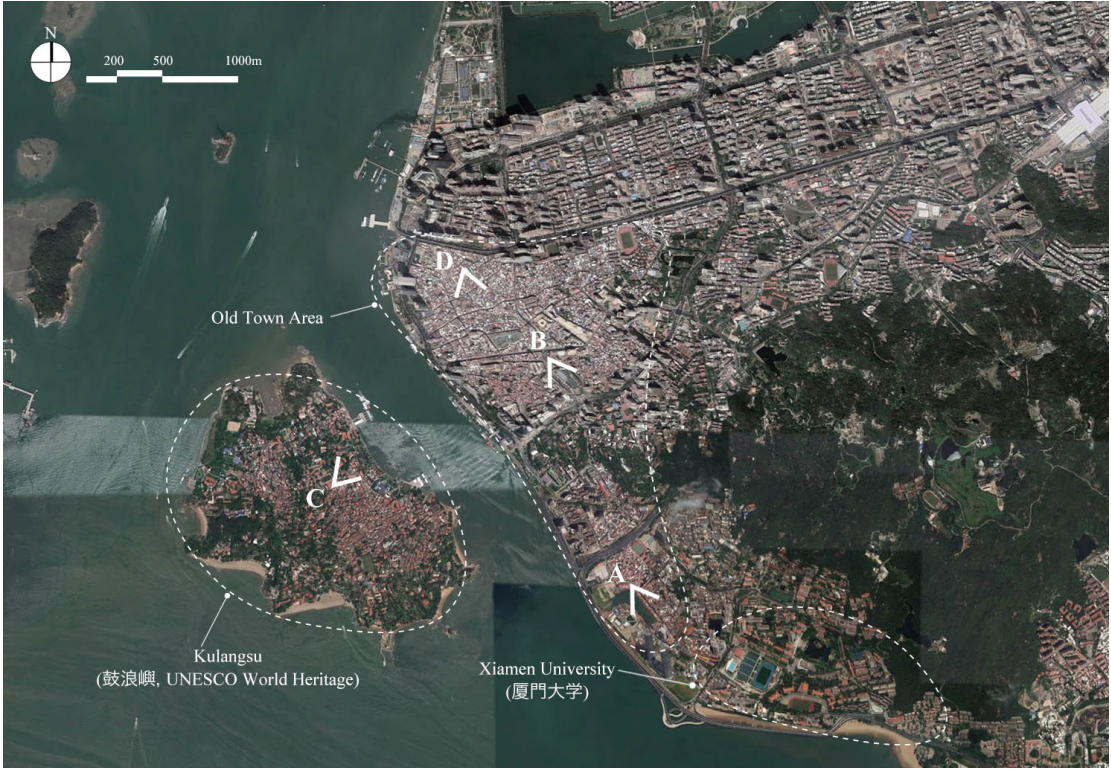


Fig. 2-4 Central part of Amoy (made by author, photo from Google Earth)



Fig. 2-5 Views of Amoy

2.2 Qilou in Amoy

2.2.1 History

Qilou in Amoy has a history of more than 100 years. In 1918, with the experience of Qilou construction in Guangzhou, Jiongming Chen started promoting the construction of Qilou street in South Fujian Region¹. In 1920, a large number of overseas Chinese returned home from Southeast Asia and invested in their hometown in response to the calling of Amoy Municipal Council. With the preference of South Asian colonial architecture, Amoy's Qilou architecture was further promoted by them. In 1920, the construction of the first Qilou street in Amoy started. Construction of Qilou streets entered a new stage after the establishment of the government office that is responsible for the construction of street organized by Guogeng Lin in 1625, afterwards the structure of Qilou streets in Amoy was gradually formed². It is said that in 1930s, there were about 20 Qilou streets in Amoy³. In 1937, the Sino-Japanese War broke out, and the construction of Qilou street stopped. The first stage of Qilou construction was concluded.

The construction of Qilou is strongly related to the urban regeneration process. To transform the orderless old town area of Amoy into a modern harbor area, wider modern streets were constructed, and Qilou buildings were built along the streets. Three reasons can be concluded for the adoption of Qilou. The first reason is that the verandah space of Qilou is climate-friendly for the hot and humid climate in Amoy⁴. The second reason is that due to the widening of the street, landlords lost some of the land areas, and the building areas on top of the walkway can compensate the landlords for some of the building areas. And the third reason is that of the preference of the overseas Chinese, who investigated on the construction of Qilou streets⁵.

Amoy did not develop vigorously soon after the founding of the People's Republic of China. Because of the geographical location, Amoy and Taiwan had a long-term confrontation, resulting in the slow state of urban development. Until 1990, with the burst of China's economy and the fast process of urbanization, about 1/4 of the old

¹ Mang Gao, *Research on Heritage and Development of Arcade in Old Xiamen City* (Xiamen University, 2014): p 17.

² Mang Gao, *Research on Heritage and Development of Arcade in Old Xiamen City* (Xiamen University, 2014): p 17.

³ http://www.sohu.com/a/121204605_411878.

⁴ Zhe Yang, *Fact, Imaging and Feeling of Urban Space* (Xiamen University Press, 2008): p 220.

⁵ Mang Gao, *Research on Heritage and Development of Arcade in Old Xiamen City* (Xiamen University, 2014): p 17.

town area in Amoy was transformed¹. At this stage, Amoy's urban construction had a profound impact on the urban space and texture of Amoy. Many of the buildings in the old town area were demolished, and the continuous interface of Qilou was destroyed and fragmented, with only a few streets still retaining the consistency. Besides, some of the Qilou buildings were replaced by huge scale urban complex as commercial and cultural centers. Although the new building attempts to inherit the architectural elements of Qilou architecture morphologically, the damage to the old town district is still in evidence. As a result, the original urban context and spatial characteristics are in danger.

Especially since the 2010s, people have come to realize the importance of Qilou as part of the culture. The awareness of the preservation of Qilou has been raised. Demolition and reconstruction of Qilou are strictly regulated.

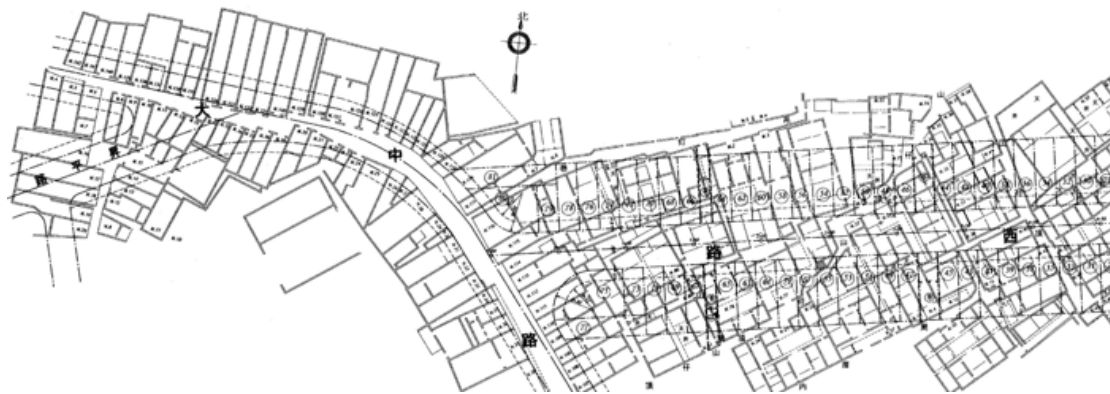


Fig. 2-6 Overlapping of "before" and "after" of Qilou street construction in Simingxi Road (source: Shigenao Onda, "REDESIGNING AMOY (XIAMEN) - City improvement by street planning with covered-sidewalks in a southern China during the early 1930s", *Archit. Plann. Environ. Eng.*, AIJ, No.611 (2007.01): 246.)

¹ Mang Gao, *Research on Heritage and Development of Arcade in Old Xiamen City* (Xiamen University, 2014): 27.



Qilou in 1920s



Qilou in 1920s



Qilou in 1980s



Qilou in 1980s

Fig. 2-7 Qilou street in old days (source: "XiaHeLuDeBianQian")



Kaiyuan Rd. (Qilou built in 1920s)



Datong Rd. (Qilou built in 1920s)



Zhongshan Rd. (Qilou rebuilt in 2000s)



Simingxi Rd. (Qilou rebuilt in 2000s)

Fig. 2-8 Qilou street nowadays (photos taken by author)

2.2.2 Distribution

The original structure of Qilou distribution in Amoy was "five vertical and two horizontal." The layout was established in the 1930s. At that time, the continuous Qilou facade has formed uniform townscape with characteristics. It is said that the total length of Qilou in Amoy before 1949 reached 27km¹.

Nowadays, many Qilou buildings have been damaged to varying degrees, and some were torn down completely. The total length of Qilou is around 10km². The coherent townscape is no longer existing in most of the areas.

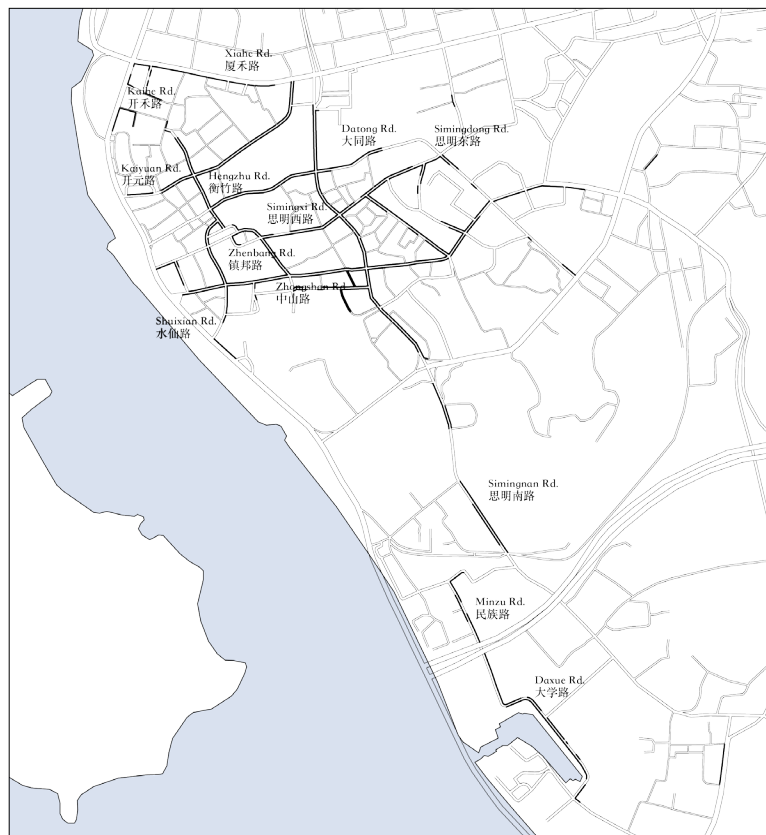
The comparison of Qilou distribution in the 1930s and 2016 is shown in the figure to the right page.

¹ Qing Mei, and Ziyang Zheng, "Comparative Study of Modern Arcade Streets and Arcade Buildings of Guangzhou and Xiamen", *Housing Science* (2015.07): 5-10.

² Qing Mei, and Ziyang Zheng, "Comparative Study of Modern Arcade Streets and Arcade Buildings of Guangzhou and Xiamen", *Housing Science* (2015.07): 5-10.



1930s (data refer to Qing Mei (2015))



2016

Fig. 2-9 Distribution of Qilou in Amoy (made by author)

2.3 Utilization of Qilou Verandah Space

2.3.1 User

Qilou verandah space is a common space for various users engaged in diverse activities. The users of Qilou verandah space can be classified into four categories: shopkeeper, visitor, resident, and others.

Shopkeeper

The shopkeeper is defined as the owner of the shop or staff working in the shop. They are the primary users utilizing Qilou verandah space. The frequency of utilization is exceptionally high, and the term of stay is long. The main activities shopkeepers perform include selling, working, resting, drinking tea, cooking, doing laundry, and so on. Because of the frequency of utilization and term of stay, they are regarded as the primary user of Qilou verandah street. So the rest of the study is taking shopkeeper as the main research target.

Visitor

The visitor is defined as people who come to the street for short-term activities, including customer of the shop, and tourist who pay a visit to the street. They utilize Qilou verandah space frequently, but the term of stay is short. Activities visitors perform include shopping, dining and so on.

Resident

The resident is defined as people who are living in the neighborhood. The period they stay in Qilou verandah space varies. Generally speaking, the residents have developed a relatively close relationship with shopkeepers, which leads to the tendency of more diverse activities. Main activities residents perform such as chatting, tea drinking, resting, and playing cards.

Others

Other users include vendor, sanitation worker, photographer and so on. The frequency of utilization, the term of stay and activity differ from one another.







			
No.	1	2	3
User Group	shopkeeper	visitor	resident
Frequency	very high	high	medium
Term of Stay	long	short	medium
Activity	selling	shopping	chatting
	working	dining	drinking tea
	resting		resting
	drinking tea		playing cards
	cooking		shopping
	chatting		
	playing cards		
	baby sitting		
			
No.	4	5	6
User Group	vendor	sanitation worker	photographer
Frequency	low	low	medium
Term of Stay	medium	short	short
Activity	selling	cleaning	photographing
	cooking	resting	chatting
	chatting	chatting	dining
	resting		

Fig. 2-10 User group of Qilou verandah space (made by author)

2.3.2 Utilization Ratio

According to the field survey conducted in October 2016, the utilization ratio is made clear. The method for calculating utilization ratio is to divide the number of Qilou unit with utilization by the total number of Qilou unit in the street. The result is shown below. The ratio differs among streets. The area with the highest ratio is the local market area, where all the Qilou verandah space is fully occupied as the market. And the area with the lowest ratio is the core shopping area in Amoy. To maintain the urban landscape, the management of these streets is rigorous, resulting in the significantly low utilization ratio.

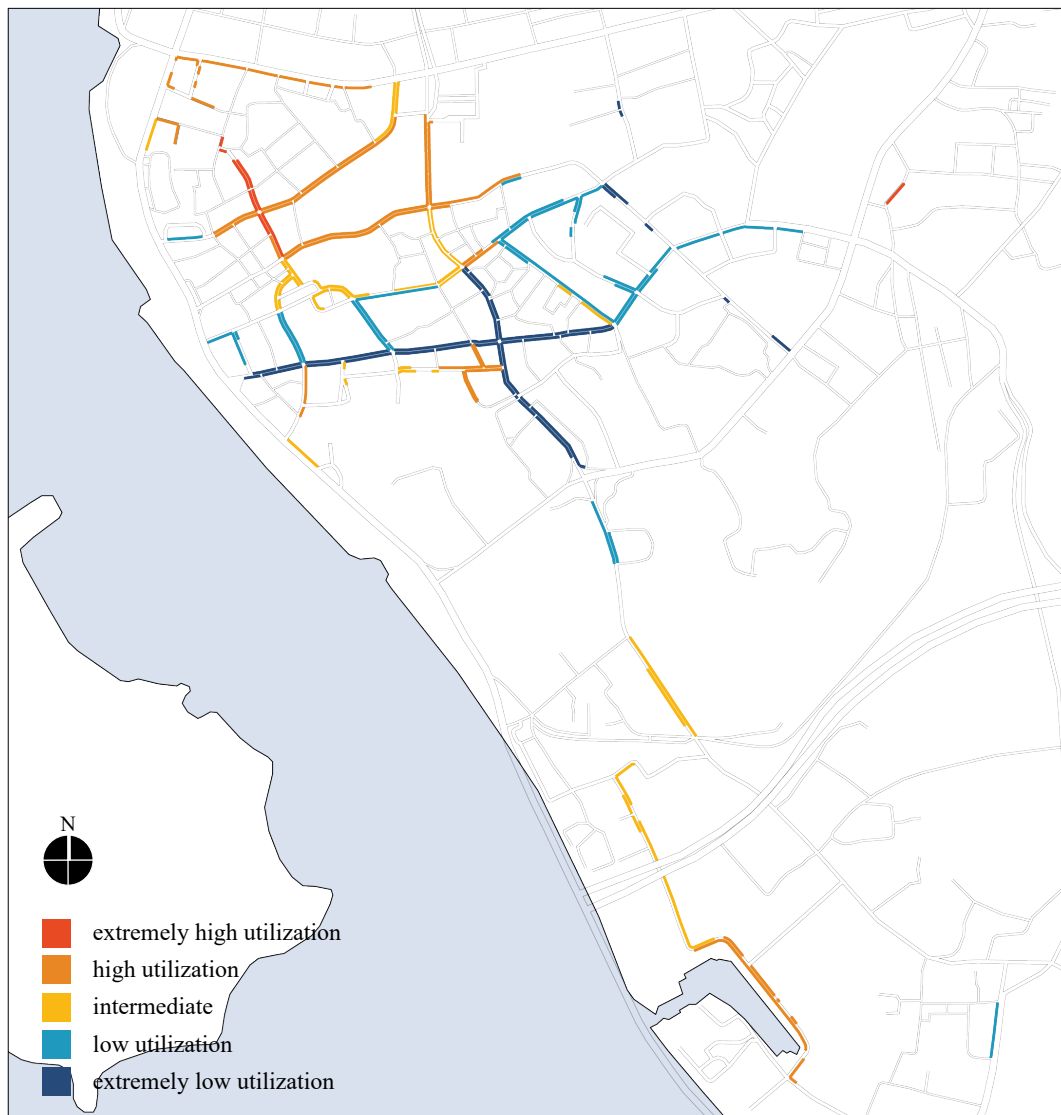


Fig. 2-11 Frequency of spontaneous utilization (as of October 2016, made by author)

2.3.3 Selection of Sampling Area

Three target streets are chosen according to 5 principles:

1. High utilization ratio;
2. Qilou is well preserved and continuous;
3. Historical area;
4. Context is well preserved;
5. Famous among local people.

As a result, Kaiyuan Road, Datong Road, and Daxue Road are chosen.

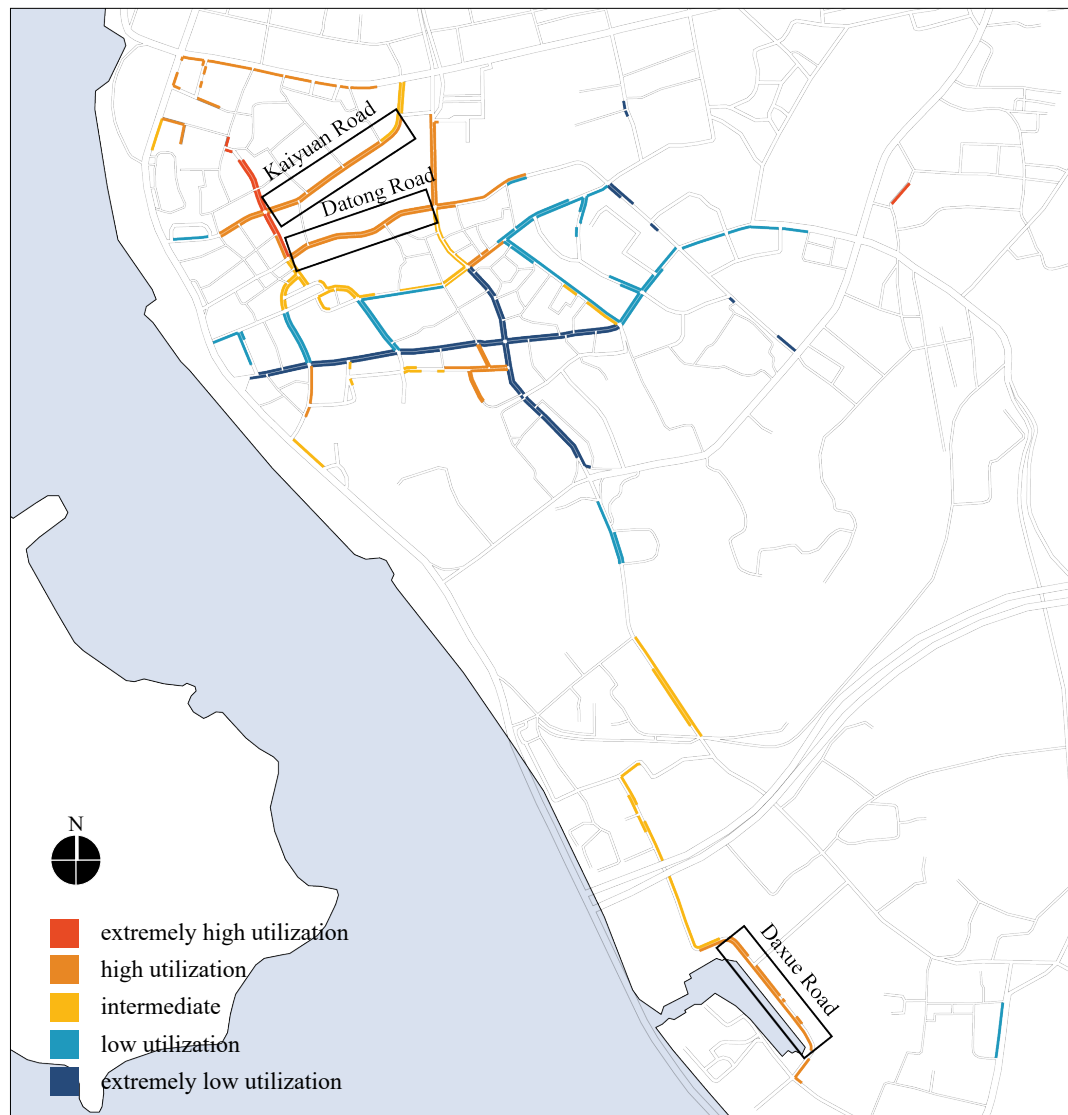


Fig. 2-12 Selection of three target streets (made by author)

2.4 Sampling Area

2.4.1 Background

Street	Kaiyuan Road	Datong Road	Daxue Road
Construction Year	1920	1926	1927
Full Length	806m	1099m	2087m
Surrounding Environment	residential area, local market	residential area	residential area, university, creative park
Selected Section			
Length	411m	371m	364m
No. of Qilou Unit	176	187	125
No. of Shop (G.Fl.)	121	117	83

Fig. 2-13 Background of 3 target streets (made by author)

Kaiyuan Road (开元路)



Fig. 2-14 Streetview of Kaiyuan Road (photo taken by author)

Kaiyuan Road is the first street built in modern Amoy's municipal construction. It was built in December 1920 and completed in August 1924. The total length is 806m, with the width of 9.1m. Because Kaiyuan Road is close to Amoy's fourth and fifth terminals¹, which were main entrances to Amoy, Kaiyuan Road became the

¹ Congjiang Guo, *Xiamen Memory* (Lujiang Publishing House, 2016): 125.

commercial center of Amoy¹. However, with the construction of Zhongshan Road, the status of Kaiyuan Road as commercial center gradually disappeared. Nowadays, Kaiyuan Road is regarded as the residential area located in the old town district. And it is mainly utilized as the local market by locals in Amoy. The selected research segment is 411m long, with continuous Qilou buildings on both sides of the street. There are a total number of 176 Qilou units and 121 shops as of October 2016.

Datong Road (大同路)



Fig. 2-15 Streetview of Datong Road (photo taken by author)

Datong Road is built after Kaiyuan Road started from 1926 and finished in 1929. The total length is 1099m. From 1929 to 1958, Datong Road is the most prosperous commercial street in Amoy. Because it is near the ferry terminal and has a good location, it soon became the most concentrated place of Amoy. With its proximity to the post offices, customs, and other important institutions, it became a trading and commercial center of Amoy at that time². However, after the construction of Zhongshan Road, the vitality of Datong Road also disappeared. Now it is surrounded by residential areas in the old town district, becoming is a place for locals to buy daily necessities. The selected research segment is 371m long with relatively continuous Qilou buildings on both sides of the street. There are a total number of 187 Qilou units and 117 shops as of October 2016.

¹ http://www.360doc.com/content/14/0713/09/9087553_394043161.shtml

² <https://baike.baidu.com/item/大同路/13850119?Fr=aladdin>

Daxue Road (大学路)



Fig. 2-16 Streetview of Daxue Road (photo taken by author)

Daxue Road, with the meaning of "road of university" is located next to Xiamen University. Daxue Road was built in 1927 with a total length of 2087m. Even though it is a long street, Qilou building only accounts for a small part. The selected research segment is 364m long with relatively continuous Qilou buildings on both sides of the street. There are a total number of 125 Qilou units and 83 shops as of October 2016. The width of the road in the selected segment is 9.1m, and the width of Qilou verandah space is 2.4m. The selected segment is located next to a traditional harbor, which is regarded as the origin place of Amoy. Nowadays, surrounded by residential areas, university, and cultural parks, Daxue Road has become a tourist site. There are many cafe and restaurants on Daxue Road, visited by tourists and students.

2.4.2 Street Design

As stated in the literature, the width of Qilou street in Amoy can be classified into four types: 15.2m, 12.8m, 9.1m and 6.1m. The width of Qilou verandah space can be categorized into 3m, 2.4m and 1.8m. The height of Qilou verandah space is about 4m-6m¹. The story of Qilou buildings is about three to four stories, sometimes 5 stories or even 7 stories².

Kaiyuan Road

The total width of Kaiyuan Road is about 9.1m. It is designed with single-lane driveway. In the middle of 2017, Kaiyuan Road was renovated, and the 2.4m cycleway was redefined with the clear boundary of the guardrail. There are parking lots on one side of the street, among which 46 parking lots are for cars, and 7 are for bicycles (each for 8-10 bicycles). The width of Qilou verandah space is 2.4m, and the height is around 4.2m. Tactile paving is set up in Qilou verandah space of Kaiyuan Road.

Datong Road

The total width of Datong Road is about 9.1m. It is designed with single-lane driveway. There are parking lots on one side of the street, and all the 41 parking lots are for cars. The width of Qilou verandah space is 2.4m, and the height is around 4.2m. Tactile paving is set up in Qilou verandah space of Datong Road as well.

Daxue Road

Unlike the other two roads, Daxue Road is designed with two-lane driveways. There is no parking lot for either car or bicycle. The width of Qilou verandah space is 2.4m, and the height is around 4.2m. Qilou verandah space of Daxue Road is not applied with tactile paving yet.

¹ Qing Mei, and Ziyang Zheng, "Comparative Study of Modern Arcade Streets and Arcade Buildings of Guangzhou and Xiamen", *Housing Science* (2015.07): 5-10.

² Mang Gao, *Research on Heritage and Development of Arcade in Old Xiamen City* (Xiamen University, 2014).

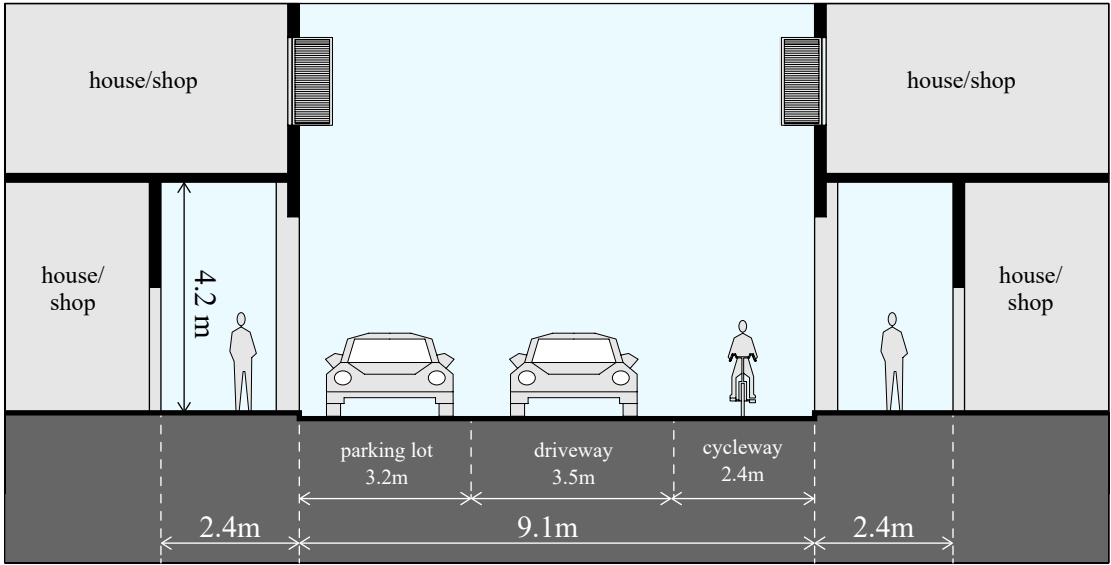


Fig. 2-17 Section of Kaiyuan Road (made by author)

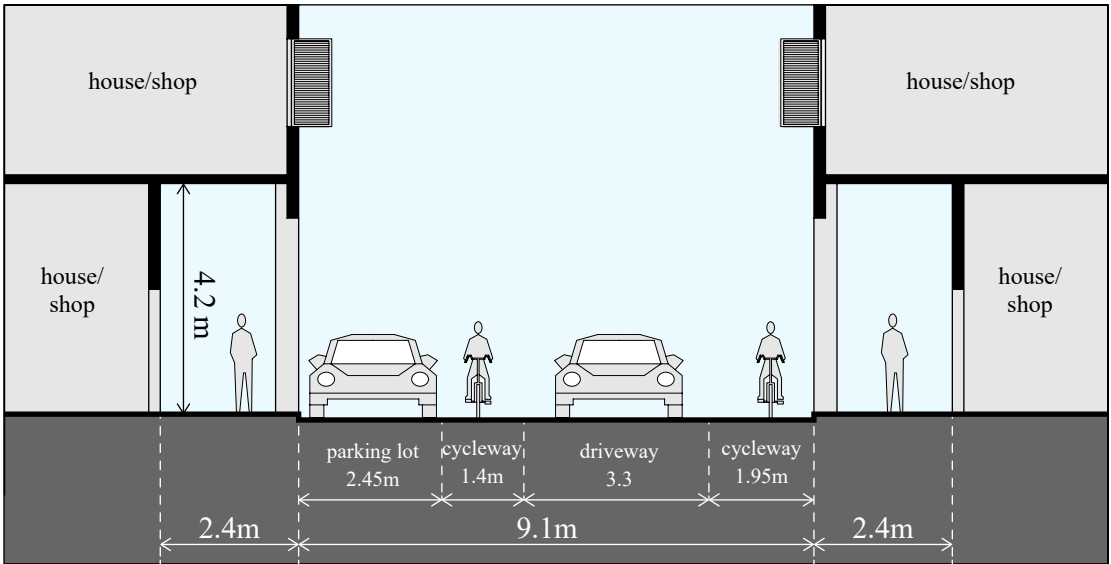


Fig. 2-18 Section of Datong Road (made by author)

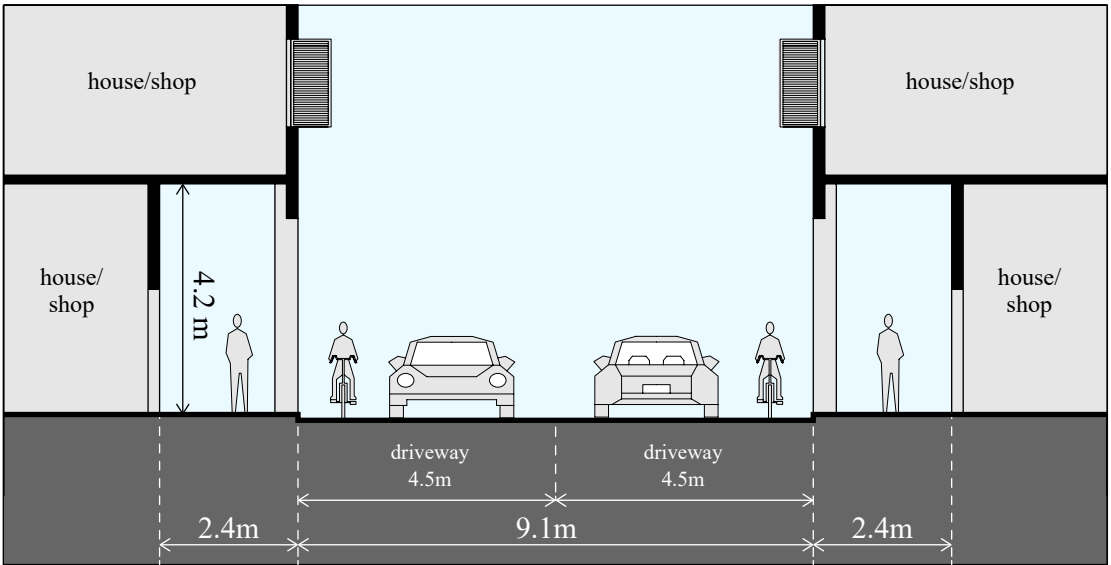


Fig. 2-19 Section of Daxue Road (made by author)

2.4.3 Business Type

Not all of the Qilou units along the street are being used as the shop. Some are houses, vacant units, and units that are under construction. As a result, the status of Qilou unit can be classified as "shop", "house", "vacant" and "under construction". Referring to a related study by Y. Wakita¹ and T. Moriyama², the business type in Qilou streets of Amoy can be summed up in 4 categories: Retail (R), Restaurant (RES), Service (S), and Others (O). And 9 sub-categories are applied to classify a total of 37 items.

In the three target streets, shops make up most of the units. And there are a certain number of houses along the street. Kaiyuan Road and Daxue Road have a more significant proportion of houses. Because of ongoing construction and renovation, more than 1/4 units in Datong Road are vacant or under construction.

Regarding business, the leading business types of **Kaiyuan Road** are R2: Food, R3: Daily Goods and RES1: Meal. It shows that Kaiyuan Road has a significant proportion of food sales, daily goods sales and wholesale as a local market.

In **Datong Road**, the central business types are R3: Daily Goods, S2: Daily Service and R4: Cultural Goods. Among them, Daily Goods is the most common, business type and Daily Service is the second common business type. This is in line with Datong Road's background as a place for residents to purchase daily necessities. At the same time, Datong Road is also an essential place for wedding products and antiques in Amoy. Therefore, Cultural Goods is also one of the primary business types of Datong Road.

In **Daxue Road**, the leading business types are RES1: Meal, RES2: Cafe & Dessert and R3: Daily Goods. The restaurant and cafe on Daxue Road account for nearly half of all the shops, which is closely related to the development of tourism and cultural creativity in Daxue Road. As a combination of cultural and creative industries and traditional culture, there are still many daily grocery stores in Daxue Road.

¹ Yoshihisa WAKITA, Hideo SHIRAISHI, "Utilization of Exterior Space on the Urban Blocks in Phnom Penh, Cambodia", *Archit. Plann. Environ. Eng.*, AIJ, No.631 (2008.09): 1939–1945.

² Takeshi Moriyama, and Atsushi Deguchi, "Street Management of Historic Districts in Singapore", *Archit. Plann. Environ. Eng.*, AIJ, No.661 (2011.03): 609-616.

Status	Category	Sub-Category	Item	
Shop	Retail (R)	R1:Grocery (2 items)	1	Grocery Store
			2	Convinient Store, Supermarket
		R2:Food (3 items)	3	Fresh Meat, Fish, Vegetable, Fruit
			4	Wholesale, Grain, Oil
			5	Cooked Food, Pastry
		R3:Daily Goods (7 items)	6	Hardware, Wholesale
			7	Household Product
			8	Electrical Product, Clock and Watch
			9	Pharmacy
			10	Flower
			11	Clothes, Shoes
			12	Jewelry
		R4:Cultural Goods (6 items)	13	Book
			14	Art Material, Stationery
			15	Antique, Gift
			16	Tea
			17	Wedding, Funeral, Religion
			18	CD/DVD
	Restaurant (RES)	RES1:Meal (3 items)	19	Local Fastfood
			20	Local Restaurant, BBQ, Hawker Stall
			21	Middle or High Class Restaurant
		RES2:Cafe & Dessert (2 items)	22	Cafe, Teahouse, Bar
			23	Soft Drinks, Dessert
	Service (S)	S1:Repairing (3 items)	24	Waste Recycling
			25	Building Material, Material Cycling
			26	Electric Repair, Bike Repair
		S2:Daily Service (7 items)	27	Barber Shop
			28	Massage
			29	Lottery
			30	Mobile Phone, Mobile Service
			31	Printing Shop, Advertisement
			32	Clinic, Hospital
			33	Agencies, Express Delivery
	Others (O)	O:Others (4 items)	34	Museum, Culture Facility
			35	Office, Bank
			36	Hotel, Hostel
			37	Net Cafe
House				
Vacant				
Under Construction				

Fig. 2-20 Business type (made by author)

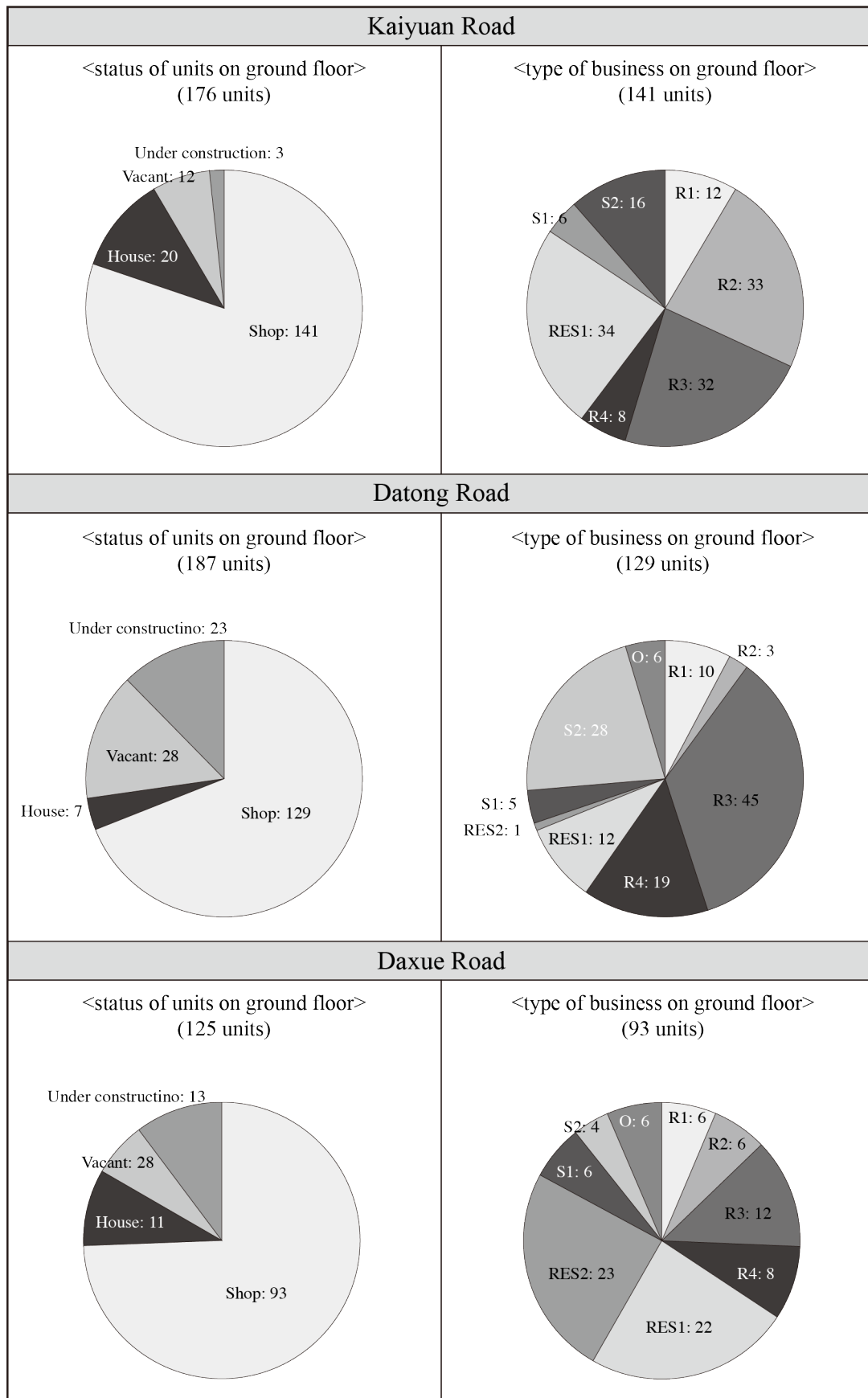


Fig. 2-21 Human behavior in Qilou verandah space (photos taken by author)

2.5 Mapping of Target Streets

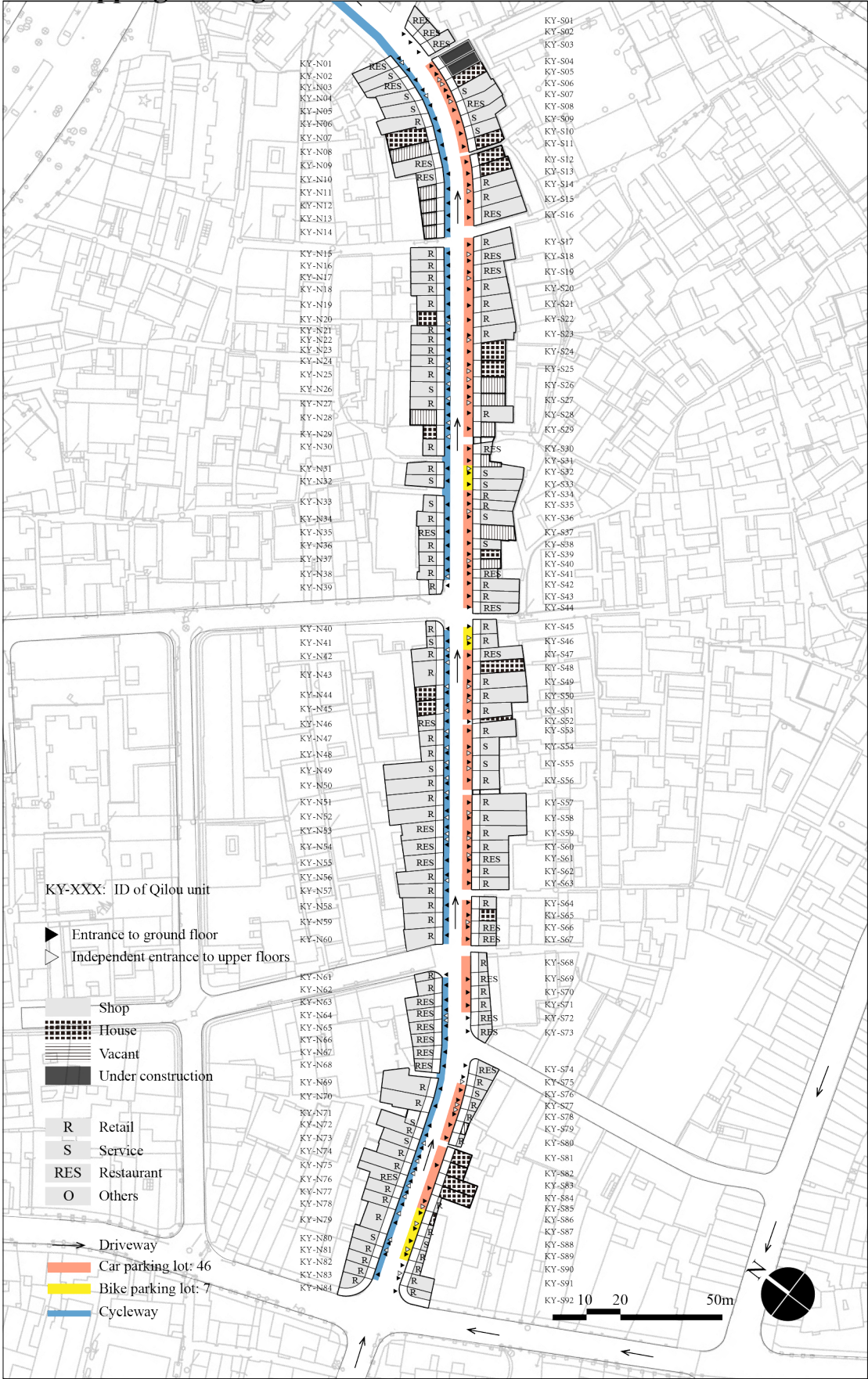


Fig. 2-22 Mapping of Kaiyuan Rd. (made by author, data as of October 2016)



street view



street view



parking lot for bike



charging electric bike



Qilou verandah space



Qilou verandah space



Qilou verandah space



Qilou verandah space

Fig. 2-23 Kaiyuan Road (photos taken by author)

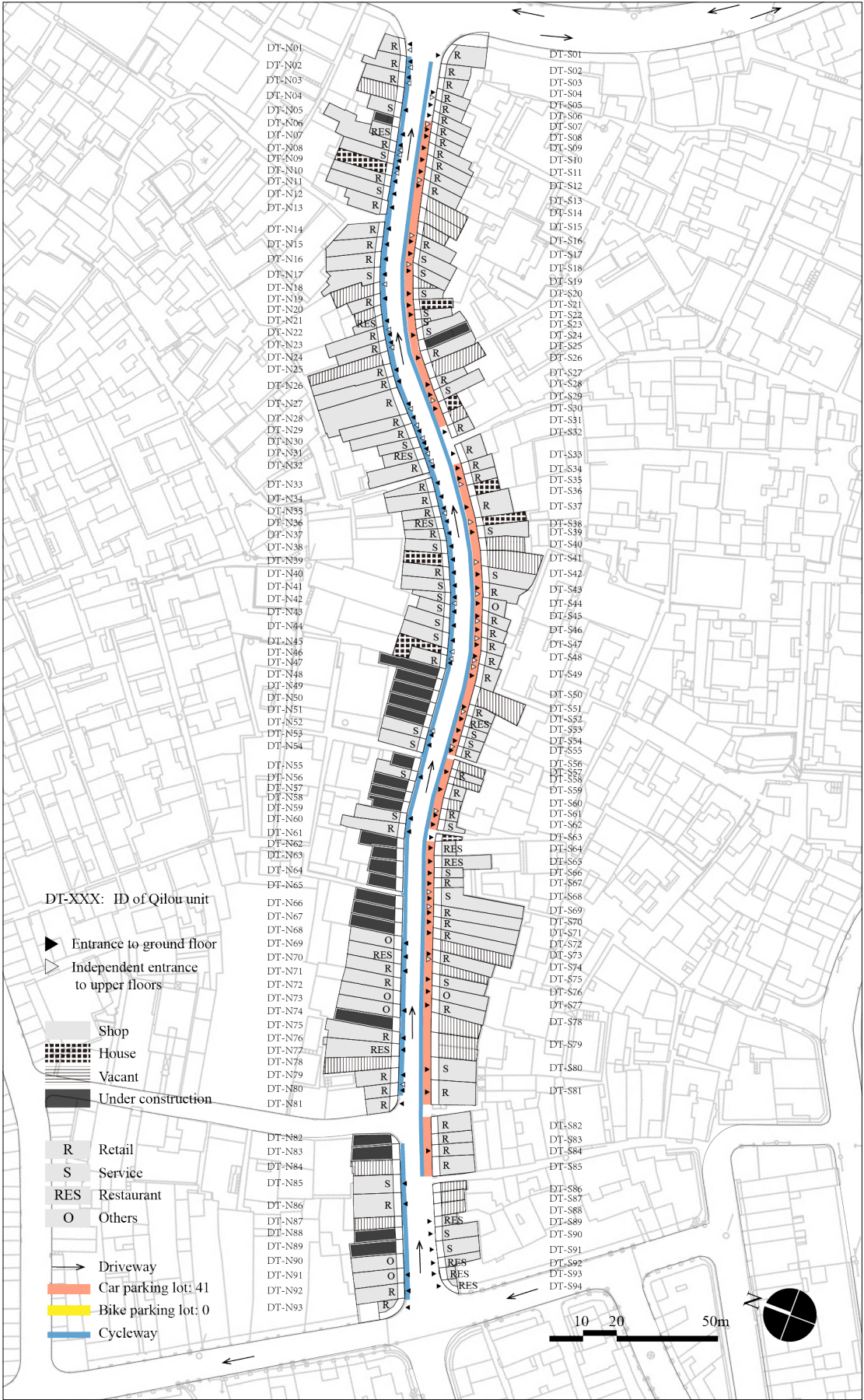


Fig. 2-24 Mapping of Datong Rd. (made by author, data as of October 2016)



street view



street view



street view



architecture (hotel)



Qilou verandah space



Qilou verandah space



Qilou verandah space



Qilou verandah space

Fig. 2-25 Datong Road (photos taken by author)

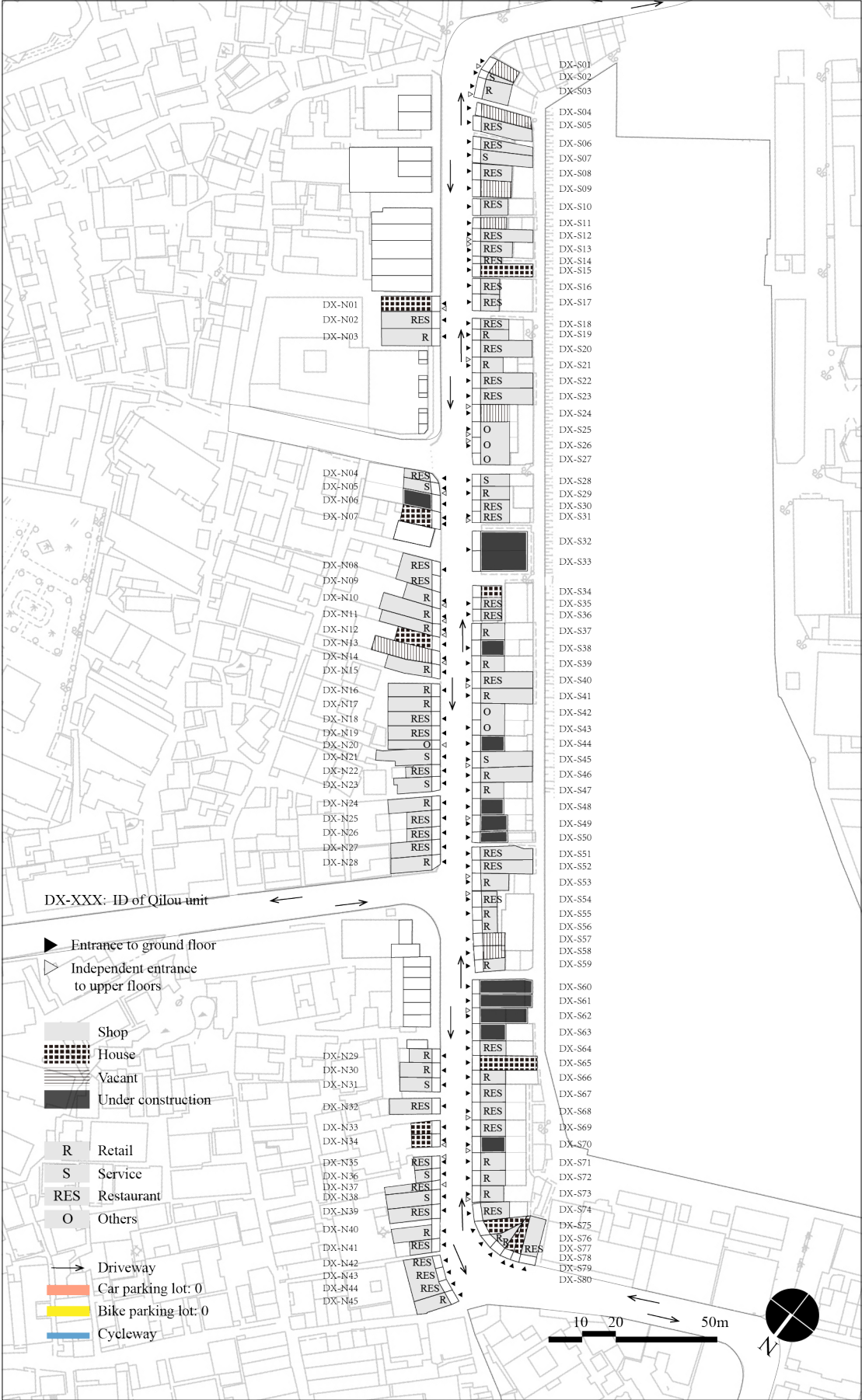


Fig. 2-26 Mapping of Daxue Rd. (made by author, data as of October 2016)



street view



street view



architecture



non-Qilou architecture



Qilou verandah space



Qilou verandah space



Qilou verandah space



Qilou verandah space

Fig. 2-27 Daxue Road (photos taken by author)

Chapter 6: Conclusion

6.1 Conclusion

Qilou is one of the unique vernacular architectural types in Southeast Asia and East Asia. The recessed space on the ground floor, Qilou verandah space, is the prominent symbol of Qilou. Generally speaking, Qilou verandah space is defined as the walkway for pedestrians regardless of the ownership, and unauthorized occupancy for private use is prohibited.

Nonetheless, in real life Qilou verandah space is functioning way beyond a walkway: it has become not only the space for traffic but also a space for various activities, utilized by different users with different reasons. Defined as "spontaneous behavior against authorized planning," the word "spontaneity" is applied to describe such a phenomenon in this research. On the one hand, spontaneity can be regarded as an urban issue that causes conflicts; on the other hand, spontaneity can be regarded as a type of regional townscape, which represents the feature and uniqueness of the street.

To make clear the nature of spontaneity, the objective of this research is to find out the underlying mechanism behind the spontaneity in the utilization of Qilou verandah space, by taking Amoy City in China (厦門 , Xiamen) as the case study. The findings of this research will be able to provide insight and reference for the preservation of regional townscape; to provide problem-solving ideas for achieving the balance between planning and spontaneity, public and private; and to work as a reference with a bottom-up perspective for the policy makers, planners, and designers.

Mechanism of spontaneity is studied from three aspects with three individual chapters: "Representation of Spontaneity," "Cause of Spontaneity," and "Control of Spontaneity."

6.1.1 Representation of Spontaneity

Representation of spontaneity is clarified in Chapter 3 with the research question of "How do people utilize Qilou verandah space?". Method of walk-through observation is conducted six times a day, and video captures the way people utilizing Qilou verandah space. Four analyses are conducted quantitatively: "Element," "Setting," "Behavior" and "Correlation."

First, in the analysis of element, based on the notion of "semifixed-feature element"

proposed by Amos Rapoport, a total number of 9 elements are concluded: "Element A: Furniture (commercial)", "Element B: Goods", "Element C: Operation", "Element D: Display", "Element E: Furniture (personal)", "Element F: Household", "Element G: Hobby", "Element H: Vehicle" and "Element I: Others". The distribution of element and temporal change of element are made clear.

Second, based on the analysis of element, a total number of 47 types of settings are summarized. The paper shows the case studies of eight of the most common settings that are witnessed. By analyzing the composition of the element in a setting, the purpose of setting is concluded as "Commercial Use," "Personal Use," and "Mixed Use," and the tendency of three target streets is analyzed quantitatively.

Third, in the analysis of behavior, based on the behavioral theory proposed by Jan Gehl, 21 types of stationary activities are categorized into necessary activity, optional activity, and social activity. The proportion of activities are also made clear.

Fourth, using the activity as criteria, the impact of element and setting are analyzed by correlation analyses. The analysis between element and behavior shows that Element A is the major trigger for necessary activity, while Element G is the major trigger for both optional activity and social activity. The analysis between setting and behavior shows that setting of commercial use is the major trigger for necessary activity, while the setting of mixed-use is the major trigger for both optional activity and social activity.

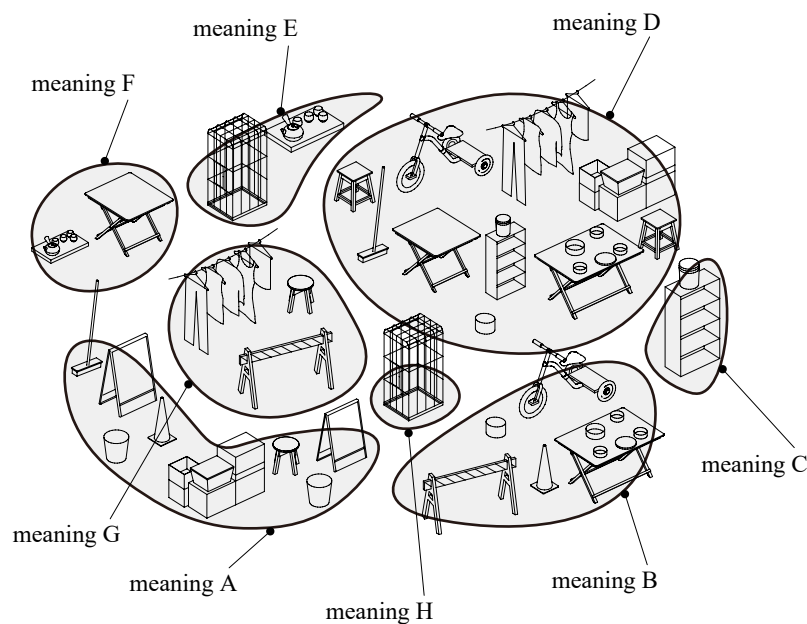


Fig. 6-2 Diagram: mixture of meanings (made by author)

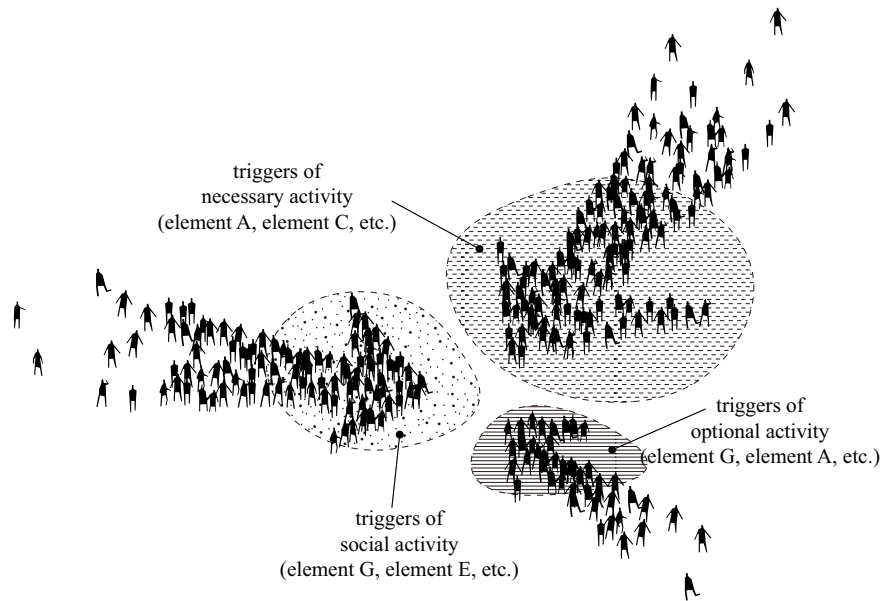


Fig. 6-3 Diagram: trigger of activity (made by author)

Last but not least, this part concludes the representation of spontaneity following with two discussions. In the discussion of "Mixture of Meanings," it indicates that it is not a simple question of "preserve spontaneity or not," but "what to preserve and what to eliminate." In the discussion of "Trigger of Activity," it suggests to rethink of the role of spontaneity and to reconsider the trade-off.

6.1.2 Cause of Spontaneity

Cause of spontaneity is clarified in Chapter 4 with the research question of "Why do people utilize Qilou verandah space?". Two rounds of questionnaire survey are conducted, one with an architectural approach, and the other with a personal approach. According to the data collected by questionnaire, 4 topics are discussed quantitatively: "Architectural Problem," "Personal Reason," "Situation of Utilization," and "Spatial Network."

First, in the analysis of architectural problem, 4 problems regarding architectural and urban issue are found out: "Lack of Functional Space (internal)", "Lack of Parking Space (external)", "Ownership", and "Isolation of Shop and House", among which "Ownership" and "Isolation of Shop and House" are regarded as indirect causes,

and the others are regarded as direct causes. In the analysis of "Isolation of Shop and House," 4 types of shop-house relationship are categorized: "Integrated Type," "Compact Type," "Neighboring Type," and "Detached Type."

Second, from a personal perspective, 7 reasons are given in the analysis of "Personal Reason": "Business," "Lack of Space," "Communication," "Ventilation & Lighting," "Habit," "Appropriateness," and "Others." The proportions of personal reasons are calculated as well. Also, case studies are given for each of the 7 reasons.

Third, in the analysis of "Situation of Utilization," the awareness of Qilou verandah space and the actual situation of utilization are made clear. The situation of utilization is researched with frequency, consistency, including factor and activity.

Fourth, from the spatial relation point of view, 4 types of network are concluded in the analysis of "Spatial Network": "Enclosed Type," "Segregated Type," "Extended Type" and "Extended-Segregated Type." Each type is analyzed with a corresponding case study.

Last but not least, this part concludes the cause of spontaneity following with two discussions. In the discussion of "Local Culture or Countermeasure," it classifies the causes into two categories. In the discussion of "Spatial Network of Resources," utilization of Qilou verandah space is explained with a spatial-network point of view.

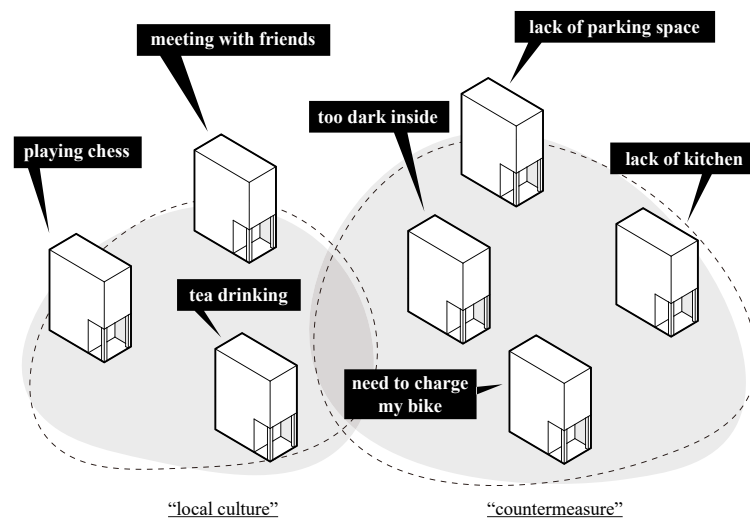


Fig. 6-4 Diagram: "local culture" or "countermeasure" (made by author)

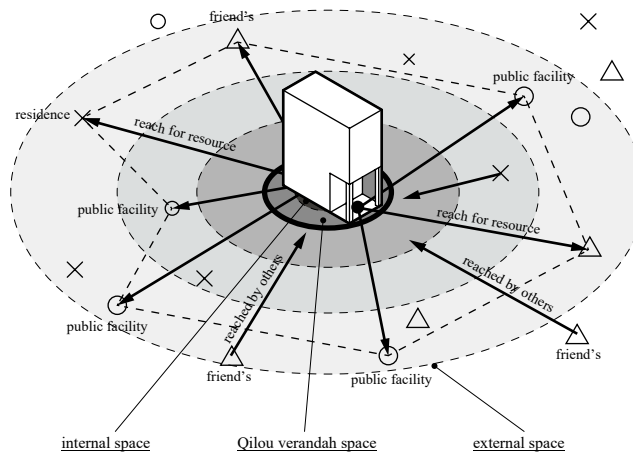


Fig. 6-5 Diagram: spatial network of resources (made by author)

6.1.3 Control of Spontaneity

Control of spontaneity is clarified in Chapter 5 with the research question of "How do stakeholders manage Qilou verandah space?". The method of interview survey and observation survey are applied. Interview survey is conducted with 48 interviewees of different status. Three analyses are done qualitatively: "Background of Management," "Official Management," and "Exercised Management."

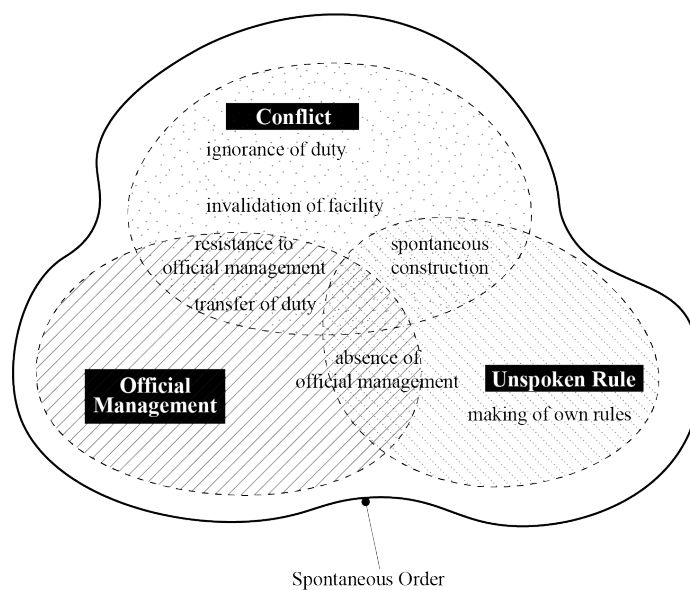


Fig. 6-6 Diagram: spontaneous order (made by author)

First, in the analysis of "Background of Management," the system of administrative area in China and the laws applicable in Qilou verandah space are introduced. A self-managing regulation, "3 duties" is explained in detail, which is taken as the backbone of the following studies in this chapter. Main stakeholders of management and the system of management are analyzed.

Second, under the background of management, the authorized management system is analyzed in "Official Management." According to the regulations of "3 duties", analyses are done from 3 aspects: management of order, management of facility, and management of sanitation. Three models of the official management are constructed.

Third, based on the analysis of "Official Management," "Exercised Management" is analyzed. Three original models built in official management are revised into models of exercised management. By comparing official management and exercised management, a total number of 7 phenomena are found out, including "Resistance to Official Management", "Making of Own Rules", "Spontaneous Construction", "Invalidation of Facility", "Absence of Official Management", "Ignorance of Duty", and "Transfer of Duty".

Last but not least, this part concludes the control of spontaneity following with two discussions. In the discussion of "Translation of Phenomena," it classifies the phenomena into unspoken rule, conflict and management issue according to the properties. In the discussion of "Spontaneous Order," it indicates the insufficiency and shortage of the present official management applied in Qilou verandah space and suggested for a more flexible management system.

6.1.4 Mechanism of Spontaneity

"Mechanism of Spontaneity" is structured with the knowledge of "Representation of Spontaneity," "Cause of Spontaneity," and "Control of Spontaneity." These three parts are researched independently yet connected logically.

"Cause of Spontaneity" accelerates "Representation of Spontaneity";

"Control of Spontaneity" constrains "Representation of Spontaneity";

"Cause of Spontaneity" and "Control of Spontaneity" are contradictory.

Graphical interpretation of "mechanism of spontaneity" is shown as below.

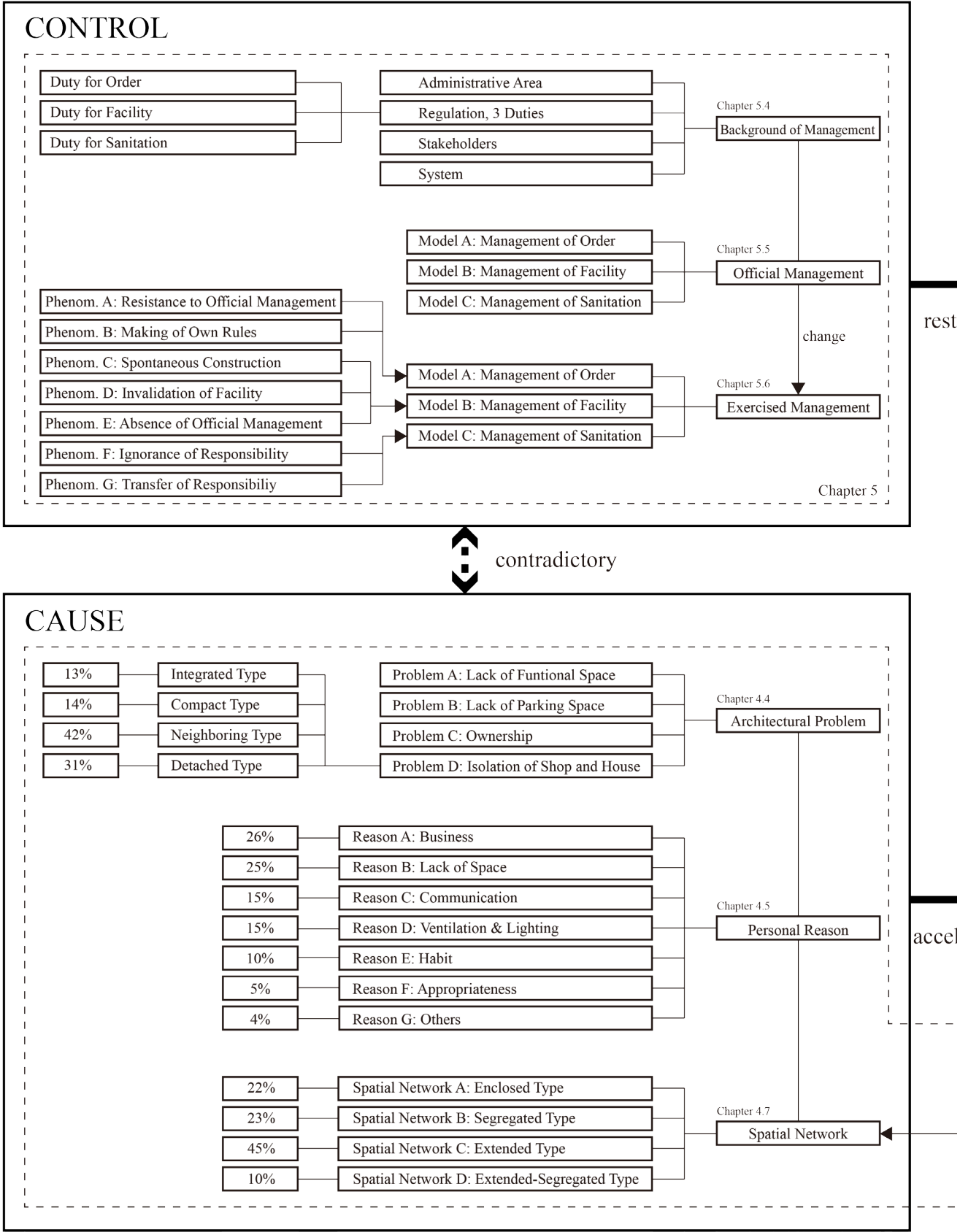
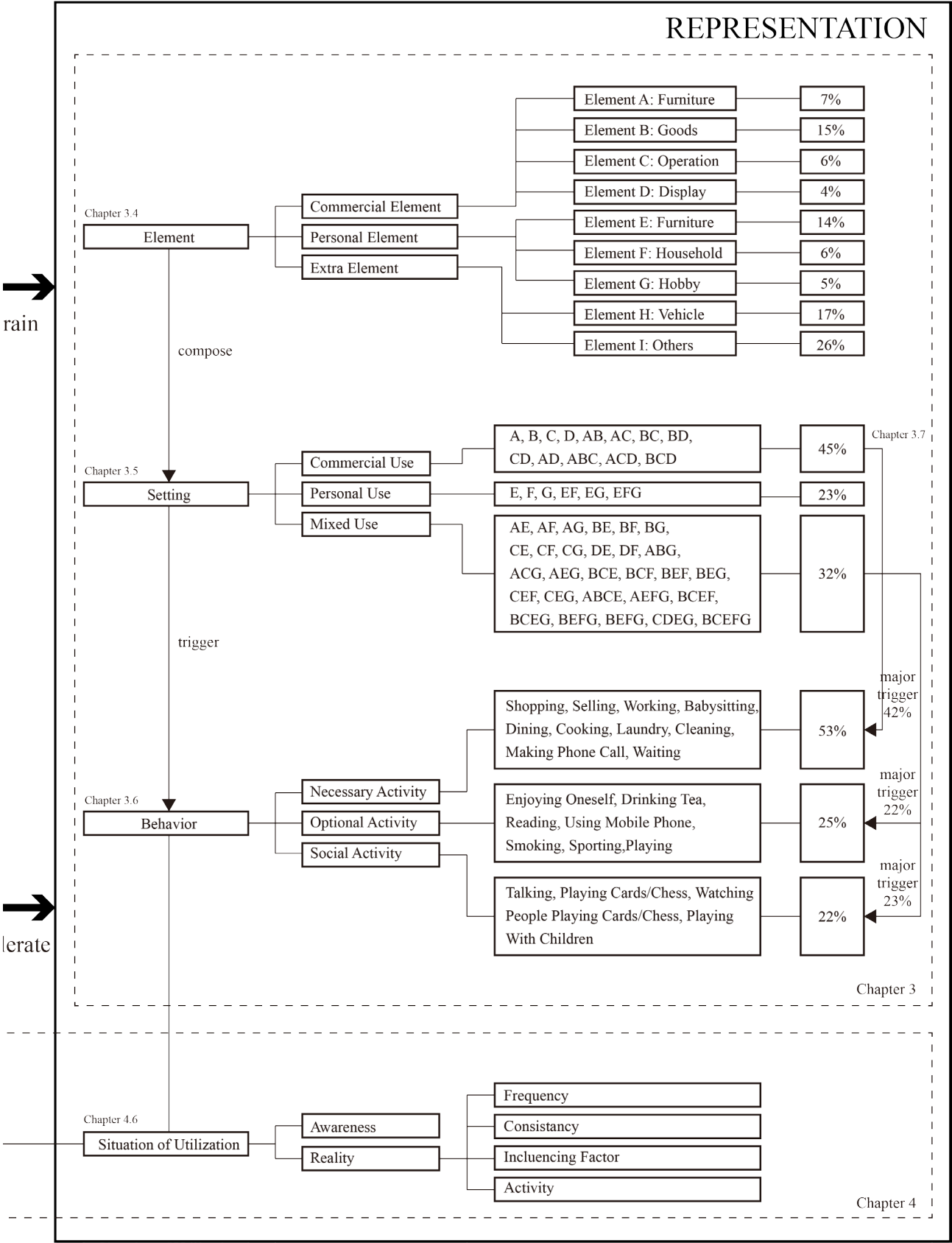


Fig. 6-7 Mechanism of spontaneity (made by author)



6.2 Nature of Spontaneity

Findings partly reveal the nature of spontaneity. Spontaneity happens under an imperfect environment with deficient regulation or management. Culture, customs and architectural / infrastructural problems are the main causes for spontaneity. Culture and customs are turned into preference of the spontaneity, while problems are turned into necessity of the spontaneity. The interpretation of spontaneity can be examined from different angles. Regarded as activity trigger and regional townscape, spontaneity has its benefits; while regarded as an urban issue, spontaneity presents its detriment.

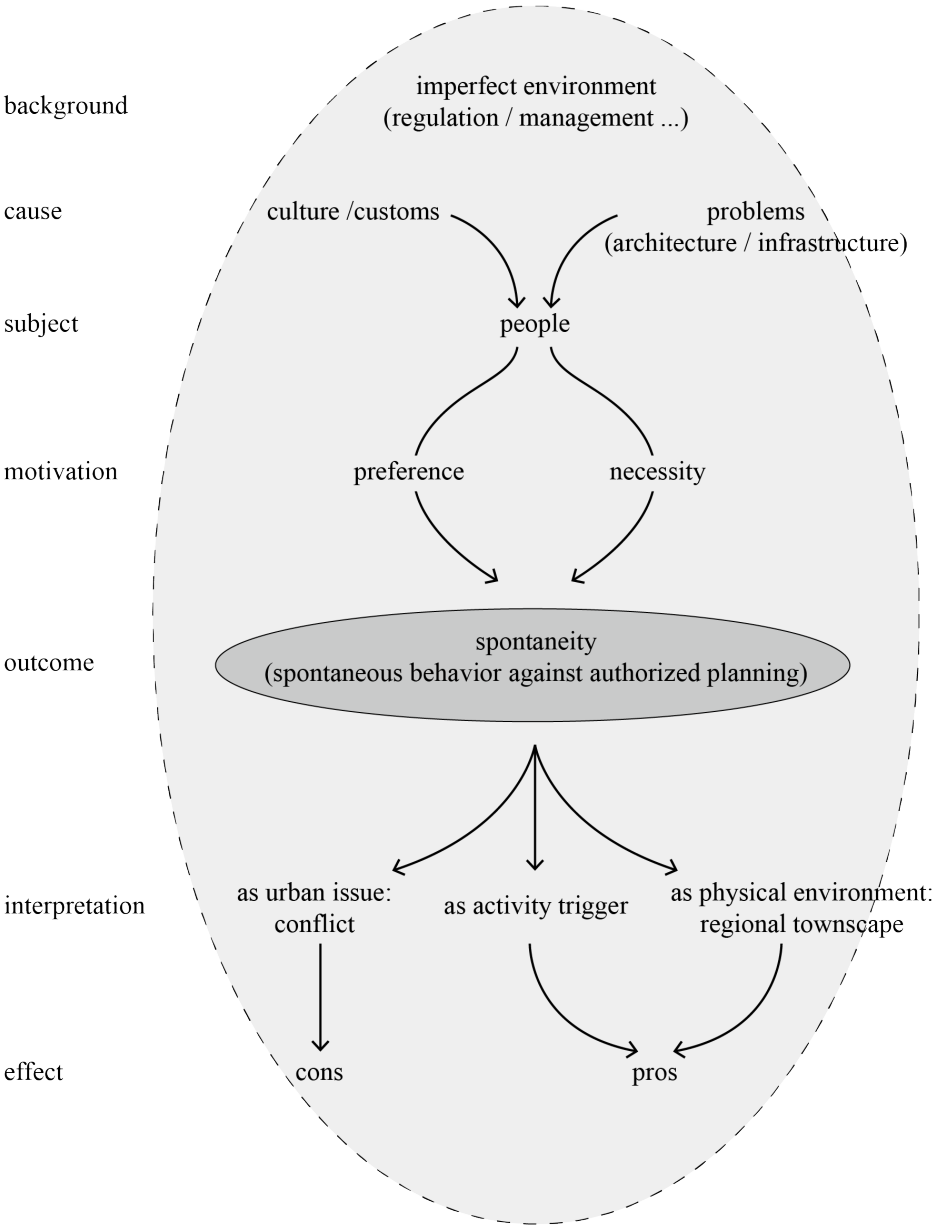


Fig. 6-8 Nature of spontaneity (made by author)

6.3 Suggestion

6.3.1 General Suggestion

Three general suggestions are given based on the findings and discussions.

1. Selective Preservation

The first suggestion is based on the discussions in Chapter 3. In the discussion of "Mixture of Meanings," data showed that the spontaneity is a complex phenomenon with diverse representations and meanings. Moreover, the benefit of spontaneity was proved in the discussion of "Trigger of Activity," showing that element and setting are the triggers for different types activities.

The conclusion could be drawn that spontaneity is worth being preserved. Moreover, it is not a simple question about "preserve or not," but about "what to preserve" and "what to constrain." It is necessary for the policymakers to reconsider their attitude towards spontaneity. Instead of clearing out spontaneity completely, selective preservation seems to be a better choice.

2. "Preserve" and "Constrain"

The second suggestion is based on the discussions in Chapter 4. In the discussion of "Spatial Network of Resources," it was stated that some of the utilization (utilization out of countermeasure) is because of the defects of the environment. Thus it can be constrained by solving the problems in architecture and infrastructure. In the discussion of "Local Culture or Countermeasure," two different clusters of utilization were categorized. And the suggestion given by the author is to preserve the utilization out of "local culture," and to constrain the utilization out of "countermeasure."

Measures can be taken in 3 aspects. In the architectural aspect, renovation for the kitchen, toilet, ventilation equipment, and layout reorganization could be helpful. And the renovation work could be conducted by either the shopkeeper or the government. Shopkeeper-conducted renovation work could be encouraged by having incentive programs and government-owned property demonstration. In the field of infrastructure, due to the inconvenience of bike-parking, especially electric bike

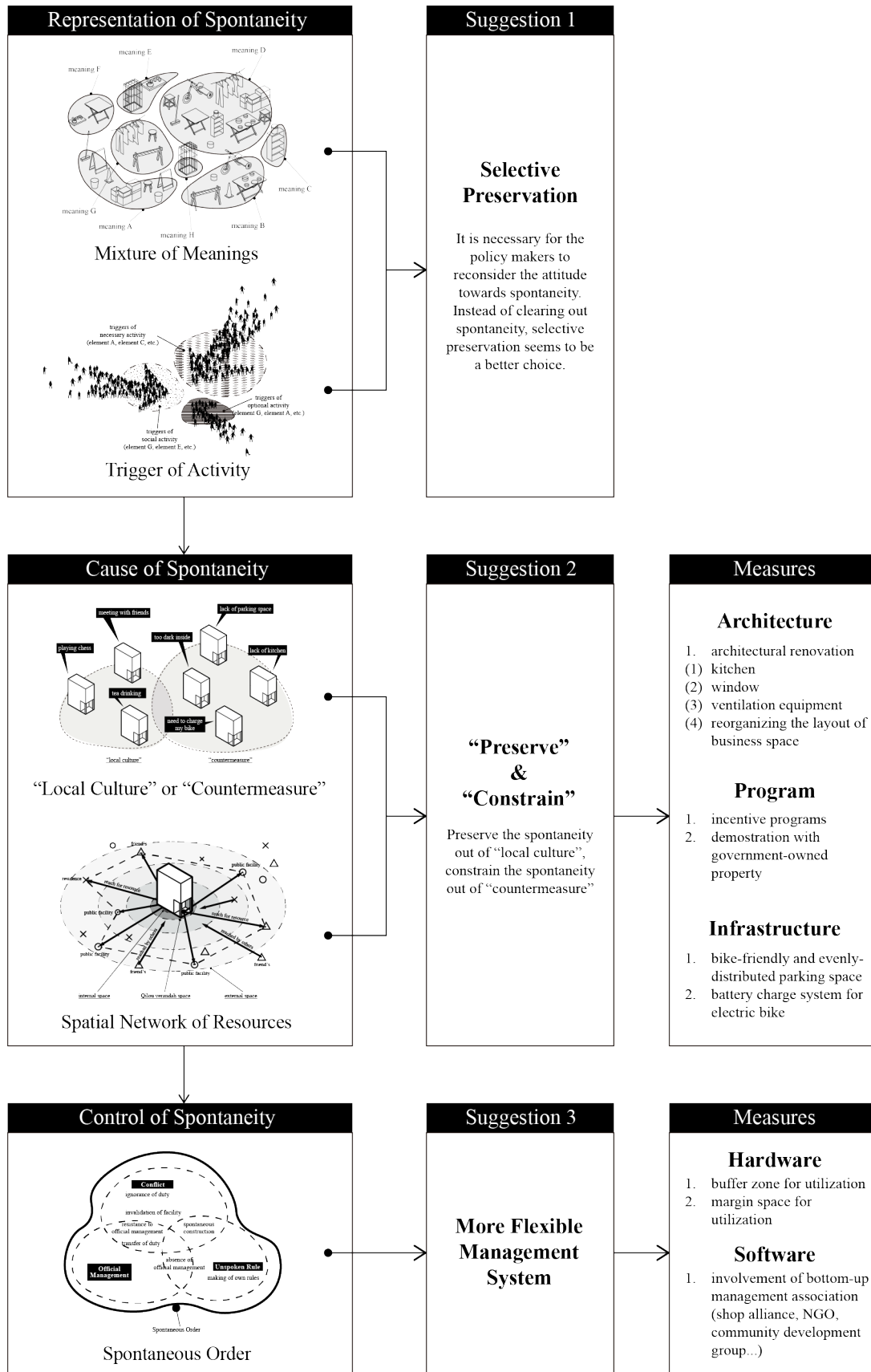


Fig. 6-9 Suggestion (made by author)

parking, bike-friendly parking space with the battery charge system is recommended.

With these measures taken, people do not need to utilize Qilou verandah space as a countermeasure to the architectural and infrastructural problems. As a consequence, the spontaneity can be constrained to a certain extent.

3. More Flexible Management System

The third suggestion is based on the discussion in Chapter 5. In the discussion of "Spontaneous Order," a more flexible management system is suggested because the present management is not considering the duality of spontaneity. So measures can be taken from two aspects: "Hardware" and "Software."

The measure of hardware is to redesign the street according to the actual situation of utilization as discovered in surveys. And two concepts can be applied. The first concept is the design of buffer zone. This concept is to guarantee the walkability by having enough space for walking (about 1.5 meters), while the rest of the space is designed as the buffer zone. The buffer zone can be utilized by the shopkeepers freely to promote business and to trigger activities. Moreover, it can be either a physical boundary drawn on the ground (the same as Tainan City¹) or a flexible territory to be decided by the shopkeeper. The second concept is the design of margin space. The margin space is to be set up next to the Qilou verandah space. This space is to be utilized primarily for the temporary parking of bikes, to solve the severe parking problem.

Moreover, the measure of software is to have a coordinating association working in the management system, such as the shop alliance. According to interviews, it is found that conflicts always happen between the shopkeeper and the authorities. Currently, there isn't a mature bottom-up managing association in Amoy's Qilou streets (except for a newly-founded shop alliance in Daxue Road since 2018). That is why the involvement of bottom-up management association, such as the shop alliance that is working in between the authority and the shops might be helpful in reconciling the conflicts. Its job is to cooperate with the top-down official management system and to balance the interests of all parties. Besides the shop alliance, NGO group, and community developing groups are also applicable options.

¹ 友善騎樓畫線取締嚴格, 店家不敢越雷池, <https://news.tvbs.com.tw/local/711188>

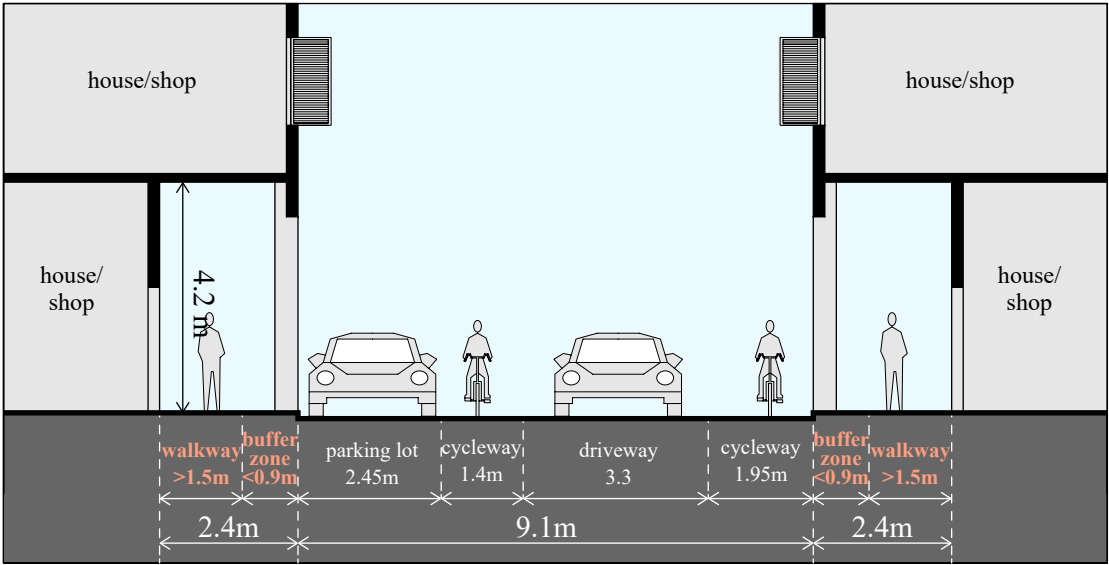


Fig. 6-10 Concept of buffer zone (made by author)

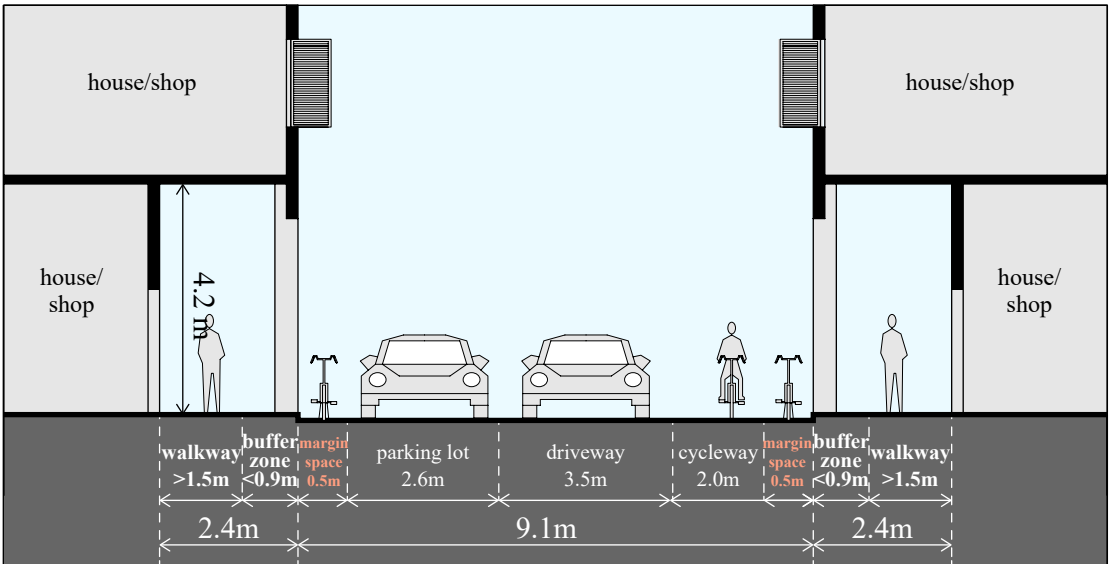


Fig. 6-11 Concept of margin space (made by author)

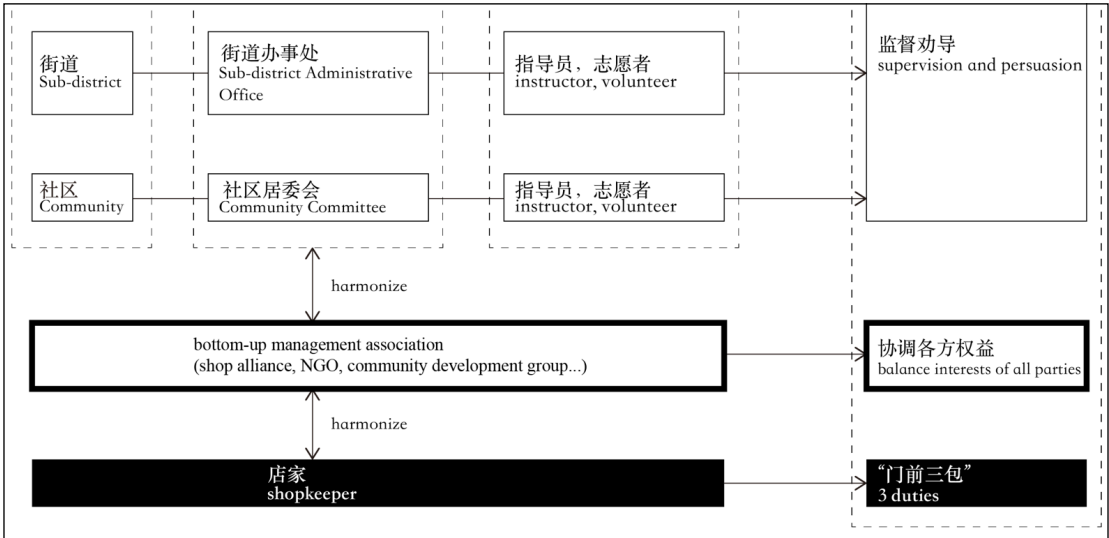


Fig. 6-12 Concept of management association (made by author)

6.3.2 Specific Suggestion for Target Streets

According to the features of different target streets, specific suggestions are proposed.

1. Kaiyuan Road

Data has shown two features of Kaiyuan Road. First is the high percentage of setting B; indicating people are mainly utilizing Qilou verandah space as the place for business. Thus a more detailed regulation for utilizing the buffer zone as commercial space would be helpful for Kaiyuan Road. The other feature is the mode of living; data shows that many shopkeepers are living in the same room of the shop. So it is necessary to create a better living environment in Kaiyuan Road. As a result, the measures of architectural renovation, and design of buffer zone are especially suitable for the improvement of Kaiyuan Road.

2. Datong Road

The survey revealed two features of Datong Road. First is the general lack of functional space in the shops. And the other is the high percentage of government-owned properties. As a result, the same as Kaiyuan Road, architectural renovation is recommended. Moreover, it is possible to promote the renovation by demonstration with the government-owned properties.

3. Daxue Road

Three features were discovered in Daxue Road. First is the high percentage of commercial-use settings such as setting AD, indicating the Qilou verandah space is being used as the outdoor restaurant or outdoor cafe. So it would be helpful to have a more detailed regulation for the outdoor space of restaurants and cafe in Daxue Road. The second feature is the lack of parking space. And the third feature is the phenomenon of rapid commercialization. As a result, the design of the buffer zone and margin space would be helpful. Also, the bottom-up management association, especially the shop alliance is recommended to deal with the problem of rapid commercialization.

6.4 Significance

6.4.1 Scope

By taking Amoy as the case study, this research attempts to provide insight into the mechanism of a universal phenomenon, spontaneity. As stated in the literature review, the majority of the topics on spontaneity concern about the economy, sociology, psychology, and art. Moreover, this research sets eyes on the spontaneity in architecture from a micro perspective. By deconstructing spontaneity into three detailed research questions, the topic of spontaneity has become researchable in the architectural field.

6.4.2 Methodology

In Chapter 3, a research methodology was developed. It has been proved useful for Qilou verandah space. Besides, it has the potential for other topics in other environments. The feature of this methodology is listed as below:

1. Applicable for semifixed-feature element;
2. Applicable for changeable and variable environment;
3. Analyses are qualitative and quantitative;
4. Focus on both the component and the place as a whole;
5. Focus on the typology of space, instead of the number of articles;

6.4.3 Practical Significance

Chapter 4 summarized the causes for the spontaneity of utilization. Chapter 5 pointed out the problems existing in the management system. These findings have practical significance for understanding-promoting and problem-solving. As references, they can be applied directly by policy makers, planners and designers in Amoy. It is also possible to provide reference for other related cities.

6.5 Further Development

6.5.1 Correlations

Chapter 4 summarized the causes for the spontaneity of utilization. Chapter 5 pointed out the problems existing in the management system. These findings have practical significance for understanding-promoting and problem-solving. As references, they can be applied directly by policy makers, planners, and designers in Amoy. It is also possible to provide the reference for other related cities.

6.5.2 Comparison Study among Asian Cities

Unauthorized utilization of Qilou verandah space is a universal phenomenon not only for Amoy but also other Southeast Asia cities and East Asia cities. However, the presentation, cause, and control of spontaneity might differ from one another.

For instance, in the case of Amoy, the culture of tea has resulted in the representation of teaset and the behavior of tea drinking, while in other areas culture might be presented in another way. Also, because of the isolation of shop and house, people have more urgent reasons to utilize Qilou verandah space as complementation, while in other areas with the shop and residence connected in the shophouse, the reasons for utilization might be different.

By utilizing the methodology and structure constructed in this study, comparison studies might be helpful to better understand the nature of spontaneity, utilization, Qilou verandah space, and culture.



Fig. 6-13 Qilou street in Singapore (photo taken by author)



Fig. 6-14 Qilou street in Medan (Indonesia) (photo taken by author)



Fig. 6-15 Qilou street in Quanzhou (China) (photo taken by author)

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Appendix

Appendix A-1: Design of 1st Questionnaire

编号 XB-C-15

厦门老城区学术调研问卷（商业部分）

1. 请问您的店使用这个建筑的哪几层楼？（可多选）
☒ 1楼 ☒ 阁楼 ☐ 2楼 ☐ 3楼 ☐ 4楼 ☐ 屋顶
2. 请问营业时间是几点到几点？
9:00 - 22:00
3. 请问这家店是什么时候开业的？
2014 年 11 月
4. 请问目前店面（房间）现有以下的哪些设施？（多选）
☒ 厕所 ☒ 厨房 ☒ 杂物间 ☐ 水槽 ☐ 电梯
5. 请问店面（房间）还需要以下哪些设施？（多选）
☐ 厕所 ☐ 厨房 ☐ 杂物间 ☐ 窗户 ☐ 活动空间
☐ 电梯 ☐ 马桶 ☐ 水槽 ☐ 更大的店面空间
☐ 其他： 1日
6. 请问店面是从谁的手里租下来的？
☐ 租政府的店面 ☐ 租企业的店面 ☒ 租个人的店面 ☐ 自己的店面
7. 请问其他居民（用户）需要从您的店里穿过吗？
☐ 要 ☒ 不要
8. 请问您住在厦门的哪个区域？
☒ 就在这个楼里 ☐ 在这附近 ☐ 思明区内 ☐ 思明区外
9. 请问主要的客源是谁？（多选）
☐ 周边居民 ☐ 厦门居民 ☐ 游客 ☒ 外地游客
☐ 年轻人 ☒ 中年人 ☐ 老年人
10. 您觉得这条街的商机好吗？
☐ 好，有很多客源 ☒ 不好，客源不多 ☐ 分淡旺季 ☐ 分时段
 旺季和最佳时段是： 6k 厦大周边 梧槽中山路
11. 您认为这条街道哪些问题最严重？（多选）
☒ 租金高 ☒ 人流少 ☒ 乱停机动车 ☒ 乱停电动车
☒ 建筑外观差 ☒ 道路不平整 ☒ 活动场所少 ☒ 绿化植被少
☐ 步行不便 ☐ 人行道占道 ☐ 交通安全差 ☒ 卫生条件差
☒ 吵闹喧哗 ☒ 基础设施缺乏（垃圾桶，路灯等）
☐ 其他： _____
12. 请问上一次改造（装修）是什么时候？为什么？

13. 请问您的店面是个体户经营还是企业经营？
☒ 个体经营户 ☐ 个人独资企业 ☐ 合伙企业 ☐ 外资企业

问卷到此为止。非常感谢您的协助！

Appendix A-2: Design of 1st Questionnaire (English version)

no: _____

Questionnaire about Shop in the Old District of Amoy

(for shopowner)

1. How many storeys do you have in the shop? (multi-choices)
A.1 B.Loft C.2 D.3 E.4 F.Rooftop
2. When are the opening hours ?

3. In which year did the shop open ?
Year _____ Month _____
4. What kind of space/facility do you have in the shop ? (multi-choices)
A.Toilet B.Kitchen C.Storage D.Water basin E.Others
5. What kind of space/facility do you still need for your shop ? (multi-choices)
A.Toilet B.Kitchen C.Storage D.Window E.Living space
F.Elevator G.Commode H.Water basin I.Business space J.Others
6. Who has the ownership of this shop?
A.Government B.Company C.Individuals D.Self-owned
7. Is it necessary for others residents to pass your shop to get to their houses?
A.Yes B.No
8. Which area does the shopowner live in?
A.In this building B.Neighboring area
C.Outside Siming District D.Outside Siming District
9. Who are the main customers ?
A.Locals in the neighborhood B.Locals in Amoy C.Tourists
D.Youth E.Middle age F.Elderly
10. How do you think about the business opportunity here?
A.Good B.Bad C.Depend on season D.Depend on timing
Best season and timing: _____
11. What do you think are the problems of this street ? (multi-choices)
A.Rent B.Customer C.Bike parking D.Electric bike parking
E.Appearance of architecture F.Quality of road G.Lack of public space
H.Lack of greenery I.Hard to walk J.Appropriation of sidewalk K.Safety
L.Sanitary condition M.Noise N.Lack of facility
Others: _____
12. When was the last renovation? Why?

13. What is the business type of this shop?
A.Self-employment B.Sole proprietorship
C.Partnership enterprise D.Foreign-funded enterprise

***** That's all. Thank you very much ! *****

Appendix B-1: Design of 2nd Questionnaire

骑楼外廊空间利用方式相关问卷

(店家用)

店家: 风咖啡 道路: 大马路 日期: 2019.11.14 No: B-10

您好,感谢您协助我们的研究。

这份问卷作为东京大学博士课程研究内容的一部分,旨在调查人们对于厦门老城区传统街道空间的使用及感受。问卷是匿名的不会泄露您的个人信息,且调研的内容将仅仅用作学术研究。请您在相应问题后您认为正确的选项上打钩,完成问卷的所需时间在3分钟左右。感谢您在百忙之中抽空填写。

- 骑楼外廊这一建筑要素是否有影响当初对于店址的选择?
A. 有 ☒ B. 没有
- 是否会在店里为自己做饭?
☒ A. 会 B. 不会
- 平时使用何处的厕所?
A. 店面里的厕所 B. 公共厕所 ☒ C. 邻居的厕所 D. 其他
- 一般情况下利用骑楼外廊空间摆放东西的频率是?
A. 每天 ☒ B. 周3次以上 C. 周1-2次 D. 月1-2次 E. 不使用(跳到题9)
- 平时会利用骑楼外廊空间(人行路)摆放些什么东西?(多选)
A. 日常生活用品 B. 商业用品 ☒ C. 车辆 ☒ D. 其他 椅子
- 倾向于利用骑楼外廊空间的原因是什么?(多选)
☒ A. 可以促进生意 B. 方便人际交往 ☒ C. 室内空间不足 D. 室内环境不适合
E. 室外通风采光好 ☒ F. 个人习惯 G. 其他
- 根据什么因素决定是否摆放?(多选)
A. 无具体因素 B. 天气 ☒ C. 季节 ☒ D. 节假日 E. 一天的时段 F. 其他
- 基本上都是一样的摆放方式吗?
☒ A. 完全一样 B. 基本一样 C. 很不一样
- 平时会在骑楼外廊空间进行什么活动?(多选)
A. 一般不在骑楼外廊活动 ☒ B. 聊天 C. 喝茶 D. 打牌下棋 E. 抽烟
F. 坐着(欣赏风景) G. 做饭 H. 吃饭 I. 晒衣服 J. 贩卖
K. 其他工作 L. 照看小孩 M. 其他
- 平时来街的主要交通方式?
A. 步行 B. 非机动车(自行车/电动车) C. 私家车
☒ D. 公交车 E. 出租车/滴滴等
- 您使用的非机动车或私家车停放在哪?
A. 骑楼外廊空间里 B. 骑楼旁的街道 C. 骑楼街以外的街道
D. 骑楼街以外的正式停车场 E. 室内
- 是否允许其他人占用你门口的骑楼外廊空间?(多选)
A. 一律不允许 B. 可以商量 C. 朋友可以 D. 顾客可以 ☒ E. 不在乎
- * 是否方便进行更细致的访问调查?
☒ A. 方便 B. 暂时不方便

***** 非常感谢您的配合 *****

Appendix B-2: Design of 2nd Questionnaire (English version)

Questionnaire about Utilization of Qilou Verandah Space

(for shopowner)

shop:

road:

date:

no:

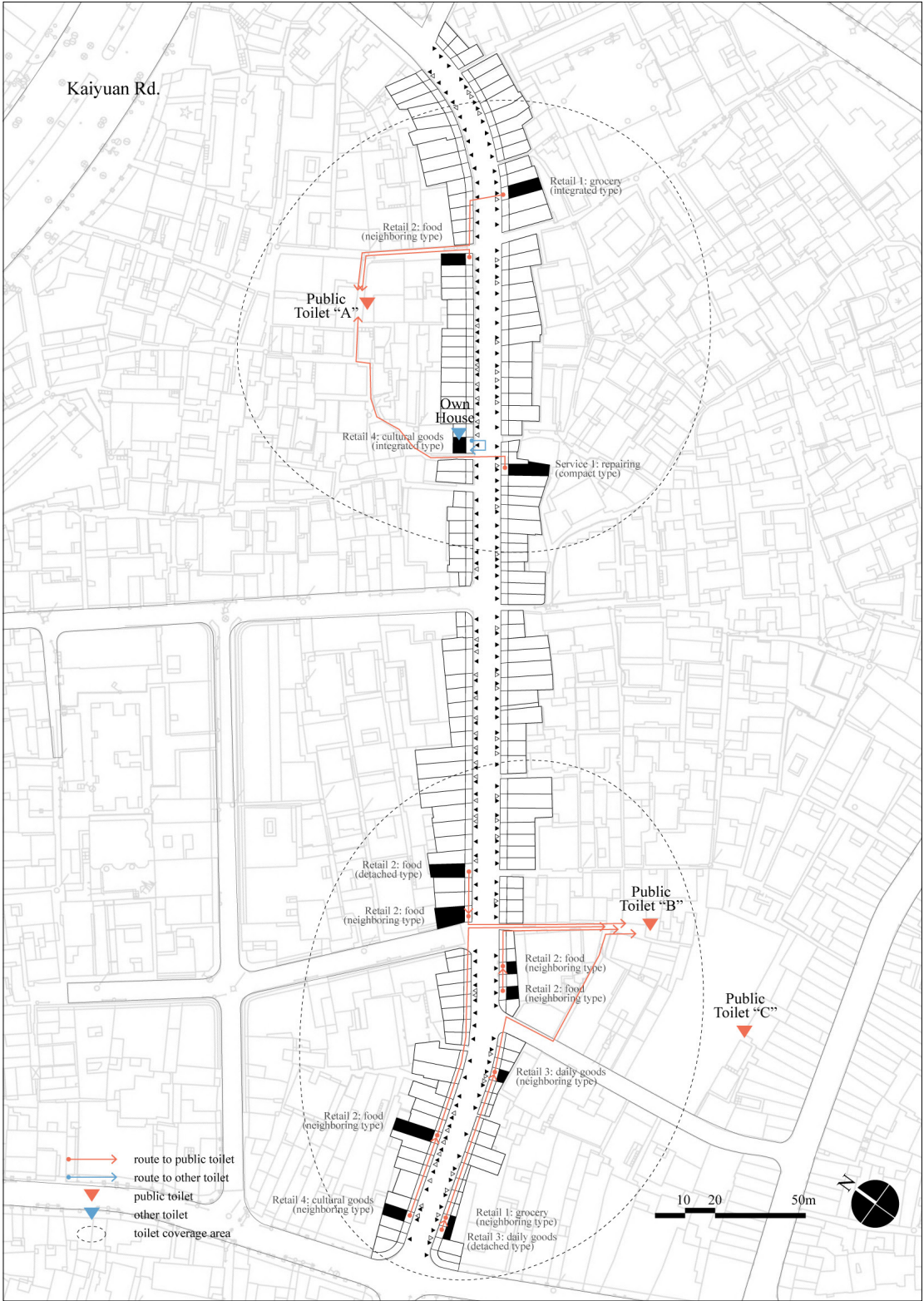
Dear friends,

The purpose of this questionnaire is to investigate the utilization of Qilou verandah space in Amoy's old town area. The questionnaire is anonymous and all data collected will be used only for academic purpose. Please check the right answer for each question and the estimated time for this questionnaire is 3-minute. Thank you very much for your cooperation!

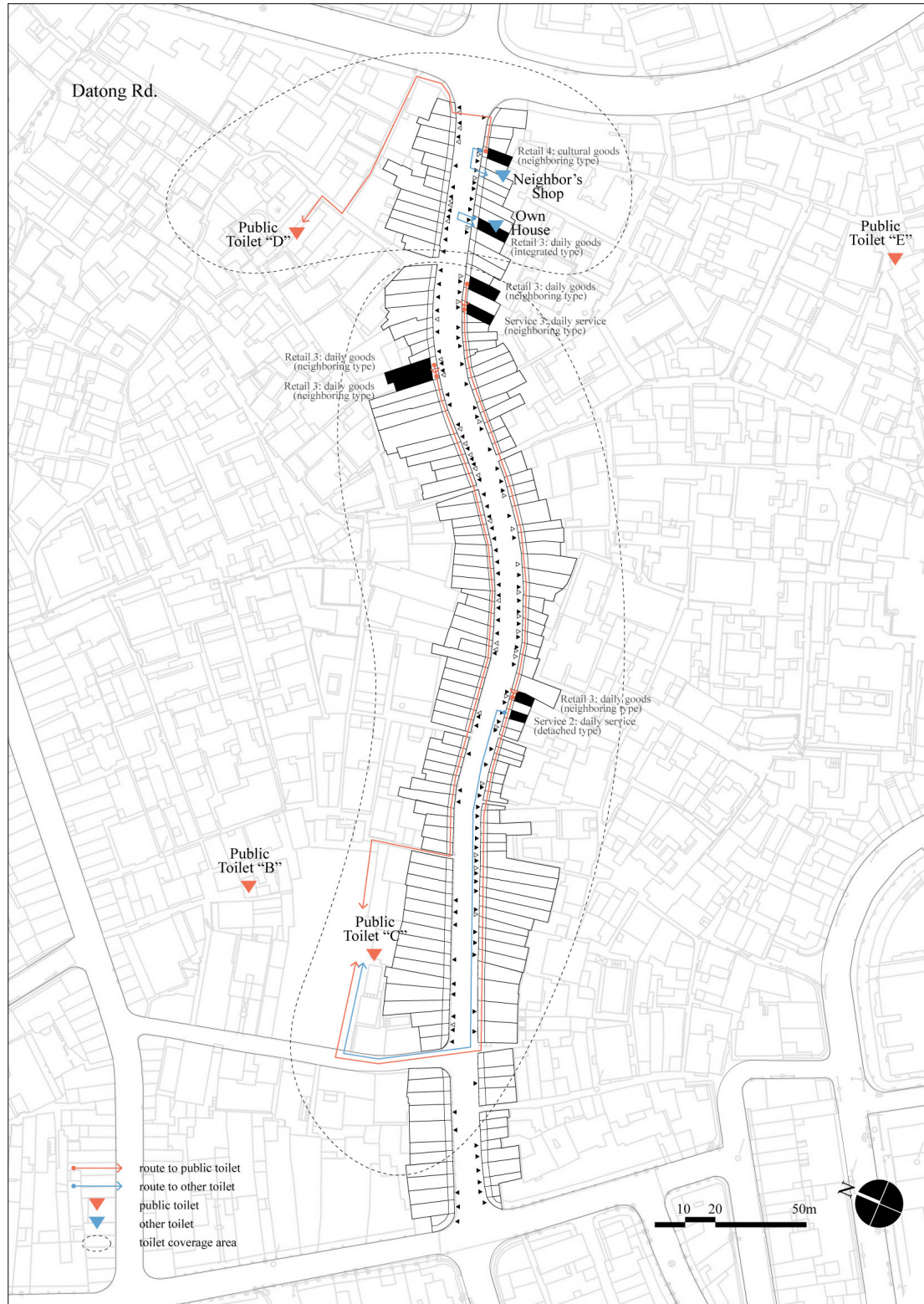
1. Did you take Qilou verandah space into consideration when choosing location for your shop?
A.Yes B.No
2. Do you cook for yourself while working in the shop ?
A.Yes B.No
3. Which toilet are you using ?
A.Toilet in your own shop B.Public toilet C.Neighbor's toilet D.Others
4. How often do you utilize Qilou verandah space ?
A.Almost everyday B.3 times and above per week C.1-2 times per week
D.1-2 times per month E.Never (jump to question 9)
5. What will you put in the Qilou verandah space normally ? (multi-choices)
A.Personal Belongings B.Commodity C.Vehicle D.others
6. What are the reasons for utilizing Qilou verandah space ? (multi-choices)
A.Good for business B.Good for interpersonal communication C.No space indoor
D.Inappropriate indoor E.With better ventilation & lighting F.Habit G.Others
7. What are the influencing factors for utilizing the Qilou verandah space ? (multi-choices)
A.None B.Weather C.Season D.Holiday/Weekend
E.Timing in a Day F.Others
8. Are you utilizing in the same way each time?
A.Exactly the same B.Almost the same C.Very different
9. What kind of activity do you usually do in Qilou verandah space ? (multi-choices)
A.None B.Chatting C.Drinking tea D.Playing cards or chess
E.Smoking F.Enjoying the scenery G.Cooking H.Dining
I.Hanging clothes J.Sales K.Working L.Babysitting M. Others
10. How do you come to work normally ?
A.By foot B.Bikes (Bicycle / Electric bicycle) C.Private car
D.Bus E.Taxi / Sharing Car
11. Where do you park your vehicle ?
A.In Qilou verandah space B.Street space besides Qilou architecture
C.Street other than Qilou street D.Formal parking lot outside Qilou street E.Indoors
12. Do you allow others to occupy Qilou verandah space in front of your shop ? (including bike parking) (multi-choices)
A.No B.Can be discussed C.Friend OK D.Customer OK E.Don't care
- * Is it possible for a further interview ?
A.Yes B.No

***** Thank you very much ! *****

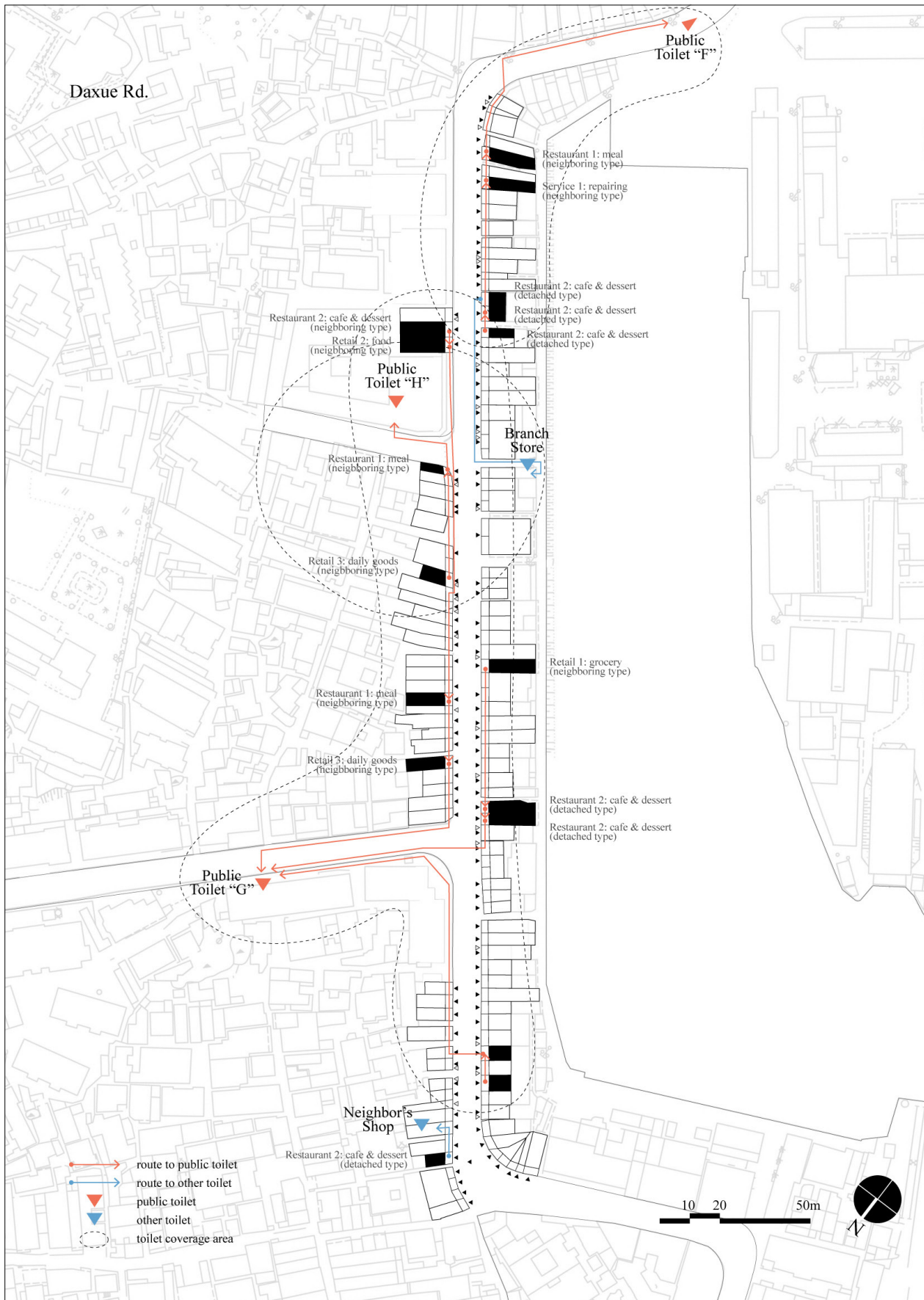
Appendix C-1: Toilet Map of Kaiyuan Road



Appendix C-2: Toilet Map of Datong Road



Appendix C-3: Toilet Map of Daxue Road



Appendix D: Result of Observation Survey (Kaiyuan Road - 7:00)

Unit	open/closed	typology	purpose	A. Furniture	B. Goods	C. Operation	D. Display	E. Furniture	F. Household	G. Hobby	H. Vehicle	I. Others
KY-N01	closed											
KY-N02	closed											
KY-N03	closed											sundries
KY-N04	closed											
KY-N05	open	CEF	M			tools		table and chair	kitchenware			plants
KY-N06	closed	F	P						laundry		bike	
KY-N07	N/A											
KY-N08	N/A											
KY-N09	closed											
KY-N10	closed											
KY-N11	N/A										electric bike	
KY-N12	N/A											
KY-N13	N/A											
KY-N14	N/A											
KY-N14-P												
KY-N15	open											
KY-N16	open	B	C		commodity							sundries
KY-N17	open	B	C		commodity							
KY-N18	open	BE	M		commodity			table				sundries
KY-N19	open	BE	M		commodity			chair			electric bike	
KY-N20	N/A											
KY-N21	open										electric bike	
KY-N22	open	B	C		commodity							sundries
KY-N23	open	B	C		commodity							
KY-N24	open										Bike, electric bike	
KY-N25	closed											sundries
KY-N26	open											sundries
KY-N27	closed											
KY-N28	N/A										electric bike	
KY-N29	N/A											
KY-N30	closed											
KY-N30-P												
KY-N31	closed											
KY-N32	closed											sundries
KY-N32-P												
KY-N33	open	BEF	M		amusement			table	kitchenware			
KY-N34	closed										electric bike	
KY-N35	closed											sundries
KY-N36	open	BEG	M		commodity			table and chair		teaset		
KY-N37	open	BE	M		commodity			chair				
KY-N38	open	B	C		commodity							sundries
KY-N39	open	B	C		commodity							sundries
KY-N39-P												
KY-N40	open	B	C		commodity						bike, electric bike	sundries
KY-N41	open											sundries
KY-N42	open	BC	C		commodity, counter	work station						
KY-N43	closed	B	C		commodity							
KY-N44	N/A	F	P						laundry			
KY-N45	N/A											sundries
KY-N46	closed											sundries
KY-N47	closed										electric bike	
KY-N48	open										2electric bike	sundries
KY-N49	open	CEG	M			tools		table and chair		teaset		
KY-N50	open	E	P					chair			electric bike	
KY-N51	closed										Bike, 2electric bike	
KY-N52	open	BEG	M		commodity			table and chair		teaset		sundries
KY-N53	closed	EF	P					table	kitchenware			sundries
KY-N54	closed											sundries
KY-N55	closed											
KY-N56	closed											
KY-N57	open	CEG	M			tools		table and chair		teaset	bike	sundries
KY-N58	open	CE	M			tools		chair				sundries
KY-N59	closed											
KY-N60	closed											
KY-N60-P												
KY-N61	closed											
KY-N62	open											
KY-N63	open											
KY-N64	open											
KY-N65	closed											
KY-N66	open	ABC	C	table and chair	counter	work station						sundries
KY-N67	open	A	C	table and chair								sundries
KY-N68	closed											
KY-N68-P												
KY-N69	closed											
KY-N70	closed											
KY-N70-P												
KY-N71	closed											sundries
KY-N72	closed											
KY-N73	open	BE	M		commodity			chair				sundries
KY-N74	open	B	C		commodity							sundries
KY-N75	open	B	C		counter							sundries
KY-N76	open	CE	M			work station		chair				

Appendix

Appendix D: Result of Observation Survey (Kaiyuan Road - 7:00)

KY-N77	open	BC	C		counter	work station						
KY-N78	closed											
KY-N79	open	B	C		commodity							
KY-N80	closed											
KY-N81	closed											
KY-N82	closed									bike	sundries	
KY-N83	closed											
KY-N84	closed											
KY-S01	closed										sundries	
KY-S02	closed											
KY-S03	closed										sundries	
KY-S03-P												
KY-S04	N/A											
KY-S05	N/A											
KY-S06	N/A									bike, electric bike	sundries	
KY-S07	closed										sundries	
KY-S08	closed											
KY-S09	closed											
KY-S10	closed										sundries	
KY-S11	N/A											
KY-S11-P												
KY-S12	N/A	EF	P				chair	laundry			sundries	
KY-S13	N/A	E	P				chair					
KY-S14	closed	E	P				chair				sundries	
KY-S15	closed											
KY-S16	closed										sundries	
KY-S16-P												
KY-S17	closed											
KY-S18	closed											
KY-S19	closed										sundries	
KY-S20	closed											
KY-S21	closed											
KY-S22	closed											
KY-S23	closed											
KY-S24	N/A										plants	
KY-S25	N/A										sundries	
KY-S26	N/A											
KY-S27	N/A										sundries	
KY-S28	closed											
KY-S29	N/A										sundries	
KY-S29-P												
KY-S30	open	ABC	C	table and chair	counter	work station					sundries	
KY-S31	closed	A	C	table and chair								
KY-S32	open										sundries	
KY-S33	closed											
KY-S34	open	B	C		commodity							
KY-S35	open	B	C		counter					bike		
KY-S36	closed											
KY-S37	N/A										sundries	
KY-S38	closed											
KY-S39	N/A	F	P					laundry				
KY-S40	N/A										sundries	
KY-S41	open	BC	C		counter	work station						
KY-S42	closed										sundries	
KY-S43	closed									bike		
KY-S44	open	A	C	table and chair							sundries	
KY-S44-P												
KY-S45	closed											
KY-S46	open	BC	C		commodity	work station					sundries	
KY-S47	closed											
KY-S48	N/A											
KY-S49	open									bike		
KY-S50	open	B	C		commodity							
KY-S51	closed											
KY-S52	N/A											
KY-S53	closed											
KY-S54	closed											
KY-S55	closed										sundries	
KY-S56	closed											
KY-S56-P												
KY-S57	closed										sundries	
KY-S58	closed											
KY-S59	open	B	C		commodity							
KY-S60	closed											
KY-S61	closed										sundries	
KY-S62	closed										sundries	
KY-S63	closed	B	C		commodity							
KY-S63-P												
KY-S64	closed											
KY-S65	N/A	A	C	table and chair								
KY-S66	open	ABC	C	table and chair	counter	work station					sundries	
KY-S67	open	ABC	C	table and chair	counter	work station						
KY-S67-P												

Appendix D: Result of Observation Survey (Kaiyuan Road - 7:00)

KY-S68	closed											
KY-S69	open	ABC	C	table and chair	counter	work station						sundries
KY-S70	closed											
KY-S71	closed											
KY-S72	open	ABC	C	table and chair	counter	work station						
KY-S73	open	AB	C	table and chair	counter							sundries
KY-S73-P												
KY-S74	open										bike	sundries
KY-S75	closed											
KY-S76	closed	E	P					chair			2bike	sundries
KY-S77	closed											
KY-S78	closed	E	P					chair				
KY-S79	N/A										car	
KY-S80	open	BCF	M		commodity	work station			kitchenware			
KY-S81	N/A	B	C		commodity							
KY-S82	N/A										bike	sundries
KY-S83	N/A	AF	M	table and chair					kitchenware			sundries
KY-S84	N/A	A	C	table and chair							bike	sundries
KY-S85	closed											
KY-S86	N/A	BCEFG	M		commodity	work station		table and chair	kitchenware	teaset		sundries
KY-S87	open	B	C		commodity							
KY-S88	closed											
KY-S89	open	B	C		commodity							sundries
KY-S90	closed	E	P					table and chair				sundries
KY-S91	closed											
KY-S92	closed											

Appendix D: Result of Observation Survey (Kaiyuan Road - 10:00)

Unit	open/closed	typology	purpose	A. Furniture	B. Goods	C. Operation	D. Display	E. Furniture	F. Household	G. Hobby	H. Vehicle	I. Others
KY-N01	closed											
KY-N02	closed											
KY-N03	closed											
KY-N04	open	EFG	P					table and chair	laundry	teaset		sundries
KY-N05	open	CEF	M			tools		table and chair	kitchenware		electric bike	sundries, plants
KY-N06	open	EF	P					chair	laundry		electric bike	
KY-N07	N/A	F	P						laundry			
KY-N08	N/A										bike	
KY-N09	open											sundries
KY-N10	open	ABG	M	table and chair	counter					teaset	electric bike	sundries
KY-N11	N/A										electric bike	
KY-N12	N/A										tricycle	
KY-N13	N/A											
KY-N14	N/A											
KY-N14-P												
KY-N15	open											
KY-N16	open	B	C		commodity							sundries
KY-N17	open	B	C		commodity							
KY-N18	open	BEF	M		commodity			table	kitchenware			sundries
KY-N19	open	BE	M		commodity			chair			electric bike	sundries
KY-N20	N/A											
KY-N21	open											sundries
KY-N22	open	B	C		commodity							sundries
KY-N23	open	BEF	M		commodity			table	kitchenware			
KY-N24	open										bike, electric bike	
KY-N25	open	EFG	P					table and chair	laundry	teaset	bike	sundries
KY-N26	open	CE	M			tool		chair			electric bike	sundries
KY-N27	open	BE	M		commodity			table and chair			electric bike	
KY-N28	N/A	E	P					chair			electric bike	
KY-N29	N/A	F	P						laundry		bike	sundries
KY-N30	open	EG	P					table and chair		teaset		sundries
KY-N30-P												
KY-N31	open											sundries
KY-N32	open											sundries
KY-N32-P												
KY-N33	open	BEF	M		amusement			table and chair	kitchenware			
KY-N34	open	B	C		commodity							sundries
KY-N35	closed											sundries
KY-N36	open	BEG	M		commodity			table and chair		teaset		
KY-N37	open	BE	M		commodity			chair				
KY-N38	open	EG	P					table and chair		teaset		sundries
KY-N39	open	B	C		commodity							sundries
KY-N39-P												
KY-N40	open	BE	M		commodity			chair			bike, electric bike	sundries
KY-N41	open	AEG	M	chair				table		teaset	electric bike	sundries
KY-N42	open	BCE	M		commodity, counter	work station		chair				sundries
KY-N43	open	B	C		counter							
KY-N44	N/A	F	P						laundry			
KY-N45	N/A	E	P					chair				sundries
KY-N46	open											sundries
KY-N47	open										2bike, electric bike	
KY-N48	open										2electric bike	
KY-N49	open	CEG	M			tools		table and chair		teaset		
KY-N50	open	E	P					chair			electric bike	sundries
KY-N51	open	BE	M		commodity			chair			2bike, 2electric bike	sundries
KY-N52	open	BEFG	M		commodity			table and chair	kitchenware	teaset		sundries
KY-N53	closed										electric bike	
KY-N54	closed											sundries
KY-N55	closed										electric bike	
KY-N56	open	BE	M		commodity			chair				sundries
KY-N57	open	CEG	M			tools		table and chair		teaset	bike	sundries
KY-N58	open	CE	M			tools		chair			electric bike	sundries
KY-N59	open	BEF	M		commodity			chair	kitchenware			
KY-N60	open	AC	C	table and chair		work station						
KY-N60-P												
KY-N61	closed											
KY-N62	open	B	C		counter							
KY-N63	open	B	C		commodity							
KY-N64	open	A	C	table and chair								
KY-N65	closed											
KY-N66	open	ABC	C	table and chair	counter	work station						sundries
KY-N67	open	A	C	table and chair								
KY-N68	closed											
KY-N68-P												
KY-N69	open	DE	M				advertisement	chair				sundries
KY-N70	open											
KY-N70-P												
KY-N71	open	E	P					chair				sundries
KY-N72	open	BE	M		commodity			chair				
KY-N73	open	E	P					chair				sundries
KY-N74	open	B	C		commodity							sundries
KY-N75	open	B	C		counter							sundries
KY-N76	open	CE	M			work station		chair				

Appendix D: Result of Observation Survey (Kaiyuan Road - 10:00)

KY-N77	open	BC	C		counter	work station						
KY-N78	open	B	C		commodity							
KY-N79	open	B	C		commodity							
KY-N80	open	B	C		commodity							sundries
KY-N81	open	BCEG	M		commodity	tool		table and chair		teaset		sundries
KY-N82	open										bike, 2electric bike	
KY-N83	open	B	C		commodity							
KY-N84	open											
KY-S01	closed											sundries
KY-S02	closed											
KY-S03	closed											sundries
KY-S03-P												
KY-S04	N/A											
KY-S05	N/A											
KY-S06	N/A										bike, electric bike	sundries
KY-S07	open	A	C	chair								
KY-S08	closed											
KY-S09	open	BF	M	chair					laundry		electric bike	
KY-S10	open	CEG	M		tool		table and chair			teaset		sundries
KY-S11	N/A	AF	M	chair					laundry			sundries
KY-S11-P												
KY-S12	N/A	EF	P				table and chair	laundry			bike	
KY-S13	N/A	BE	M		commodity		chair					plants
KY-S14	open	B	C		commodity						bike	
KY-S15	open	E	P				chair				tricycle	sundries
KY-S16	closed											sundries
KY-S16-P												
KY-S17	open	BE	M		commodity		chair					
KY-S18	closed											
KY-S19	closed											sundries
KY-S20	open	B	C		commodity							sundries
KY-S21	open	BE	M		commodity		chair					sundries
KY-S22	open	BEG	M		commodity		table and chair			teaset		
KY-S23	open	BC	C		commodity	work station						
KY-S24	N/A											
KY-S25	N/A											sundries
KY-S26	N/A											
KY-S27	N/A											sundries
KY-S28	open	BE	M		commodity		table and chair					sundries
KY-S29	N/A										electric bike	sundries
KY-S29-P												
KY-S30	open	ABC	C	table and chair	commodity, counter	work station						sundries
KY-S31	closed	A	C	table and chair								
KY-S32	open											sundries
KY-S33	closed											
KY-S34	open	BE	M		commodity		chair					
KY-S35	open	B	C		counter						bike	
KY-S36	closed											
KY-S37	N/A										bike	sundries
KY-S38	closed											
KY-S39	N/A	F	P					laundry				sundries
KY-S40	N/A											sundries
KY-S41	open	BC	C		counter	work station						
KY-S42	open	E	P				chair					
KY-S43	closed											
KY-S44	open	A	C	table and chair								sundries
KY-S44-P												
KY-S45	open	BC	C		commodity	work station						sundries
KY-S46	open	BC	C		commodity	work station						sundries
KY-S47	open	E	P				chair					
KY-S48	N/A											
KY-S49	open										electric bike	
KY-S50	open	B	C		commodity						electric bike	
KY-S51	open											
KY-S52	N/A											
KY-S53	open	BEFG	M		commodity		table and chair	kitchenware	teaset			
KY-S54	open	EG	P				table and chair		teaset			sundries
KY-S55	open	EG	P				table and chair		teaset			sundries
KY-S56	open	BG	M		commodity				children's goods	bike		sundries
KY-S56-P												
KY-S57	open	E	P				table and chair					sundries
KY-S58	open	BE	M		commodity		table and chair				electric bike	
KY-S59	open	B	C		commodity							
KY-S60	open	B	C		commodity						electric bike	
KY-S61	closed										electric bike	sundries
KY-S62	open	BE	M		commodity		chair					
KY-S63	open	BE	M		commodity		chair					
KY-S63-P												
KY-S64	open	EG	P				table and chair		teaset			
KY-S65	N/A	A	C	table and chair								sundries
KY-S66	open	AC	C	table and chair		work station						sundries
KY-S67	open	AC	C	table and chair		work station						
KY-S67-P												

Appendix

Appendix D: Result of Observation Survey (Kaiyuan Road - 10:00)

KY-S68	open											
KY-S69	open	AC	C	table and chair		work station						sundries
KY-S70	open											
KY-S71	open	BE	M		commodity			chair				sundries
KY-S72	open	ABC	C	table and chair	counter	work station						
KY-S73	open	AB	C	table and chair	counter							sundries
KY-S73-P												
KY-S74	open	E	P					chair				sundries
KY-S75	closed											
KY-S76	open	E	P					chair			2bike	sundries
KY-S77	closed	E	P					chair				
KY-S78	open	BCF	M		commodity	work station			kitchenware			
KY-S79	N/A										car	
KY-S80	open	BCF	M		commodity	work station			kitchenware			
KY-S81	N/A	B	C		commodity							
KY-S82	N/A										electric bike	sundries
KY-S83	N/A	AG	M	table and chair						teaset		sundries
KY-S84	N/A	A	C	table and chair							bike	
KY-S85	open	A	C	chair							bike	sundries
KY-S86	N/A	BCEFG	M		commodity	work station		table and chair	kitchenware	teaset		sundries
KY-S87	open	B	C		commodity							
KY-S88	closed											
KY-S89	open	B	C		commodity							sundries
KY-S90	open	BE	M		commodity			chair				sundries
KY-S91	open											
KY-S92	open											

Appendix D: Result of Observation Survey (Kaiyuan Road - 12:00)

Unit	open/closed	typology	purpose	A. Furniture	B. Goods	C. Operation	D. Display	E. Furniture	F. Household	G. Hobby	H. Vehicle	I. Others
KY-N01	closed											
KY-N02	open	E	P					chair			2bike	
KY-N03	closed											sundries
KY-N04	open	EFG	P					table and chair	laundry	teaset		
KY-N05	open	CEF	M			tools		table and chair	kitchenware		electric bike	sundries, plants
KY-N06	open	BEF	M		commodity			chair	laundry		bike	
KY-N07	N/A	F	P				F		laundry			
KY-N08	N/A										bike	
KY-N09	open											sundries
KY-N10	open	ABG	M	table and chair	counter					teaset	electric bike	sundries
KY-N11	N/A											
KY-N12	N/A										electric bike	
KY-N13	N/A											
KY-N14	N/A											
KY-N14-P												
KY-N15	open										electric bike	sundries
KY-N16	open	B	C		commodity							sundries
KY-N17	open	B	C		commodity							sundries
KY-N18	open	BE	M		commodity			table				sundries
KY-N19	open	BE	M		commodity			chair			electric bike	sundries
KY-N20	N/A											
KY-N21	open											sundries
KY-N22	open	B	C		commodity							sundries
KY-N23	open	BEF	M		commodity			table	kitchenware			sundries
KY-N24	open										bike, electric bike	sundries
KY-N25	open	EFG	P					table and chair	laundry	teaset	bike	sundries
KY-N26	open	CE	M			tool		chair			2bike	sundries
KY-N27	open	BE	M		commodity			table and chair			electric bike	
KY-N28	N/A	E	P					chair			electric bike	
KY-N29	N/A	F	P						laundry		bike	sundries
KY-N30	open	BEG	M		commodity			table and chair		teaset		sundries
KY-N30-P												
KY-N31	open											sundries
KY-N32	open											sundries
KY-N32-P												
KY-N33	open	BEF	M		amusement			table and chair	kitchenware			
KY-N34	open	BE	M		commodity			table and chair				sundries
KY-N35	closed										electric bike	sundries
KY-N36	open	BEG	M		commodity			table and chair		teaset		
KY-N37	open	BE	M		commodity			chair				
KY-N38	open	EG	P					table and chair		teaset		sundries
KY-N39	open	B	C		commodity							sundries
KY-N39-P												
KY-N40	open	BE	M		commodity			chair			bike, electric bike	sundries
KY-N41	open	AEG	M	chair				table		teaset	electric bike	sundries
KY-N42	open	BCE	M		commodity, counter	work station		chair				sundries
KY-N43	open	B	C		commodity							
KY-N44	N/A	F	P						laundry			
KY-N45	N/A	E	P					chair				sundries
KY-N46	open											sundries
KY-N47	open										bike, 2electric bike	sundries
KY-N48	open										electric bike	sundries
KY-N49	open	CEG	M			tools		table and chair		teaset		
KY-N50	open	E	P					chair			electric bike	sundries
KY-N51	open	E	P					chair			2bike, 2electric bike	
KY-N52	open	BEFG	M		commodity			table and chair	kitchenware	teaset		sundries
KY-N53	open	AEG	M	table and chair				table		teaset	electric bike	
KY-N54	open	AEG	M	chair				table		teaset		sundries
KY-N55	closed										electric bike	
KY-N56	open	BE	M		commodity			chair			2electric bike	sundries
KY-N57	open	CEG	M			tools		table and chair		teaset	bike	sundries
KY-N58	open	CE	M			tools		chair			electric bike	sundries
KY-N59	open	BEF	M		commodity			chair	kitchenware			
KY-N60	open	AC	C	table and chair		work station						
KY-N60-P												
KY-N61	closed											
KY-N62	open	B	C		counter							sundries
KY-N63	open	B	C		commodity							
KY-N64	open											
KY-N65	open	A	C	chair							bike	
KY-N66	open	ABC	C	table and chair	counter	work station						sundries
KY-N67	open	A	C	table and chair								sundries
KY-N68	open										electric bike	
KY-N68-P												
KY-N69	open	D	C				advertisement					sundries
KY-N70	open											
KY-N70-P												
KY-N71	open	E	P					chair				sundries
KY-N72	open	BE	M		commodity			chair			electric bike	
KY-N73	open	E	P					chair				sundries
KY-N74	open	B	C		commodity							sundries
KY-N75	open	B	C		counter							sundries
KY-N76	open	CE	M			work station		chair				

Appendix

Appendix D: Result of Observation Survey (Kaiyuan Road - 12:00)

KY-N77	open	ABC	C	table	counter	work station						
KY-N78	open	B	C		commodity							
KY-N79	open	B	C		commodity							
KY-N80	open	B	C		commodity							sundries
KY-N81	open	BCEG	M		commodity	tool		table and chair		teaset		sundries
KY-N82	open										bike, electric bike	
KY-N83	open	B	C		commodity							
KY-N84	open											
KY-S01	closed											sundries
KY-S02	open	A	C	table								
KY-S03	open											
KY-S03-P												
KY-S04	N/A											
KY-S05	N/A											
KY-S06	N/A										bike, electric bike	sundries
KY-S07	open	A	C	chair								sundries
KY-S08	closed											
KY-S09	open	AF	M	chair					laundry		electric bike	
KY-S10	open	CEG	M			tool		table and chair		teaset		sundries
KY-S11	N/A	AF	M	chair					laundry			sundries
KY-S11-P												
KY-S12	N/A	EF	P					chair	laundry			sundries
KY-S13	N/A	BE	M		commodity			chair				plants
KY-S14	open	B	C		commodity						bike	sundries
KY-S15	open	E	P					chair				sundries
KY-S16	closed										electric bike	sundries
KY-S16-P												
KY-S17	open	BE	M		commodity			chair				
KY-S18	open	A	C	table and chair								sundries
KY-S19	open											sundries
KY-S20	open	B	C		commodity							sundries
KY-S21	open	BE	M		commodity			chair				sundries
KY-S22	open	BEG	M		commodity			table and chair		teaset		sundries
KY-S23	open	BC	C		commodity	work station						
KY-S24	N/A											
KY-S25	N/A											sundries
KY-S26	N/A											
KY-S27	N/A											sundries
KY-S28	open	BEF	M		commodity			table and chair	kitchenware			sundries
KY-S29	N/A	A	C	table and chair							electric bike	sundries
KY-S29-P												
KY-S30	open	ABC	C	table and chair	commodity, counter	work station						sundries
KY-S31	closed	A	C	table and chair								
KY-S32	open											sundries
KY-S33	open											
KY-S34	open											
KY-S35	open	B	C		counter						bike	
KY-S36	open											
KY-S37	N/A											sundries
KY-S38	open											
KY-S39	N/A	F	P						laundry			sundries
KY-S40	N/A											sundries
KY-S41	closed											sundries
KY-S42	open	E	P					chair				sundries
KY-S43	closed											
KY-S44	open	A	C	table and chair								sundries
KY-S44-P												
KY-S45	open	BC	C		commodity	work station						sundries
KY-S46	open	BC	C		commodity	work station						sundries
KY-S47	open											
KY-S48	N/A											
KY-S49	closed										electric bike	
KY-S50	open	B	C		commodity						electric bike	
KY-S51	open											
KY-S52	N/A											
KY-S53	open	BEFG	M		commodity			table and chair	kitchenware	teaset		sundries
KY-S54	open	EG	P					table and chair		teaset		sundries
KY-S55	open	EG	P					table and chair		teaset		sundries
KY-S56	open	BF	M		commodity				laundry		bike, electric bike	sundries
KY-S56-P												
KY-S57	open	CEG	M			tools		table and chair		teaset		sundries
KY-S58	open	BE	M		commodity			table and chair			electric bike	
KY-S59	open	B	C		commodity							
KY-S60	open	BE	M		commodity			chair				
KY-S61	closed	E	P					chair			electric bike	sundries
KY-S62	open	BE	M		commodity			chair				
KY-S63	open	BE	M		commodity			chair				
KY-S63-P												
KY-S64	open	EG	P					table and chair		teaset		
KY-S65	N/A	A	C	table and chair								sundries
KY-S66	open	AC	C	table and chair		work station						sundries
KY-S67	open	AC	C	table and chair		work station						
KY-S67-P												

Appendix D: Result of Observation Survey (Kaiyuan Road - 12:00)

KY-S68	open											
KY-S69	open	AC	C	table and chair		work station						sundries
KY-S70	open											
KY-S71	open	B	C		commodity							sundries
KY-S72	open	ABCE	M	table and chair	counter	work station		chair				
KY-S73	open	AB	C	table and chair	counter							sundries
KY-S73-P												
KY-S74	open	EF	P					chair	kitchenware		bike	sundries
KY-S75	closed											
KY-S76	open	E	P					chair			2bike	sundries
KY-S77	open	BEG	M		commodity			table and chair		teaset		
KY-S78	open	BCF	M		commodity, amusement	work station			kitchenware			
KY-S79	N/A										car	
KY-S80	open	BCF	M		commodity	work station			kitchenware			
KY-S81	N/A	B	C		commodity							
KY-S82	N/A										bike, 2electric bike	sundries
KY-S83	N/A	AG	M	table and chair						teaset		sundries
KY-S84	N/A	AF	M	table and chair					laundry		bike	
KY-S85	open	A	C	chair							bike	sundries
KY-S86	N/A	BCEFG	M		commodity	work station		table and chair	kitchenware	teaset		sundries
KY-S87	open	B	C		commodity							
KY-S88	open	BE	M		commodity			chair			bike	
KY-S89	open	B	C		commodity							sundries
KY-S90	open	BE	M		commodity			chair				sundries
KY-S91	open											
KY-S92	open											

Appendix D: Result of Observation Survey (Kaiyuan Road - 16:00)

Unit	open/closed	typology	purpose	A. Furniture	B. Goods	C. Operation	D. Display	E. Furniture	F. Household	G. Hobby	H. Vehicle	I. Others
KY-N01	open	C	C			work station						sundries
KY-N02	open	E	P					chair			2bike	
KY-N03	open											sundries
KY-N04	open	EFG	P					table and chair	laundry	teaset		
KY-N05	open	CEF	M			tools		table and chair	kitchenware		electric bike	sundries, plants
KY-N06	open	BEF	M		commodity			chair	laundry		bike	
KY-N07	N/A	E	P				E	chair				
KY-N08	N/A											
KY-N09	open											sundries
KY-N10	open	ABG	M	table and chair	counter					teaset	electric bike	
KY-N11	N/A	A	C	table and chair								sundries
KY-N12	N/A										car	
KY-N13	N/A										car	
KY-N14	N/A										bike	
KY-N14-P												
KY-N15	open											sundries
KY-N16	open	B	C		commodity							sundries
KY-N17	open	B	C		commodity							sundries
KY-N18	open	BE	M		commodity			table				sundries
KY-N19	open	BE	M		commodity			chair				sundries
KY-N20	N/A											
KY-N21	open											sundries
KY-N22	open	B	C		commodity							sundries
KY-N23	open	BEF	M		commodity			table	kitchenware			sundries
KY-N24	open										2electric bike	sundries
KY-N25	open	EFG	P					table and chair	laundry	teaset	2bike	sundries
KY-N26	open	CEF	M			tool		chair	laundry		electric bike	sundries
KY-N27	open	BE	M		commodity			table and chair			electric bike	
KY-N28	N/A	E	P					chair			electric bike	
KY-N29	N/A	F	P						laundry			sundries
KY-N30	open	EG	P					table and chair		teaset		sundries
KY-N30-P												
KY-N31	open											
KY-N32	open											sundries
KY-N32-P												
KY-N33	open	BEF	M		amusement			table and chair	kitchenware			
KY-N34	open	BE	M		commodity			table and chair				sundries
KY-N35	open	A	C	table and chair							electric bike	sundries
KY-N36	open	BEG	M		commodity			table and chair		teaset		
KY-N37	open	BE	M		commodity			chair				
KY-N38	open											sundries
KY-N39	open											sundries
KY-N39-P												
KY-N40	open	BE	M		commodity			chair			bike, electric bike	sundries
KY-N41	open	AEG	M	chair				table		teaset		sundries
KY-N42	open	BCE	M		commodity, counter	work station		chair				sundries
KY-N43	open											
KY-N44	N/A	F	P						laundry			
KY-N45	N/A	BE	M		commodity			chair				
KY-N46	open											sundries
KY-N47	open										bike, 2electric bike	sundries
KY-N48	open										4electric bike	sundries
KY-N49	open	CEG	M			tools		table and chair		teaset		
KY-N50	open	E	P					chair			electric bike	sundries
KY-N51	open	E	P					chair			2bike, 2electric bike	
KY-N52	open	BEFG	M		commodity			table and chair	kitchenware	teaset		sundries
KY-N53	open	AEG	M	table and chair				table		teaset		
KY-N54	open	AEG	M	chair				table		teaset		sundries
KY-N55	closed	A	C	table								
KY-N56	open	BE	M		commodity			chair			electric bike	sundries
KY-N57	open	CEG	M			tools		table and chair		teaset		sundries
KY-N58	open	CE	M			tools		chair				sundries
KY-N59	open	BEF	M		commodity			chair	kitchenware			
KY-N60	open	AC	C	table and chair		work station						
KY-N60-P												
KY-N61	closed											
KY-N62	open	B	C		counter							sundries
KY-N63	open											sundries
KY-N64	open											sundries
KY-N65	open	A	C	chair							bike	
KY-N66	open	AC	C	table and chair		work station						sundries
KY-N67	closed											
KY-N68	open											sundries
KY-N68-P												
KY-N69	open	D	C				advertisement					sundries
KY-N70	open											
KY-N70-P												
KY-N71	open	E	P					chair				sundries
KY-N72	open	BE	M		commodity			chair			electric bike	
KY-N73	open	E	P					chair				sundries
KY-N74	open	B	C		commodity							sundries
KY-N75	open	B	C		counter							sundries
KY-N76	open	CE	M			work station		chair				

Appendix D: Result of Observation Survey (Kaiyuan Road - 16:00)

KY-N77	open	ABC	C	table	counter	work station						
KY-N78	open	B	C		commodity							
KY-N79	open	B	C		commodity							
KY-N80	open	B	C		commodity						bike	sundries
KY-N81	open	BCEG	M		commodity	tool		table and chair		teaset		sundries
KY-N82	open										bike, 2electric bike	
KY-N83	open	B	C		commodity							
KY-N84	open											
KY-S01	open											sundries
KY-S02	open	AC	C	table		work station						sundries
KY-S03	open											
KY-S03-P												
KY-S04	N/A											
KY-S05	N/A											
KY-S06	N/A										3bike	sundries
KY-S07	open	A	C	chair								sundries
KY-S08	open	AG	M	table and chair						teaset		
KY-S09	open	AF	M	chair				laundry			electric bike	
KY-S10	open	CEG	M			tool		table and chair		teaset		sundries
KY-S11	N/A	AF	M	chair				laundry				sundries
KY-S11-P												
KY-S12	N/A	EF	P					chair	laundry			sundries
KY-S13	N/A	BE	M		commodity			chair				plants
KY-S14	open	B	C		commodity						bike	sundries
KY-S15	open	E	P					chair				sundries
KY-S16	open	CG	M			work station				teaset		sundries
KY-S16-P												
KY-S17	open	BE	M		commodity			chair			bike	
KY-S18	open	A	C	table and chair								fan
KY-S19	open	A	C	table and chair								sundries, fan
KY-S20	open	B	C		commodity							sundries
KY-S21	open	BE	M		commodity			chair				sundries
KY-S22	open	BEG	M		commodity			table and chair		teaset		sundries
KY-S23	open	BC	C		commodity	work station						
KY-S24	N/A											
KY-S25	N/A											sundries
KY-S26	N/A											
KY-S27	N/A											sundries
KY-S28	open	BEF	M		commodity			table and chair	kitchenware			sundries
KY-S29	N/A	A	C	table and chair							electric bike	sundries
KY-S29-P												
KY-S30	open	ABC	C	table and chair	counter	work station						sundries
KY-S31	closed											
KY-S32	open	C	C			tool					bike	sundries
KY-S33	open											
KY-S34	open	B	C		commodity							
KY-S35	open	B	C		counter						bike	
KY-S36	open											
KY-S37	N/A											sundries
KY-S38	open											
KY-S39	N/A	F	P					laundry				sundries
KY-S40	N/A											sundries
KY-S41	closed											sundries
KY-S42	open	E	P					chair				sundries
KY-S43	closed											
KY-S44	open	A	C	table and chair								sundries
KY-S44-P												
KY-S45	open	BC	C		commodity	work station						sundries
KY-S46	open	BC	C		commodity	work station						sundries
KY-S47	open											
KY-S48	N/A											
KY-S49	open										electric bike	
KY-S50	open	B	C		commodity						electric bike	
KY-S51	open											
KY-S52	N/A											
KY-S53	open	BEFG	M		commodity			table and chair	kitchenware	teaset		sundries
KY-S54	open	EG	P					table and chair		teaset		sundries
KY-S55	open	EG	P					table and chair		teaset		sundries
KY-S56	open	BF	M		commodity			laundry			bike, electric bike	sundries
KY-S56-P												
KY-S57	open	CEG	M			tools		table and chair		teaset		sundries, fan
KY-S58	open	BE	M		commodity			table and chair			electric bike	
KY-S59	open	B	C		commodity							
KY-S60	open	B	C		commodity						electric bike	
KY-S61	open										electric bike	sundries
KY-S62	open	BE	M		commodity			chair				
KY-S63	open	BE	M		commodity			chair				
KY-S63-P												
KY-S64	open	EG	P					table and chair		teaset	electric bike	
KY-S65	N/A	A	C	table and chair								sundries
KY-S66	open	AC	C	table and chair		work station						sundries
KY-S67	open	AC	C	table and chair		work station						
KY-S67-P												

Appendix

Appendix D: Result of Observation Survey (Kaiyuan Road - 16:00)

KY-S68	open											
KY-S69	open	AC	C	table and chair		work station						sundries
KY-S70	open											electric bike
KY-S71	open	BD	C		commodity		advertisement					sundries
KY-S72	open	ABCE	M	table and chair	counter	work station		chair				
KY-S73	open	B	C		counter							sundries
KY-S73-P												
KY-S74	open	F	P						kitchenware		bike	sundries
KY-S75	closed											
KY-S76	open	E	P					chair			2bike	sundries
KY-S77	open	BEG	M		commodity			table and chair		teaset		
KY-S78	open	BCF	M		commodity, amusement	work station			kitchenware			
KY-S79	N/A										car	
KY-S80	open	BCF	M		commodity	work station			kitchenware			
KY-S81	N/A	B	C		commodity							
KY-S82	N/A										2electric bike	sundries
KY-S83	N/A	AG	M	table and chair						teaset		sundries
KY-S84	N/A	F	P						laundry		bike	
KY-S85	open	A	C	chair								
KY-S86	N/A	BCEFG	M		commodity	work station		table and chair	kitchenware	teaset		sundries
KY-S87	open	B	C		commodity							
KY-S88	open	BE	M		commodity			table and chair				
KY-S89	open	BE	M		commodity			table and chair				sundries
KY-S90	open	BE	M		commodity			chair				sundries
KY-S91	open											
KY-S92	open											

Appendix D: Result of Observation Survey (Kaiyuan Road - 19:00)

Unit	open/closed	typology	purpose	A. Furniture	B. Goods	C. Operation	D. Display	E. Furniture	F. Household	G. Hobby	H. Vehicle	I. Others
KY-N01	open	A	C	table and chair								sundries
KY-N02	open	A	C	table and chair								
KY-N03	open	A	C	table and chair								sundries
KY-N04	open	EFG	P					table and chair	laundry	teaset	electric bike	
KY-N05	open	CEF	M			tools		table and chair	kitchenware		electric bike	sundries, plants
KY-N06	open	BEF	M		commodity			chair	laundry		bike	
KY-N07	N/A	E	P				E	chair				
KY-N08	N/A											
KY-N09	open	A	C	table and chair								sundries
KY-N10	open	ABG	M	table and chair	counter					teaset		
KY-N11	N/A	A	C	table and chair								sundries
KY-N12	N/A										car	
KY-N13	N/A										car	
KY-N14	N/A											
KY-N14-P												
KY-N15	open											sundries
KY-N16	open	B	C		commodity							sundries
KY-N17	open	B	C		commodity							sundries
KY-N18	open	BE	M		commodity			table				sundries
KY-N19	open	BE	M		commodity			chair				sundries
KY-N20	N/A											
KY-N21	open										bike	sundries
KY-N22	open	B	C		commodity							sundries
KY-N23	open	BE	M		commodity			table				sundries
KY-N24	open										electric bike	sundries
KY-N25	open	F	P						laundry			sundries
KY-N26	open	CEF	M			tool		chair	laundry		electric bike	sundries
KY-N27	open											
KY-N28	N/A											
KY-N29	N/A	F	P						laundry			
KY-N30	closed											
KY-N30-P												
KY-N31	open											
KY-N32	closed											
KY-N32-P												
KY-N33	open	BEF	M		amusement			table and chair	kitchenware			
KY-N34	open	BE	M		commodity			table and chair				sundries
KY-N35	open	A	C	table and chair							electric bike	sundries, fan
KY-N36	closed											
KY-N37	closed	E	P					chair				
KY-N38	closed											
KY-N39	open	E	P					chair				sundries
KY-N39-P												
KY-N40	closed											sundries
KY-N41	open	AEFG	M	chair				table	kitchenware	teaset		sundries
KY-N42	closed											
KY-N43	open											
KY-N44	N/A	F	P						laundry			
KY-N45	N/A											
KY-N46	open											sundries
KY-N47	closed										electric bike	
KY-N48	closed											
KY-N49	open	CEG	M			tools		table and chair		teaset		
KY-N50	closed											
KY-N51	open	E	P					chair			2bike, electric bike	
KY-N52	open	BEFG	M		commodity			table and chair	kitchenware	teaset		sundries
KY-N53	open	AEG	M	table and chair				table		teaset		
KY-N54	open	AEG	M	chair				table		teaset		sundries
KY-N55	closed											
KY-N56	closed											
KY-N57	closed											
KY-N58	closed											
KY-N59	open	BEF	M		commodity			table and chair	kitchenware			
KY-N60	open	AC	C	table and chair		work station						
KY-N60-P												
KY-N61	closed											
KY-N62	open	BE	M		counter			chair				sundries
KY-N63	open	B	C		commodity							sundries
KY-N64	open										2bike	sundries
KY-N65	open	A	C	chair								
KY-N66	open	AC	C	table and chair		work station						sundries
KY-N67	closed											
KY-N68	closed											sundries
KY-N68-P												
KY-N69	closed											
KY-N70	closed											
KY-N70-P												
KY-N71	open	E	P					chair				sundries
KY-N72	open	BE	M		commodity			chair			electric bike	
KY-N73	open	E	P					chair				sundries
KY-N74	open	B	C		commodity							sundries
KY-N75	open	B	C		counter							sundries
KY-N76	open	CE	M			work station		chair				

Appendix D: Result of Observation Survey (Kaiyuan Road - 19:00)

KY-N77	open	ABC	C	table	counter	work station						
KY-N78	open	B	C		commodity							
KY-N79	open	B	C		commodity							
KY-N80	open	B	C		commodity							sundries
KY-N81	open	BC	C		commodity	tool						sundries
KY-N82	open											
KY-N83	open	B	C		commodity							
KY-N84	open											
KY-S01	open	A	C	table and chair								sundries
KY-S02	open	C	C			work station						sundries
KY-S03	open	A	C	table and chair								sundries
KY-S03-P												
KY-S04	N/A											
KY-S05	N/A											
KY-S06	N/A										3bike	sundries
KY-S07	open	A	C	chair								sundries
KY-S08	open	AG	M	table and chair						teaset		
KY-S09	open	AF	M	chair					laundry		electric bike	
KY-S10	open	CEG	M			tool		table and chair		teaset		sundries
KY-S11	N/A	AF	M	chair					laundry			sundries
KY-S11-P												
KY-S12	N/A	EF	P					table and chair	laundry			
KY-S13	N/A	EF	P					chair	laundry			plants
KY-S14	closed											
KY-S15	open	A	C	table and chair								sundries
KY-S16	open	ACG	M	table and chair		work station				teaset		sundries
KY-S16-P												
KY-S17	closed	A	C	table and chair								
KY-S18	open	A	C	table and chair								fan
KY-S19	open	A	C	table and chair								sundries, fan
KY-S20	open	B	C		commodity							sundries
KY-S21	open	B	C		commodity			chair				sundries
KY-S22	open	BEG	M		commodity			table and chair		teaset		sundries
KY-S23	open	BC	C		commodity	work station						
KY-S24	N/A											
KY-S25	N/A											sundries
KY-S26	N/A											
KY-S27	N/A											sundries
KY-S28	open	BEF	M		commodity			table and chair	kitchenware			sundries
KY-S29	N/A											
KY-S29-P												
KY-S30	open	ABC	C	table and chair	counter	work station						sundries
KY-S31	closed											
KY-S32	open	CE	M			tool		chair			electric bike	sundries
KY-S33	open											
KY-S34	open	B	C		commodity							
KY-S35	open	B	C		counter						bike	
KY-S36	open											
KY-S37	N/A											
KY-S38	open											
KY-S39	N/A	F	P						laundry			sundries
KY-S40	N/A											sundries
KY-S41	closed											sundries
KY-S42	open											sundries
KY-S43	closed											
KY-S44	open	A	C	table and chair							electric bike	sundries
KY-S44-P												
KY-S45	open	BC	C		commodity	work station						sundries
KY-S46	open	BC	C		commodity	work station						sundries
KY-S47	open	F	P						table and chair			
KY-S48	N/A											
KY-S49	closed											
KY-S50	open	B	C		commodity						electric bike	
KY-S51	open											
KY-S52	N/A											
KY-S53	open	BEG	M		commodity			table and chair		teaset		sundries
KY-S54	open	EG	P					table and chair		teaset		sundries
KY-S55	open	EG	P					table and chair		teaset		sundries
KY-S56	open	BF	M		commodity				laundry		bike, electric bike	sundries
KY-S56-P												
KY-S57	open	CEG	M			tools		table and chair		teaset		sundries, fan
KY-S58	open	BE	M		commodity			table and chair			electric bike	
KY-S59	open	B	C		commodity							
KY-S60	open	B	C		commodity							
KY-S61	open											sundries
KY-S62	closed											
KY-S63	closed	B	C		commodity							
KY-S63-P												
KY-S64	open											
KY-S65	N/A	A	C	table and chair								sundries
KY-S66	open	AC	C	table and chair		work station						sundries
KY-S67	open	AC	C	table and chair		work station						
KY-S67-P												

Appendix D: Result of Observation Survey (Kaiyuan Road - 19:00)

KY-S68	closed											
KY-S69	closed											sundries
KY-S70	closed											
KY-S71	open	BD	C		commodity		advertisement					sundries
KY-S72	open	ABCE	M	table and chair	counter	work station		chair				
KY-S73	open	B	C		counter							sundries
KY-S73-P												
KY-S74	closed											
KY-S75	closed											
KY-S76	open	E	P					chair			2bike	sundries
KY-S77	closed											
KY-S78	open	BCF	M		commodity, amusement	work station			kitchenware			
KY-S79	N/A											
KY-S80	open	BCF	M		commodity	work station			kitchenware			
KY-S81	N/A	B	C		commodity							
KY-S82	N/A											sundries
KY-S83	N/A											sundries
KY-S84	N/A										bike	sundries
KY-S85	open	A	C	chair							electric bike	
KY-S86	N/A	E	P					table and chair				sundries
KY-S87	open	B	C		commodity							
KY-S88	open	BE	M		commodity			table and chair				
KY-S89	open	BE	M		commodity			chair				sundries
KY-S90	closed											
KY-S91	open											
KY-S92	open											

Appendix

Appendix D: Result of Observation Survey (Kaiyuan Road - 22:00)

Unit	open/closed	typology	purpose	A. Furniture	B. Goods	C. Operation	D. Display	E. Furniture	F. Household	G. Hobby	H. Vehicle	I. Others
KY-N01	open	A	C	table and chair								sundries
KY-N02	closed	A	C	table and chair								
KY-N03	open	A	C	table and chair								sundries
KY-N04	closed											
KY-N05	open	CEF	M			tools		table and chair	kitchenware		electric bike	sundries, plants
KY-N06	open	BEF	M		commodity			chair	laundry		bike	
KY-N07	N/A											
KY-N08	N/A											
KY-N09	open	A	C	table and chair								sundries
KY-N10	open	ABG	M	table and chair	counter					teaset		
KY-N11	N/A	A	C	table and chair								sundries
KY-N12	N/A										car	
KY-N13	N/A										car	
KY-N14	N/A											
KY-N14-P												
KY-N15	closed											
KY-N16	closed											sundries
KY-N17	closed											sundries
KY-N18	closed											sundries
KY-N19	closed											sundries
KY-N20	N/A											
KY-N21	closed											
KY-N22	closed											
KY-N23	closed											
KY-N24	closed											
KY-N25	open	F	P						laundry			sundries
KY-N26	open	CF	M			tool			laundry		2electric bike	sundries
KY-N27	closed											
KY-N28	N/A											
KY-N29	N/A											
KY-N30	closed											
KY-N30-P												
KY-N31	open										bike, electric bike	
KY-N32	closed											
KY-N32-P												
KY-N33	open	BEF	M		amusement			table and chair	kitchenware			
KY-N34	open	BE	M		commodity			table and chair				sundries
KY-N35	open	A	C	table and chair							electric bike	sundries, fan
KY-N36	closed											
KY-N37	closed	E	P					chair				
KY-N38	closed											
KY-N39	open	E	P					chair				sundries
KY-N39-P												
KY-N40	closed											sundries
KY-N41	open	AEFG	M	chair				table	kitchenware	teaset		sundries
KY-N42	closed											
KY-N43	closed											
KY-N44	N/A	F	P						laundry			
KY-N45	N/A											
KY-N46	open											sundries
KY-N47	closed										electric bike	
KY-N48	closed										electric bike	
KY-N49	closed											
KY-N50	closed											
KY-N51	closed	E	P					chair			2bike	
KY-N52	closed											
KY-N53	open	AEG	M	table and chair				table		teaset		
KY-N54	open	AEG	M	chair				table		teaset		sundries
KY-N55	closed											
KY-N56	closed											
KY-N57	closed											
KY-N58	closed											
KY-N59	closed											
KY-N60	closed											
KY-N60-P												
KY-N61	closed											
KY-N62	open	BE	M		counter			chair				sundries
KY-N63	closed											
KY-N64	closed											
KY-N65	open	A	C	chair								
KY-N66	open	AC	C	table and chair		work station						sundries
KY-N67	closed											
KY-N68	closed											sundries
KY-N68-P												
KY-N69	closed											
KY-N70	closed											
KY-N70-P												
KY-N71	open	E	P					chair				sundries
KY-N72	open	BE	M		commodity			chair			electric bike	
KY-N73	open	E	P					chair				sundries
KY-N74	open	B	C		commodity							sundries
KY-N75	open	B	C		counter							sundries
KY-N76	closed	B	C		counter							sundries

Appendix D: Result of Observation Survey (Kaiyuan Road - 22:00)

KY-N77	closed											
KY-N78	closed											
KY-N79	open	B	C		commodity							
KY-N80	open	B	C		commodity							sundries
KY-N81	closed											
KY-N82	open											
KY-N83	open	B	C		commodity							
KY-N84	open											
KY-S01	open	A	C	table and chair								sundries
KY-S02	open	C	C		work station							sundries
KY-S03	open	A	C	table and chair								sundries
KY-S03-P												
KY-S04	N/A											
KY-S05	N/A											
KY-S06	N/A										3bike	sundries
KY-S07	open	A	C	chair								sundries
KY-S08	open	AG	M	table and chair					teaset			
KY-S09	open	A	C	chair								
KY-S10	open	CEG	M		tool		table and chair		teaset			sundries
KY-S11	N/A	A	C	chair								sundries
KY-S11-P												
KY-S12	N/A	E	P				table and chair					
KY-S13	N/A	EF	P				chair	laundry				plants
KY-S14	closed											
KY-S15	open	A	C	table and chair								sundries
KY-S16	open	C	C		work station							sundries
KY-S16-P												
KY-S17	closed	A	C	table and chair								
KY-S18	open	A	C	table and chair								fan
KY-S19	open	A	C	table and chair								sundries, fan
KY-S20	closed											
KY-S21	closed											
KY-S22	closed											
KY-S23	closed	B	C		commodity							
KY-S24	N/A											
KY-S25	N/A											sundries
KY-S26	N/A											
KY-S27	N/A											sundries
KY-S28	open	BEF	M		commodity		table and chair	kitchenware				sundries
KY-S29	N/A											
KY-S29-P												
KY-S30	closed											
KY-S31	closed											
KY-S32	closed											
KY-S33	open											
KY-S34	closed											
KY-S35	open	B	C		counter						bike	
KY-S36	open										bike	
KY-S37	N/A											
KY-S38	open											
KY-S39	N/A	EF	P				chair	laundry				sundries
KY-S40	N/A											sundries
KY-S41	closed											sundries
KY-S42	open	E	P				chair					sundries
KY-S43	closed											
KY-S44	open	A	C	table and chair								sundries
KY-S44-P												
KY-S45	open	BC	C		commodity	work station						sundries
KY-S46	open	B	C		commodity							sundries
KY-S47	open	F	P					chair				
KY-S48	N/A											
KY-S49	closed											
KY-S50	closed											
KY-S51	closed											
KY-S52	N/A											
KY-S53	closed											
KY-S54	open	EG	P				table and chair		teaset			sundries
KY-S55	open	EG	P				table and chair		teaset			sundries
KY-S56	open	B	C		commodity					bike, electric bike		sundries
KY-S56-P												
KY-S57	closed											sundries, fan
KY-S58	open									electric bike		
KY-S59	closed	B	C		commodity							
KY-S60	open	B	C		commodity					electric bike		
KY-S61	open											sundries
KY-S62	closed											
KY-S63	closed	B	C		commodity							
KY-S63-P												
KY-S64	open											
KY-S65	N/A											
KY-S66	closed											
KY-S67	closed											
KY-S67-P												

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Appendix D: Result of Observation Survey (Kaiyuan Road - 22:00)

KY-S68	closed											
KY-S69	closed											
KY-S70	closed											
KY-S71	open	D	C				advertisement					sundries
KY-S72	closed											
KY-S73	closed											
KY-S73-P												
KY-S74	closed											
KY-S75	closed											
KY-S76	closed	E	P				chair			2bike		sundries
KY-S77	closed											
KY-S78	closed											
KY-S79	N/A									car		
KY-S80	closed	BE	M		commodity		table and chair					
KY-S81	N/A	B	C		commodity							
KY-S82	N/A											sundries
KY-S83	N/A											sundries
KY-S84	N/A									bike		sundries
KY-S85	open	A	C	chair						electric bike		
KY-S86	N/A											sundries
KY-S87	closed											
KY-S88	open	BE	M		commodity		table and chair					
KY-S89	open	BE	M		commodity		chair					sundries
KY-S90	closed											
KY-S91	closed											
KY-S92	closed											

Appendix D: Result of Observation Survey (Datong Road - 7:00)

Unit	open/closed	typology	purpose	A. Furniture	B. Goods	C. Operation	D. Display	E. Furniture	F. Household	G. Hobby	H. Vehicle	I. Others
DT-N01	closed											
DT-N02	closed											
DT-N03	closed											
DT-N04	N/A											
DT-N05	closed											sundries
DT-N06	N/A											
DT-N07	closed											
DT-N08	closed											
DT-N09	closed											
DT-N10	N/A											
DT-N11	closed											
DT-N12	closed											
DT-N13	closed											
DT-N13-P												
DT-N14	closed											
DT-N15	closed											
DT-N16	closed											
DT-N17	closed										wheelchair	sundries
DT-N18	N/A											
DT-N19	closed											
DT-N20	N/A											
DT-N21	closed											
DT-N22	closed											
DT-N23	closed											
DT-N24	N/A											
DT-N25	closed											
DT-N26	closed											
DT-N27	closed											
DT-N28	closed											
DT-N29	closed											
DT-N30	closed	E	P					chair				
DT-N31	closed											
DT-N32	closed											
DT-N32-P												
DT-N33	closed											
DT-N34	closed											
DT-N35	closed											
DT-N36	closed											
DT-N37	closed											
DT-N38	closed											
DT-N39	N/A											
DT-N40	closed											sundries
DT-N41	closed											
DT-N42	closed											
DT-N43	closed											
DT-N44	closed											
DT-N45	open										bike, electric bike	
DT-N46	N/A	E	P					chair			electric bike	
DT-N47	closed											
DT-N48	N/A											
DT-N49	N/A											
DT-N50	N/A											
DT-N51	N/A											
DT-N52	N/A											
DT-N53	closed											
DT-N54	closed											
DT-N54-P												
DT-N55	N/A											
DT-N56	closed											
DT-N57	N/A											
DT-N58	N/A											
DT-N59	N/A											
DT-N60	open	E	P					chair			electric bike	sundries
DT-N61	closed										bike	
DT-N62	N/A											
DT-N63	N/A											
DT-N64	N/A											
DT-N65	N/A											
DT-N66	N/A											
DT-N67	N/A											
DT-N68	N/A											
DT-N69	open	D	C				advertisement					
DT-N70	closed											
DT-N71	closed											
DT-N72	closed											
DT-N73	open											bike, electric bike
DT-N74	open											
DT-N75	N/A											

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Appendix D: Result of Observation Survey (Datong Road - 7:00)

DT-N76	closed											
DT-N77	closed											
DT-N78	N/A											
DT-N79	open	BF	M		commodity				kitchenware			sundries
DT-N80	closed											
DT-N81	closed											
DT-N81-P												
DT-N82	N/A											
DT-N83	N/A											
DT-N84	N/A											
DT-N85	closed											
DT-N86	closed											
DT-N87	N/A											
DT-N88	N/A											
DT-N89	N/A											
DT-N90	open											
DT-N91	open											
DT-N92	closed											
DT-N93	closed	D	C				sculpture					plants
DT-S01	closed											
DT-S02	closed											
DT-S03	closed	F	P						laundry			
DT-S04	closed											
DT-S05	closed											
DT-S06	closed											
DT-S07	closed											
DT-S08	closed											
DT-S09	closed											
DT-S10	closed											
DT-S11	closed											
DT-S12	closed											
DT-S13	N/A											
DT-S14	N/A											
DT-S15	N/A											
DT-S16	closed											
DT-S17	closed											plants
DT-S18	closed											
DT-S19	N/A											
DT-S20	closed											
DT-S21	N/A											
DT-S22	closed											
DT-S23	closed											
DT-S24	closed											
DT-S25	N/A											
DT-S26	closed											
DT-S27	N/A											
DT-S28	closed											
DT-S29	closed											
DT-S30	N/A											
DT-S31	N/A											
DT-S32	closed											
DT-S32-P												
DT-S33	closed											
DT-S34	closed											
DT-S35	closed											
DT-S36	N/A											roadblock
DT-S37	closed											
DT-S38	N/A											
DT-S39	closed											
DT-S40	N/A	F	P						laundry		bike	
DT-S41	N/A											sundries
DT-S42	open											plants
DT-S43	closed											
DT-S44	N/A											
DT-S45	closed											
DT-S46	closed											
DT-S47	closed											sundries
DT-S48	closed											
DT-S49	closed											
DT-S49-P												
DT-S50	N/A											
DT-S51	closed											
DT-S52	closed											sundries
DT-S53	closed											
DT-S54	closed											
DT-S55	closed											
DT-S55-P												
DT-S56	N/A											

Appendix D: Result of Observation Survey (Datong Road - 7:00)

DT-S57	closed											
DT-S58	N/A	F	P						laundry		bike	
DT-S59	closed											
DT-S60	N/A											
DT-S61	closed										sundries	
DT-S62	closed										motor bike	
DT-S62-P												
DT-S63	N/A										2bike,electric bike	
DT-S64	closed											
DT-S65	closed											
DT-S66	closed											
DT-S67	closed											
DT-S68	closed											
DT-S69	open	E	P					table and chair			bike,electric bike	
DT-S70	closed											
DT-S71	closed											
DT-S72	N/A											
DT-S73	closed											
DT-S74	N/A											
DT-S75	closed											
DT-S76	closed											
DT-S77	closed											
DT-S78	N/A											
DT-S79	N/A											
DT-S80	closed											
DT-S81	closed											
DT-S81-P												
DT-S82	closed											
DT-S83	closed											
DT-S84	closed											
DT-S85	closed											
DT-S85-P												
DT-S86	N/A											
DT-S87	N/A											
DT-S88	N/A											
DT-S89	closed											
DT-S90	closed											
DT-S91	closed											
DT-S92	closed											
DT-S93	closed											
DT-S94	closed	C	C			tool						

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Appendix D: Result of Observation Survey (Datong Road - 10:00)

Unit	open/closed	typology	purpose	A. Furniture	B. Goods	C. Operation	D. Display	E. Furniture	F. Household	G. Hobby	H. Vehicle	I. Others
DT-N01	open											
DT-N02	open	E	P					chair			bike	sundries
DT-N03	closed											
DT-N04	N/A											
DT-N05	open	EF	P					chair	kitchenware		bike	sundries
DT-N06	N/A											
DT-N07	open	AB	C	table and chair	counter						electric bike	
DT-N08	closed											
DT-N09	open										electric bike	
DT-N10	N/A											
DT-N11	open										electric bike	
DT-N12	closed											
DT-N13	open	B	C		commodity						bike, electric bike	sundries
DT-N13-P												
DT-N14	open	B	C		commodity							
DT-N15	open	B	C		commodity						2electric bike	sundries
DT-N16	open										electric bike	
DT-N17	open										electric bike	sundries
DT-N18	N/A										electric bike	sundries
DT-N19	closed										wheelchair	
DT-N20	N/A											
DT-N21	open	CEG	M			tool		table and chair		teaset	electric bike	
DT-N22	open	B	C		commodity							sundries
DT-N23	open	B	C		commodity							sundries
DT-N24	N/A										bike	
DT-N25	open	E	P					table and chair				sundries
DT-N26	open	BE	M		commodity			table and chair				sundries
DT-N27	open											
DT-N28	open	B	C		commodity							
DT-N29	open	E	P					chair				
DT-N30	closed	E	P					chair				
DT-N31	open											
DT-N32	closed											
DT-N32-P												
DT-N33	open	EG	P					table and chair		teaset	electric bike	sundries
DT-N34	open	B	C		commodity							
DT-N35	open	DE	M				advertisement	table and chair			bike	
DT-N36	closed											
DT-N37	open	BE	M		commodity			table				sundries
DT-N38	open											sundries
DT-N39	N/A	F	P						laundry		2electric bike	
DT-N40	open	E	P					chair			electric bike	sundries
DT-N41	open											
DT-N42	open	CF	M			tool			laundry			sundries
DT-N43	closed	F	P						laundry			
DT-N44	open	F	P						kitchenware			
DT-N45	open										2bike	
DT-N46	N/A	E	P					chair			electric bike	
DT-N47	open	B	C		commodity							
DT-N48	N/A											
DT-N49	N/A											
DT-N50	N/A											
DT-N51	N/A											
DT-N52	N/A											
DT-N53	open	BC	C		commodity	tool						
DT-N54	open	BCE	M		commodity	tool		table and chair				
DT-N54-P												
DT-N55	N/A											
DT-N56	closed											
DT-N57	N/A											
DT-N58	N/A											
DT-N59	N/A											
DT-N60	open	EF	P					chair	laundry		electric bike	sundries
DT-N61	open	E	P					chair			bike	
DT-N62	N/A											
DT-N63	N/A											
DT-N64	N/A											
DT-N65	N/A											
DT-N66	N/A											
DT-N67	N/A											
DT-N68	N/A											
DT-N69	open	D	C				advertisement					sundries
DT-N70	open											
DT-N71	open											
DT-N72	open											
DT-N73	open										6bike, 2electric bike	
DT-N74	open											
DT-N75	N/A											

Appendix D: Result of Observation Survey (Datong Road - 10:00)

DT-N76	open	B	C		commodity							sundries
DT-N77	closed	G	P							interest	electric bike	
DT-N78	N/A											
DT-N79	open	BF	M		commodity				kitchenware			sundries
DT-N80	open	BE	M		commodity			chair				
DT-N81	open	B	C		commodity						electric bike	
DT-N81-P												
DT-N82	N/A											
DT-N83	N/A											
DT-N84	N/A										tricycle	
DT-N85	closed											
DT-N86	open											plants
DT-N87	N/A											
DT-N88	N/A											
DT-N89	N/A											
DT-N90	open											
DT-N91	open											
DT-N92	open											
DT-N93	open	D	C				advertisement, sculpture					plants
DT-S01	open											
DT-S02	open	B	C		commodity							
DT-S03	open	F	P						laundry			sundries
DT-S04	open	BEG	M		commodity			table and chair		teaset, interest		sundries, fan
DT-S05	open										electric bike	
DT-S06	open	B	C		commodity							sundries
DT-S07	closed											
DT-S08	closed											
DT-S09	closed											
DT-S10	closed											
DT-S11	closed											
DT-S12	open	B	C		commodity							
DT-S13	N/A											
DT-S14	N/A											
DT-S15	N/A											electric bike
DT-S16	open	B	C		commodity							sundries
DT-S17	closed											plants
DT-S18	open	EG	P					table		teaset		sundries
DT-S19	N/A											
DT-S20	open											
DT-S21	N/A											
DT-S22	open											sundries
DT-S23	closed										2electric bike	
DT-S24	closed											
DT-S25	N/A											
DT-S26	open	EG	P					table and chair		teaset	electric bike	
DT-S27	N/A											
DT-S28	open	B	C		commodity							
DT-S29	closed											
DT-S30	N/A										electric bike	
DT-S31	N/A											
DT-S32	open	BE	M		commodity			chair				
DT-S32-P												
DT-S33	open	B	C		commodity						electric bike	
DT-S34	open	BF	M		commodity				laundry			
DT-S35	open	BEG	M		commodity			table and chair		teaset		
DT-S36	N/A										3electric bike	roadblock
DT-S37	open	B	C		commodity						electric bike	
DT-S38	N/A											
DT-S39	closed											sundries
DT-S40	N/A	F	P						laundry		bike	
DT-S41	N/A											sundries
DT-S42	open											plants
DT-S43	closed											
DT-S44	N/A											
DT-S45	open	B	C		commodity						bike	
DT-S46	open	BCE	M		commodity	work station		chair				sundries
DT-S47	open	BEG	M		commodity			table and chair		teaset		sundries
DT-S48	open	BEG	M		commodity			table and chair		teaset		sundries
DT-S49	open										electric bike	
DT-S49-P												
DT-S50	N/A											
DT-S51	open	E	P					chair			bike, electric bike	
DT-S52	open	CD	C			work station	advertisement					sundries
DT-S53	open	E	P					table			bike	
DT-S54	closed											
DT-S55	open	BEG	M		commodity			table and chair		teaset		
DT-S55-P												
DT-S56	N/A											

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Appendix D: Result of Observation Survey (Datong Road - 10:00)

DT-S57	open	BCE	M		commodity	work station		chair				
DT-S58	N/A	F	P						laundry		bike	sundries
DT-S59	open	B	C		commodity							sundries
DT-S60	N/A										electric bike	
DT-S61	closed											sundries
DT-S62	open	BCE	M		commodity	tool		chair				
DT-S62-P												
DT-S63	N/A										2bike	
DT-S64	open											
DT-S65	open											
DT-S66	closed											
DT-S67	closed											
DT-S68	open										electric bike	
DT-S69	open	E	P					table and chair				
DT-S70	open										electric bike	sundries
DT-S71	open										electric bike	
DT-S72	N/A											
DT-S73	open											
DT-S74	N/A											
DT-S75	open											sundries
DT-S76	open										bike, electric bike	
DT-S77	open	B	C		commodity						electric bike	
DT-S78	N/A											
DT-S79	N/A											
DT-S80	open	F	P						laundry			
DT-S81	open	D	C				advertisement					
DT-S81-P												
DT-S82	open											
DT-S83	open											
DT-S84	open	B	C		counter							sundries
DT-S85	open										bike, electric bike	
DT-S85-P												
DT-S86	N/A											
DT-S87	N/A											
DT-S88	N/A											
DT-S89	closed										tricycle	
DT-S90	open	D	C				advertisement					
DT-S91	open											
DT-S92	open	ACD	M	table and chair		work station	advertisement					
DT-S93	closed											
DT-S94	closed										electric bike	

Appendix D: Result of Observation Survey (Datong Road - 12:00)

Unit	open/closed	typology	purpose	A. Furniture	B. Goods	C. Operation	D. Display	E. Furniture	F. Household	G. Hobby	H. Vehicle	I. Others
DT-N01	open											
DT-N02	open	E	P					chair			bike	sundries
DT-N03	open	D	C				advertisement					
DT-N04	N/A											
DT-N05	open	EF	P					chair	kitchenware		bike	sundries
DT-N06	N/A											
DT-N07	open	AB	C	table and chair	counter						electric bike	
DT-N08	closed											
DT-N09	open											
DT-N10	N/A											
DT-N11	open										2electric bike	
DT-N12	open	F	P						laundry			
DT-N13	open	B	C		commodity						bike, electric bike	sundries
DT-N13-P												
DT-N14	open	B	C		commodity							
DT-N15	open	BF	M		commodity				kitchenware		2electric bike	sundries
DT-N16	open										4electric bike	
DT-N17	open										electric bike	sundries
DT-N18	N/A										electric bike, wheelchair	sundries
DT-N19	open	B	C		commodity							
DT-N20	N/A											
DT-N21	open	CDEG	M			tool	advertisement	table and chair		teaset		
DT-N22	open	B	C		commodity							sundries
DT-N23	open	B	C		commodity							sundries
DT-N24	N/A										bike	sundries
DT-N25	open	E	P					table and chair				sundries
DT-N26	open	BE	M		commodity			table and chair				sundries
DT-N27	open											
DT-N28	open	B	C		commodity							
DT-N29	open											
DT-N30	closed	E	P					chair				
DT-N31	open											
DT-N32	open	EG	P					table and chair		teaset		plants
DT-N32-P												
DT-N33	open	E	P					table and chair			electric bike	sundries
DT-N34	open	B	C		commodity							
DT-N35	open	DE	M				advertisement	table and chair			bike	
DT-N36	open	AEG	M	table and chair				table and chair		teaset		fan
DT-N37	open	BEF	M		commodity			table	kitchenware		electric bike	sundries
DT-N38	open	DF	M				advertisement		laundry			sundries
DT-N39	N/A	F	P						laundry		2electric bike	
DT-N40	open	EF	P					table and chair	kitchenware		electric bike	sundries
DT-N41	closed											
DT-N42	open	CF	M			tool			laundry			sundries
DT-N43	closed	F	P						laundry			
DT-N44	open	F	P						kitchenware			
DT-N45	open										electric bike	
DT-N46	N/A	E	P					chair			electric bike	
DT-N47	open	B	C		commodity							
DT-N48	N/A											
DT-N49	N/A											
DT-N50	N/A											
DT-N51	N/A											
DT-N52	N/A											
DT-N53	open	BC	C		commodity	tool						
DT-N54	open	BCE	M		commodity	tool		table and chair				
DT-N54-P												
DT-N55	N/A											
DT-N56	closed											
DT-N57	N/A											
DT-N58	N/A											
DT-N59	N/A											
DT-N60	open	EF	P					chair	laundry		electric bike	sundries
DT-N61	open	EFG	P					table and chair	kitchenware	teaset	bike	
DT-N62	N/A											
DT-N63	N/A											
DT-N64	N/A											
DT-N65	N/A											
DT-N66	N/A											
DT-N67	N/A											
DT-N68	N/A											
DT-N69	open	D	C				advertisement					sundries
DT-N70	open											
DT-N71	open											
DT-N72	open											
DT-N73	open										2bike, 2electric bike	
DT-N74	open											
DT-N75	N/A											
DT-N76	open	B	C		commodity							sundries
DT-N77	open	G	P							interest	bike	

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Appendix D: Result of Observation Survey (Datong Road - 12:00)

DT-N78	N/A											
DT-N79	open	BEF	M		commodity			chair	kitchenware			sundries
DT-N80	open	BE	M		commodity			chair				
DT-N81	open	B	C		commodity						electric bike	
DT-N81-P												
DT-N82	N/A											
DT-N83	N/A											
DT-N84	N/A											
DT-N85	open											
DT-N86	open											plants
DT-N87	N/A											
DT-N88	N/A											
DT-N89	N/A											
DT-N90	open											
DT-N91	open											
DT-N92	open											
DT-N93	open	D	C				advertisement, sculpture					plants
DT-S01	open											
DT-S02	open	B	C		commodity							
DT-S03	open	F	P						laundry			sundries
DT-S04	open	BEG	M		commodity			table and chair		teaset, interest		sundries, fan
DT-S05	open										electric bike	
DT-S06	open	BG	M		commodity					children's goods		sundries
DT-S07	open	B	C		commodity							
DT-S08	open	B	C		commodity							
DT-S09	open	B	C		commodity							
DT-S10	open	BE	M		commodity			chair				
DT-S11	closed										bike	
DT-S12	open	B	C		commodity							
DT-S13	N/A											
DT-S14	N/A											
DT-S15	N/A											electric bike
DT-S16	open	B	C		commodity							sundries
DT-S17	open	F	P						laundry			plants
DT-S18	open	EG	P					table and chair		teaset		sundries
DT-S19	N/A											
DT-S20	open											
DT-S21	N/A											
DT-S22	open											sundries
DT-S23	open										2electric bike	
DT-S24	open	D	C				advertisement					
DT-S25	N/A											
DT-S26	open	EG	P					table and chair		teaset		
DT-S27	N/A											
DT-S28	open	B	C		commodity							
DT-S29	open	EG	P					table and chair		teaset		sundries
DT-S30	N/A										2electric bike	
DT-S31	N/A											
DT-S32	open	BE	M		commodity			chair			bike	
DT-S32-P												
DT-S33	open	BE	M		commodity			chair				
DT-S34	open	BEF	M		commodity			chair	laundry		2electric bike	
DT-S35	open	BEG	M		commodity			table and chair		teaset		
DT-S36	N/A										3electric bike	
DT-S37	open	B	C		commodity						bike, electric bike	
DT-S38	N/A	B	C		commodity							
DT-S39	open	BEG	M		commodity			chair		teaset		sundries
DT-S40	N/A	F	P						laundry		bike	
DT-S41	N/A											sundries
DT-S42	open											plants
DT-S43	open											plants
DT-S44	N/A											
DT-S45	open	BCF	M		commodity	work station			kitchenware, laundry		bike	
DT-S46	open	BCE	M		commodity	work station		chair				sundries
DT-S47	open	BEG	M		commodity			table and chair		teaset		sundries
DT-S48	open	BEG	M		commodity			table and chair		teaset		sundries
DT-S49	open										electric bike	
DT-S49-P												
DT-S50	N/A											
DT-S51	open	E	P					chair			bike, electric bike	
DT-S52	open	BCD	C		commodity	work station	advertisement					sundries
DT-S53	open	EF	P					table and chair	kitchenware, laundry		bike, electric bike	
DT-S54	closed											
DT-S55	open	BEG	M		commodity			table and chair		teaset		
DT-S55-P												
DT-S56	N/A											
DT-S57	open	BCEF	M		commodity	work station		chair	kitchenware			
DT-S58	N/A	F	P						laundry			sundries
DT-S59	open	BE	M		commodity			table and chair				sundries
DT-S60	N/A										electric bike	

Appendix D: Result of Observation Survey (Datong Road - 12:00)

DT-S61	closed	B	C		commodity						sundries
DT-S62	open	BCEG	M		commodity	tool		chair		teaset	
DT-S62-P											
DT-S63	N/A									2bike	
DT-S64	open										
DT-S65	open										
DT-S66	closed										
DT-S67	closed										
DT-S68	open										
DT-S69	open	E	P					table and chair			electric bike
DT-S70	open										electric bike sundries
DT-S71	open										electric bike
DT-S72	N/A										
DT-S73	open										
DT-S74	N/A										electric bike
DT-S75	open										sundries
DT-S76	open										electric bike
DT-S77	open	B	C		commodity						electric bike
DT-S78	N/A										
DT-S79	N/A										
DT-S80	open	F	P							kitchenware, laundry	
DT-S81	open	D	C					advertisement			
DT-S81-P											
DT-S82	open										
DT-S83	open										
DT-S84	open	B	C		counter						sundries
DT-S85	open										electric bike
DT-S85-P											
DT-S86	N/A										
DT-S87	N/A										
DT-S88	N/A										
DT-S89	closed										electric bike
DT-S90	open	D	C					advertisement			
DT-S91	open										
DT-S92	open	ACD	C	table and chair		work station	advertisement				
DT-S93	closed										
DT-S94	closed										electric bike

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Appendix D: Result of Observation Survey (Datong Road - 16:00)

Unit	open/closed	typology	purpose	A. Furniture	B. Goods	C. Operation	D. Display	E. Furniture	F. Household	G. Hobby	H. Vehicle	I. Others
DT-N01	open											
DT-N02	open	EG	P					table and chair		teaset	bike	sundries
DT-N03	open	DE	M				advertisement	chair				sundries
DT-N04	N/A											
DT-N05	open	EF	P					chair	kitchenware		bike	sundries
DT-N06	N/A											
DT-N07	open	AB	C	table and chair	counter						electric bike	
DT-N08	open	E	P					table and chair				
DT-N09	open											
DT-N10	N/A											
DT-N11	open										2electric bike	
DT-N12	open	F	P						laundry			sundries
DT-N13	open	BG	M		commodity					children's goods	bike	sundries
DT-N13-P												
DT-N14	open	B	C		commodity							
DT-N15	open	B	C		commodity						2electric bike	sundries
DT-N16	open										4electric bike	
DT-N17	open										electric bike	sundries
DT-N18	N/A	F	P						laundry		electric bike, wheelchair	sundries
DT-N19	open	B	C		commodity							
DT-N20	N/A											
DT-N21	open	CDEG	M			tool	advertisement	table and chair		teaset		
DT-N22	open	B	C		commodity							sundries
DT-N23	open	B	C		commodity							sundries
DT-N24	N/A										bike	sundries
DT-N25	open	E	P					table and chair				sundries
DT-N26	open	BE	M		commodity			table and chair				sundries
DT-N27	open	E	P					table and chair				
DT-N28	open	B	C		commodity						electric bike	
DT-N29	open	EG	P					table and chair		teaset		
DT-N30	closed	EF	P					chair	laundry			
DT-N31	open											
DT-N32	open	EG	P					table and chair		teaset		plants
DT-N32-P												
DT-N33	open	EG	P					table and chair		teaset	electric bike	sundries
DT-N34	open	B	C		commodity							
DT-N35	open	DE	M				advertisement	table and chair			bike	
DT-N36	open	AEG	M	table and chair				table and chair		teaset		fan
DT-N37	open	BEF	M		commodity			table	kitchenware		electric bike	sundries
DT-N38	open	DF	M				advertisement	laundry				sundries
DT-N39	N/A	F	P						laundry		2electric bike	
DT-N40	open	BE	M		commodity			table				sundries
DT-N41	open										electric bike	
DT-N42	open	CF	M			tool			laundry			sundries
DT-N43	closed	F	P						laundry			sundries
DT-N44	open	F	P						kitchenware			
DT-N45	open	C	C			tool						
DT-N46	N/A	E	P					chair			electric bike	
DT-N47	open	B	C		commodity							
DT-N48	N/A											
DT-N49	N/A											
DT-N50	N/A											
DT-N51	N/A											
DT-N52	N/A											
DT-N53	open	BC	C		commodity	tool						
DT-N54	open	BCE	M		commodity	tool		table and chair				
DT-N54-P												
DT-N55	N/A											
DT-N56	closed											
DT-N57	N/A											
DT-N58	N/A											
DT-N59	N/A											
DT-N60	open	EF	P					chair	laundry		electric bike	sundries
DT-N61	open	EFG	P					table and chair	kitchenware	teaset	bike	
DT-N62	N/A											
DT-N63	N/A											
DT-N64	N/A											
DT-N65	N/A											
DT-N66	N/A											
DT-N67	N/A											
DT-N68	N/A											
DT-N69	open	D	C				advertisement					sundries
DT-N70	open											
DT-N71	open											
DT-N72	open											
DT-N73	open										2bike, electric bike	
DT-N74	open											
DT-N75	N/A											

Appendix D: Result of Observation Survey (Datong Road - 16:00)

DT-N76	open	B	C		commodity							
DT-N77	open	G	P							interest	bike	
DT-N78	N/A											
DT-N79	open	BCEF	M		commodity	work station		chair	kitchenware			sundries
DT-N80	open	BE	M		commodity			chair				
DT-N81	open	B	C		commodity							
DT-N81-P												
DT-N82	N/A											
DT-N83	N/A											
DT-N84	N/A											
DT-N85	open											
DT-N86	open											plants
DT-N87	N/A											
DT-N88	N/A											
DT-N89	N/A											
DT-N90	open											
DT-N91	open											
DT-N92	open											
DT-N93	open	D	C			advertisement, sculpture						plants
DT-S01	open											
DT-S02	open	B	C		commodity							
DT-S03	open	F	P						laundry			sundries
DT-S04	open	BEG	M		commodity			table and chair	teaset, interest			sundries, fan
DT-S05	open										electric bike	
DT-S06	open	BG	M		commodity				children's goods	bike		sundries
DT-S07	open	BE	M		commodity			chair				
DT-S08	open	B	C		commodity							
DT-S09	open	B	C		commodity						scooter	
DT-S10	open	B	C		commodity							
DT-S11	open										bike	
DT-S12	open	B	C		commodity							
DT-S13	N/A											
DT-S14	N/A											
DT-S15	N/A											electric bike
DT-S16	open	B	C		commodity							sundries
DT-S17	open	F	P						laundry			plants
DT-S18	open											sundries
DT-S19	N/A											
DT-S20	open											
DT-S21	N/A											
DT-S22	open											sundries
DT-S23	open										2electric bike	
DT-S24	open	D	C			advertisement						
DT-S25	N/A											
DT-S26	open	EG	P					table and chair	teaset			
DT-S27	N/A											
DT-S28	open	B	C		commodity							
DT-S29	open	EG	P					table and chair	teaset			sundries
DT-S30	N/A										2electric bike	
DT-S31	N/A										bike	
DT-S32	open	BE	M		commodity			chair				
DT-S32-P												
DT-S33	open	BE	M		commodity			chair				
DT-S34	open	BEF	M		commodity			chair	laundry			
DT-S35	open	BEG	M		commodity			table and chair	teaset			
DT-S36	N/A										3electric bike	sundries
DT-S37	open	B	C		commodity							
DT-S38	N/A	B	C		commodity							
DT-S39	open	BEG	M		commodity			chair	teaset			sundries
DT-S40	N/A	F	P						laundry			
DT-S41	N/A											sundries
DT-S42	open											plants
DT-S43	open											plants
DT-S44	N/A											
DT-S45	open	BCF	M		commodity	work station			kitchenware, laundry		bike	
DT-S46	open	BCE	M		commodity	work station		chair				sundries
DT-S47	open	BEG	M		commodity			table and chair	teaset			sundries
DT-S48	open	BEG	M		commodity			table and chair	teaset			sundries
DT-S49	open	F	P						laundry		electric bike	
DT-S49-P												
DT-S50	N/A											
DT-S51	open	E	P					chair			bike, electric bike	
DT-S52	open	BCD	C		commodity	work station	advertisement					sundries
DT-S53	open	EF	P					table	kitchenware			
DT-S54	closed											
DT-S55	open	BEG	M		commodity			table and chair	teaset			
DT-S55-P												
DT-S56	N/A											

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Appendix D: Result of Observation Survey (Datong Road - 16:00)

DT-S57	open	BCEF	M		commodity	work station		chair	kitchenware			fan
DT-S58	N/A	F	P						laundry			sundries
DT-S59	open	BEG	M		commodity			table and chair		teaset		sundries
DT-S60	N/A										electric bike	
DT-S61	closed	B	C		commodity							sundries
DT-S62	open	BCEG	M		commodity	tool		chair		teaset		
DT-S62-P												
DT-S63	N/A										2bike	
DT-S64	open										electric bike	
DT-S65	open											
DT-S66	open										electric bike	
DT-S67	open	E	P					table and chair				sundries
DT-S68	open											
DT-S69	open	E	P					table and chair			electric bike	
DT-S70	open											sundries
DT-S71	open										electric bike	
DT-S72	N/A											
DT-S73	open											
DT-S74	N/A											
DT-S75	open											sundries
DT-S76	open										bike, electric bike	
DT-S77	open	B	C		commodity						electric bike	
DT-S78	N/A											
DT-S79	N/A											
DT-S80	open	F	P						laundry			
DT-S81	open	D	C				advertisement					
DT-S81-P												
DT-S82	open											
DT-S83	open											
DT-S84	open	B	C		counter							sundries
DT-S85	open										electric bike	
DT-S85-P												
DT-S86	N/A											
DT-S87	N/A											
DT-S88	N/A											
DT-S89	closed										electric bike	
DT-S90	open	D	C				advertisement					
DT-S91	open											
DT-S92	open	ACD	C	table and chair		work station	advertisement					
DT-S93	closed											
DT-S94	closed										electric bike	

Appendix D: Result of Observation Survey (Datong Road - 19:00)

Unit	open/closed	typology	purpose	A. Furniture	B. Goods	C. Operation	D. Display	E. Furniture	F. Household	G. Hobby	H. Vehicle	I. Others
DT-N01	open											
DT-N02	closed											
DT-N03	open	D	C				advertisement					
DT-N04	N/A											
DT-N05	open	EF	P					chair	kitchenware			sundries
DT-N06	N/A											
DT-N07	open	AB	C	table and chair	counter						bike	
DT-N08	open	E	P					table and chair				
DT-N09	open											
DT-N10	N/A											
DT-N11	closed											
DT-N12	open	F	P						laundry			
DT-N13	open	BG	M		commodity					children's goods	bike, electric bike	sundries
DT-N13-P												
DT-N14	open	B	C		commodity							
DT-N15	open	B	C		commodity						2electric bike	sundries
DT-N16	open										3electric bike	
DT-N17	open										electric bike	sundries
DT-N18	N/A	F	P						laundry		electric bike, wheelchair	sundries
DT-N19	open	B	C		commodity							
DT-N20	N/A											
DT-N21	open	CDEG	M			tool	advertisement	table and chair		teaset		
DT-N22	open	B	C		commodity							sundries
DT-N23	open	B	C		commodity							sundries
DT-N24	N/A										bike	sundries
DT-N25	open	E	P					table and chair				sundries
DT-N26	open	BE	M		commodity			table and chair				sundries
DT-N27	open											
DT-N28	open										bike, electric bike	
DT-N29	open	E	P					table and chair				
DT-N30	closed	EF	P					chair	laundry			
DT-N31	open											
DT-N32	open	EG	P					table and chair		teaset		plants
DT-N32-P												
DT-N33	open	EG	P					table and chair		teaset	electric bike	sundries
DT-N34	open											
DT-N35	open	DE	M				advertisement	table and chair			bike	
DT-N36	open	AEG	M	table and chair				table and chair		teaset		fan
DT-N37	open	BEF	M		commodity			table	kitchenware		electric bike	sundries
DT-N38	open	DF	M				advertisement		laundry			sundries
DT-N39	N/A	F	P						laundry		electric bike	
DT-N40	open	E	P					chair				sundries
DT-N41	open										electric bike	sundries
DT-N42	open	CF	M			tool			laundry			sundries
DT-N43	closed	F	P						laundry			sundries
DT-N44	open	F	P						kitchenware			
DT-N45	open											
DT-N46	N/A	E	P					chair				
DT-N47	open	B	C		commodity							
DT-N48	N/A											
DT-N49	N/A											
DT-N50	N/A											
DT-N51	N/A											
DT-N52	N/A											
DT-N53	open	BC	C		commodity	tool						
DT-N54	open	BCE	M		commodity	tool		table and chair				
DT-N54-P												
DT-N55	N/A											
DT-N56	open											
DT-N57	N/A											
DT-N58	N/A											
DT-N59	N/A											
DT-N60	open	EF	P					chair	laundry			sundries
DT-N61	open	EFG	P					table and chair	kitchenware	teaset	bike	
DT-N62	N/A											
DT-N63	N/A											
DT-N64	N/A											
DT-N65	N/A											
DT-N66	N/A											
DT-N67	N/A											
DT-N68	N/A											
DT-N69	open	D	C				advertisement					sundries
DT-N70	open											
DT-N71	open											
DT-N72	open											
DT-N73	open										2bike, electric bike	
DT-N74	open											
DT-N75	N/A											
DT-N76	open	B	C		commodity							sundries
DT-N77	open	G	P							interest	bike	

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Appendix D: Result of Observation Survey (Datong Road - 19:00)

DT-N78	N/A											
DT-N79	open	BCEF	M		commodity	work station		chair	kitchenware			sundries
DT-N80	open	BE	M		commodity			chair				
DT-N81	open											
DT-N81-P												
DT-N82	N/A											
DT-N83	N/A											
DT-N84	N/A											
DT-N85	open											
DT-N86	open											plants
DT-N87	N/A											
DT-N88	N/A											
DT-N89	N/A											
DT-N90	open											
DT-N91	open											
DT-N92	open											
DT-N93	open	D	C				advertisement, sculpture					plants
DT-S01	closed											
DT-S02	open	B	C		commodity							
DT-S03	open											sundries
DT-S04	open	BEG	M		commodity			table and chair		teaset, interest		sundries, fan
DT-S05	closed										electric bike	
DT-S06	open	BG	M		commodity					children's goods		sundries
DT-S07	closed											
DT-S08	open	B	C		commodity							
DT-S09	open	B	C		commodity							
DT-S10	open	B	C		commodity							
DT-S11	closed										bike	
DT-S12	closed											
DT-S13	N/A											
DT-S14	N/A											
DT-S15	N/A											
DT-S16	closed											
DT-S17	open	F	P						laundry			plants
DT-S18	closed											
DT-S19	N/A											
DT-S20	open											
DT-S21	N/A											
DT-S22	open	E	P					chair				sundries
DT-S23	open											
DT-S24	closed											
DT-S25	N/A											
DT-S26	open	EG	P					table and chair		teaset	electric bike	
DT-S27	N/A											
DT-S28	open	BE	M		commodity			chair				
DT-S29	open	EG	P					table and chair		teaset		sundries
DT-S30	N/A										electric bike	
DT-S31	N/A										electric bike	
DT-S32	open	BE	M		commodity			chair				
DT-S32-P												
DT-S33	open	BEG	M		commodity			chair		children's goods		
DT-S34	open	BE	M		commodity			chair				
DT-S35	open	BEG	M		commodity			table and chair		teaset		
DT-S36	N/A										3electric bike	sundries
DT-S37	open	B	C		commodity						electric bike	
DT-S38	N/A	B	C		commodity							
DT-S39	open	BEG	M		commodity			table and chair		teaset		sundries
DT-S40	N/A	F	P						laundry		bike	
DT-S41	N/A											sundries
DT-S42	closed											
DT-S43	closed											
DT-S44	N/A											
DT-S45	open	BCFG	M		commodity	work station			kitchenware	children's goods	bike	
DT-S46	open	BE	M		commodity			chair				sundries
DT-S47	open	BEG	M		commodity			table and chair		teaset		sundries
DT-S48	open	BEG	M		commodity			table and chair		teaset		sundries
DT-S49	open											
DT-S49-P												
DT-S50	N/A											
DT-S51	open	E	P					chair			bike, electric bike	
DT-S52	closed	C	C			work station						
DT-S53	closed											
DT-S54	open											
DT-S55	open	BEG	M		commodity			table and chair		teaset		
DT-S55-P												
DT-S56	N/A											
DT-S57	open	BCE	M		commodity	work station		chair				
DT-S58	N/A	F	P						laundry			sundries
DT-S59	open	E	P					table and chair				sundries
DT-S60	N/A											

Appendix D: Result of Observation Survey (Datong Road - 19:00)

DT-S61	closed											
DT-S62	closed											
DT-S62-P											bike	
DT-S63	N/A											
DT-S64	open											
DT-S65	open											
DT-S66	open										electric bike	
DT-S67	open	AE	M	table and chair			table and chair				sundries	
DT-S68	open											
DT-S69	open	E	P				table and chair				electric bike	
DT-S70	open										sundries	
DT-S71	closed											
DT-S72	N/A											
DT-S73	open											
DT-S74	N/A											
DT-S75	open										sundries	
DT-S76	closed											
DT-S77	open	B	C	commodity							2electric bike	
DT-S78	N/A											
DT-S79	N/A											
DT-S80	open	F	P					laundry				
DT-S81	open	D	C				advertisement					
DT-S81-P												
DT-S82	open											
DT-S83	open											
DT-S84	open	B	C	counter							sundries	
DT-S85	open										2electric bike	
DT-S85-P												
DT-S86	N/A											
DT-S87	N/A											
DT-S88	N/A											
DT-S89	closed										electric bike	
DT-S90	open	D	C				advertisement				sundries	
DT-S91	open	A	C	table and chair								
DT-S92	open	ACD	C	table and chair		work station	advertisement				sundries	
DT-S93	open	AC	C	table and chair		tool, work station					sundries	
DT-S94	open	AC	C	table and chair		work station						

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Appendix D: Result of Observation Survey (Datong Road - 22:00)

Unit	open/closed	typology	purpose	A. Furniture	B. Goods	C. Operation	D. Display	E. Furniture	F. Household	G. Hobby	H. Vehicle	I. Others
DT-N01	open											
DT-N02	closed											
DT-N03	closed	D	C				advertisement					
DT-N04	N/A											
DT-N05	open	EF	P					chair	kitchenware			sundries
DT-N06	N/A											
DT-N07	open	AB	C	table and chair	counter						bike	
DT-N08	open	E	P					table and chair				
DT-N09	closed											
DT-N10	N/A											
DT-N11	closed											
DT-N12	open	F	P						laundry			
DT-N13	closed											
DT-N13-P												
DT-N14	open	B	C		commodity							
DT-N15	open	B	C		commodity						2electric bike	sundries
DT-N16	open										3electric bike	
DT-N17	open										electric bike	sundries
DT-N18	N/A											
DT-N19	closed											
DT-N20	N/A											
DT-N21	open										electric bike	
DT-N22	closed											
DT-N23	closed											
DT-N24	N/A											
DT-N25	closed											
DT-N26	closed											
DT-N27	open											
DT-N28	closed											
DT-N29	closed											
DT-N30	open	EF	P					chair	laundry			
DT-N31	open											
DT-N32	open	EG	P					table and chair		teaset		plants
DT-N32-P												
DT-N33	closed											
DT-N34	closed											
DT-N35	closed											
DT-N36	closed											
DT-N37	open	BEF	M		commodity			table	kitchenware		electric bike	sundries
DT-N38	open	D	C				advertisement					sundries
DT-N39	N/A	F	P						laundry		electric bike	
DT-N40	closed											
DT-N41	closed											
DT-N42	closed											
DT-N43	closed											
DT-N44	open	F	P						kitchenware			
DT-N45	open											
DT-N46	N/A	E	P					chair				
DT-N47	closed											
DT-N48	N/A											
DT-N49	N/A											
DT-N50	N/A											
DT-N51	N/A											
DT-N52	N/A											
DT-N53	open	BC	C		commodity	tool						
DT-N54	open	BCE	M		commodity	tool		table and chair				
DT-N54-P												
DT-N55	N/A											
DT-N56	open											
DT-N57	N/A											
DT-N58	N/A											
DT-N59	N/A											
DT-N60	open	EF	P					chair	laundry		electric bike	sundries
DT-N61	open	EFG	P					table and chair	kitchenware	teaset		
DT-N62	N/A											
DT-N63	N/A											
DT-N64	N/A											
DT-N65	N/A											
DT-N66	N/A											
DT-N67	N/A											
DT-N68	N/A											
DT-N69	open	D	C				advertisement					sundries
DT-N70	closed											
DT-N71	closed											
DT-N72	closed											
DT-N73	open										bike, 2electric bike	
DT-N74	open											

Appendix D: Result of Observation Survey (Datong Road - 22:00)

DT-N75	N/A											
DT-N76	open	B	C		commodity							sundries
DT-N77	open	G	P							interest	bike	
DT-N78	N/A											
DT-N79	open	BCEF	M		commodity	work station		chair	kitchenware			sundries
DT-N80	closed											
DT-N81	closed											
DT-N81-P												
DT-N82	N/A											
DT-N83	N/A											
DT-N84	N/A											
DT-N85	open											
DT-N86	closed											
DT-N87	N/A											
DT-N88	N/A											
DT-N89	N/A											
DT-N90	open											
DT-N91	open											
DT-N92	open											
DT-N93	closed	D	C				sculpture					plants
DT-S01	closed											
DT-S02	closed											
DT-S03	closed											sundries
DT-S04	open	BEG	M		commodity		table and chair		teaset, interest			sundries, fan
DT-S05	closed											
DT-S06	open	B	C		commodity							
DT-S07	closed											
DT-S08	closed											
DT-S09	closed											
DT-S10	closed											
DT-S11	closed											
DT-S12	closed											
DT-S13	N/A											
DT-S14	N/A											
DT-S15	N/A											
DT-S16	closed											
DT-S17	open	F	P					laundry				plants
DT-S18	closed											
DT-S19	N/A											
DT-S20	closed											
DT-S21	N/A											
DT-S22	open											sundries
DT-S23	open											
DT-S24	closed											
DT-S25	N/A											
DT-S26	closed											
DT-S27	N/A											
DT-S28	closed											
DT-S29	open	EG	P				table and chair		teaset			sundries
DT-S30	N/A										electric bike	
DT-S31	N/A										electric bike	
DT-S32	closed											
DT-S32-P												
DT-S33	open	BG	M		commodity				children's goods			
DT-S34	open	BE	M		commodity		chair					
DT-S35	open	BEG	M		commodity		table and chair		teaset			
DT-S36	N/A										2electric bike	sundries
DT-S37	open	B	C		commodity						electric bike	
DT-S38	N/A											
DT-S39	closed											
DT-S40	N/A	F	P					laundry			bike	
DT-S41	N/A											sundries
DT-S42	closed											
DT-S43	closed											
DT-S44	N/A											
DT-S45	open	BFG	M		commodity			kitchenware	children's goods	bike		
DT-S46	open	BE	M		commodity		chair					sundries
DT-S47	open	BEG	M		commodity		table and chair		teaset			sundries
DT-S48	closed											
DT-S49	open										electric bike	
DT-S49-P												
DT-S50	N/A											
DT-S51	closed											
DT-S52	closed	C	C			tool, work station						
DT-S53	closed											
DT-S54	open											
DT-S55	closed											

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Appendix D: Result of Observation Survey (Datong Road - 22:00)

DT-S55-P												
DT-S56	N/A											
DT-S57	open	BCE	M		commodity	work station		chair				
DT-S58	N/A											sundries
DT-S59	closed											
DT-S60	N/A											
DT-S61	closed											
DT-S62	closed											
DT-S62-P												
DT-S63	N/A											bike, electric bike
DT-S64	open											
DT-S65	open											
DT-S66	open											electric bike
DT-S67	open	AE	M	table and chair			table and chair					sundries
DT-S68	closed											
DT-S69	open	E	P				table and chair					electric bike
DT-S70	closed											
DT-S71	closed											
DT-S72	N/A											
DT-S73	closed											
DT-S74	N/A											
DT-S75	open											sundries
DT-S76	closed											
DT-S77	closed											
DT-S78	N/A											
DT-S79	N/A											
DT-S80	open	F	P						laundry			
DT-S81	open	D	C				advertisement					
DT-S81-P												
DT-S82	open											
DT-S83	open											
DT-S84	open	B	C		counter							sundries
DT-S85	open										2electric bike	sundries
DT-S85-P												
DT-S86	N/A											
DT-S87	N/A											
DT-S88	N/A											
DT-S89	closed										electric bike	
DT-S90	open	D	C				advertisement					sundries
DT-S91	closed	A	C	table and chair								
DT-S92	open	ACD	C	table and chair		work station	advertisement					sundries
DT-S93	open	AC	C	table and chair		tool, work station						sundries
DT-S94	open	AC	C	table and chair		work station						

Appendix D: Result of Observation Survey (Daxue Road - 7:00)

Unit	open/closed	typology	purpose	A. Furniture	B. Goods	C. Operation	D. Display	E. Furniture	F. Household	G. Hobby	H. Vehicle	I. Others
DX-N01	N/A										bike	
DX-N02	closed											
DX-N03	closed											
DX-N03-P												
DX-N04	closed											sundries
DX-N05	closed											
DX-N06	N/A											
DX-N07	N/A	BE	M		commodity			table and chair			electric bike	sundries
DX-N07-P												
DX-N08	closed											
DX-N09	closed											
DX-N10	closed											
DX-N11	closed											
DX-N12	closed											
DX-N13	N/A											
DX-N14	N/A											
DX-N15	open										electric bike	sundries
DX-N15-P												
DX-N16	open											
DX-N17	open										2electric bike	
DX-N18	open											
DX-N19	closed											
DX-N20	closed											
DX-N21	closed											
DX-N22	open											sundries
DX-N23	open										bike, electric bike	
DX-N23-P												
DX-N24	closed											sundries, plants
DX-N25	open	EG	P					table and chair		teaset		sundries
DX-N26	closed										electric bike	
DX-N27	open	BCE	M		counter	work station		chair				sundries
DX-N28	closed										electric bike	
DX-N28-P												
DX-N29	closed											sundries
DX-N30	closed											
DX-N31	closed										3bike, electric bike	sundries
DX-N31-P												
DX-N32	closed											plants
DX-N32-P												
DX-N33	N/A											
DX-N34	closed	E	P					chair				
DX-N34-P												
DX-N35	closed											
DX-N36	closed											
DX-N37	open	A	C	chair								plants
DX-N38	closed											
DX-N39	closed											
DX-N39-P												
DX-N40	closed											
DX-N41	closed											plants
DX-N42	closed											
DX-N43	open	EG	P					table and chair		teaset		sundries
DX-N44	closed	E	P					chair				
DX-N45	closed											
DX-S01	N/A											
DX-S02	closed											
DX-S03	closed											plants
DX-S04	N/A											
DX-S05	closed											plants
DX-S05-P												
DX-S06	closed											
DX-S07	closed											
DX-S08	closed											
DX-S09	N/A											
DX-S10	closed											
DX-S11	N/A											
DX-S12	closed											sundries
DX-S13	closed											
DX-S14	closed											
DX-S15	N/A											
DX-S16	closed											
DX-S17	closed											
DX-S17-P												
DX-S18	closed											
DX-S19	closed											
DX-S20	closed											
DX-S21	open	B	C		commodity						bike	sundries
DX-S22	closed										electric bike	sundries
DX-S23	closed											plants
DX-S24	N/A										bike	
DX-S25	closed										bike, tricycle	
DX-S26	closed											

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Appendix D: Result of Observation Survey (Daxue Road - 7:00)

DX-S27	closed											sundries
DX-S27-P												
DX-S28	closed											
DX-S29	open	BC	C		counter	work station						sundries
DX-S30	closed											
DX-S31	closed											
DX-S31-P												
DX-S32	N/A											
DX-S33	N/A											
DX-S33-P												
DX-S34	N/A											
DX-S35	closed											
DX-S36	closed											
DX-S37	closed									3bike		
DX-S38	N/A											
DX-S39	closed											
DX-S40	closed											plants
DX-S41	open	B	C		commodity					bike		sundries
DX-S42	open											sundries
DX-S43	open											sundries
DX-S44	N/A											
DX-S45	open	B	C		amusement					electric bike		
DX-S46	closed											plants
DX-S47	closed									tricycle		
DX-S48	N/A											
DX-S49	N/A											
DX-S50	N/A											
DX-S51	closed											
DX-S52	closed											
DX-S53	closed											
DX-S54	closed											plants
DX-S55	closed											plants
DX-S56	closed											
DX-S57	N/A											roadblock
DX-S58	N/A											
DX-S59	closed											sundries, roadblock
DX-S59-P												
DX-S60	N/A											
DX-S61	N/A											
DX-S62	N/A											
DX-S63	N/A											
DX-S64	closed											plants
DX-S65	N/A											
DX-S66	open	BEG	M		commodity		table and chair		teaset			
DX-S67	closed											
DX-S68	closed											
DX-S69	closed											
DX-S70	N/A											
DX-S71	closed											
DX-S72	closed											
DX-S73	closed											
DX-S74	closed									roadblock		plants
DX-S75	N/A											
DX-S76	open											plants
DX-S77	open	G	P						children's goods	bike		sundries, plants
DX-S78	N/A											
DX-S79	N/A											
DX-S80	closed											

Appendix D: Result of Observation Survey (Daxue Road - 10:00)

Unit	open/closed	typology	purpose	A. Furniture	B. Goods	C. Operation	D. Display	E. Furniture	F. Household	G. Hobby	H. Vehicle	I. Others
DX-N01	N/A											
DX-N02	open										bike	
DX-N03	open	ABD	C	table	commodity, counter		advertisement				2bike	
DX-N03-P												
DX-N04	open	A	C	table and chair								
DX-N05	open	CE	M			tool		table				sundries
DX-N06	N/A											
DX-N07	N/A	BE	M		commodity			table and chair			2electric bike	sundries
DX-N07-P												
DX-N08	open	A	C	table and chair								plants
DX-N09	open	A	C	table and chair								
DX-N10	open											
DX-N11	closed											
DX-N12	open	F	P						laundry		electric bike	
DX-N13	N/A											
DX-N14	N/A											
DX-N15	open	B	C		commodity						electric bike	
DX-N15-P												
DX-N16	open	B	C		commodity							
DX-N17	open											
DX-N18	open											
DX-N19	open											
DX-N20	open											
DX-N21	open	CEF	M			tool		chair	kitchenware			
DX-N22	open	C	C			work station						sundries
DX-N23	open										bike, 2electric bike	
DX-N23-P												
DX-N24	open										bike	sundries, plants
DX-N25	open	EG	P					table and chair		teaset	bike	sundries
DX-N26	closed										electric bike	
DX-N27	open	BCE	M		counter	work station		chair				sundries
DX-N28	open	D	C				advertisement				2electric bike	
DX-N28-P												
DX-N29	open											sundries
DX-N30	open	BE	M		commodity			table and chair				
DX-N31	open	C	C			tool					bike, 2electric bike	sundries
DX-N31-P												
DX-N32	open	AD	C	table and chair			advertisement					plants
DX-N32-P												
DX-N33	N/A										2bike	
DX-N34	N/A	E	P					chair				
DX-N34-P												
DX-N35	open										electric bike	
DX-N36	open											
DX-N37	open	A	C	chair								plants
DX-N38	closed										2electric bike	
DX-N39	closed											
DX-N39-P												
DX-N40	closed											
DX-N41	closed											plants
DX-N42	open											
DX-N43	open	E	P					chair				
DX-N44	open	E	P					chair			electric bike	
DX-N45	open	F	P						laundry		bike	
DX-S01	N/A										bike	
DX-S02	open	A	C	chair							bike	sundries
DX-S03	closed											plants
DX-S04	N/A											
DX-S05	closed	D	C				advertisement				bike	plants
DX-S05-P												
DX-S06	closed											
DX-S07	open	CE	M			tool		chair			2electric bike	
DX-S08	open										electric bike	
DX-S09	N/A											
DX-S10	closed											
DX-S11	N/A											
DX-S12	closed											
DX-S13	closed											
DX-S14	closed											
DX-S15	N/A											
DX-S16	open	AD	C	table and chair			advertisement					plants
DX-S17	closed											
DX-S17-P												
DX-S18	closed											
DX-S19	open	B	C		commodity							sundries
DX-S20	closed											
DX-S21	open										bike	sundries
DX-S22	closed										electric bike	sundries
DX-S23	closed											plants
DX-S24	N/A											
DX-S25	open										motor bike	
DX-S26	open											

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Appendix D: Result of Observation Survey (Daxue Road - 10:00)

DX-S27	open											
DX-S27-P												
DX-S28	open	G	P							children's goods	bike	sundries
DX-S29	open	BC	C		counter	work station						sundries
DX-S30	open											
DX-S31	open	D	C				advertisement				electric bike	
DX-S31-P												
DX-S32	N/A											
DX-S33	N/A											
DX-S33-P												
DX-S34	N/A										bike	
DX-S35	closed											
DX-S36	closed											
DX-S37	open										3bike, electric bike	sundries
DX-S38	N/A											
DX-S39	open											plants
DX-S40	open	D	C				advertisement, sculpture					plants
DX-S41	open	B	C		commodity						bike	sundries
DX-S42	open										tricycle	sundries
DX-S43	open											sundries
DX-S44	N/A											
DX-S45	open	B	C		amusement						4bike	
DX-S46	open	BE	M		commodity		chair					plants
DX-S47	open	B	C		commodity							sundries
DX-S48	N/A											
DX-S49	N/A											
DX-S50	N/A											
DX-S51	closed											
DX-S52	closed											
DX-S53	open	B	C		commodity						tricycle	sundries
DX-S54	open										bike, electric bike	plants
DX-S55	open											plants
DX-S56	open											
DX-S57	N/A											roadblock
DX-S58	N/A											
DX-S59	open											sundries, roadblock
DX-S59-P												
DX-S60	N/A											
DX-S61	N/A											
DX-S62	N/A											
DX-S63	N/A											
DX-S64	closed											plants
DX-S65	N/A											
DX-S66	open	BE	M		commodity		chair					sundries
DX-S67	closed											
DX-S68	closed											
DX-S69	open	BCE	M		commodity	tool	chair				bike	sundries, plants
DX-S70	N/A											
DX-S71	closed											
DX-S72	open	DE	M				advertisement	chair			bike	
DX-S73	open	BEG	M		commodity		table and chair			toy, children's goods		sundries
DX-S74	open	D	C				advertisement				bike	plants
DX-S75	N/A										bike, electric bike	
DX-S76	open	EG	P				table and chair			toy, children's goods		plants
DX-S77	open										bike	sundries, plants
DX-S78	N/A										bike	
DX-S79	N/A											
DX-S80	open	AD	C	chair			advertisement					

Appendix D: Result of Observation Survey (Daxue Road - 12:00)

Unit	open/closed	typology	purpose	A. Furniture	B. Goods	C. Operation	D. Display	E. Furniture	F. Household	G. Hobby	H. Vehicle	I. Others
DX-N01	N/A										electric bike	
DX-N02	open										bike	
DX-N03	open	ABD	C	table	commodity, counter		advertisement				2bike	
DX-N03-P												
DX-N04	open	A	C	table and chair								
DX-N05	open	CEF	M			tool		table	kitchenware			sundries
DX-N06	N/A											
DX-N07	N/A										2electric bike	sundries
DX-N07-P												
DX-N08	open	A	C	table and chair								plants
DX-N09	open	A	C	table and chair								
DX-N10	open											
DX-N11	open										bike	
DX-N12	open										electric bike	
DX-N13	N/A										electric bike	
DX-N14	N/A											
DX-N15	open	B	C		commodity						electric bike	sundries
DX-N15-P												
DX-N16	open	B	C		commodity						2electric bike	
DX-N17	open											
DX-N18	open											
DX-N19	open											
DX-N20	open											
DX-N21	open	CEF	M			tool		chair	kitchenware			
DX-N22	open	AC	C	table and chair		work station						sundries
DX-N23	open										bike, 2electric bike	
DX-N23-P												
DX-N24	open	F	P						laundry		bike, electric bike	sundries, plants
DX-N25	open	EG	P					table and chair		teaset	bike	sundries
DX-N26	closed										bike, electric bike	
DX-N27	open	BCE	M		counter	work station		chair				sundries
DX-N28	open	D	C				advertisement				2electric bike	
DX-N28-P												
DX-N29	open											sundries
DX-N30	open	BE	M		commodity			table and chair				
DX-N31	open	C	C			tool					bike, electric bike	sundries
DX-N31-P												
DX-N32	open	AD	C	table and chair			advertisement					plants
DX-N32-P												
DX-N33	N/A										2bike	
DX-N34	N/A	E	P					chair				
DX-N34-P												
DX-N35	open										electric bike	
DX-N36	open											
DX-N37	open	A	C	chair								plants
DX-N38	closed										2electric bike	
DX-N39	open	D	C				advertisement					
DX-N39-P												
DX-N40	closed											
DX-N41	open	AD	C	table and chair			advertisement				electric bike	plants
DX-N42	open											
DX-N43	open											
DX-N44	open	E	P					chair			electric bike	
DX-N45	open	F	P						laundry		bike	
DX-S01	N/A										bike, electric bike	
DX-S02	open	A	C	chair								sundries
DX-S03	closed											plants
DX-S04	N/A											
DX-S05	open	D	C				advertisement				bike	plants
DX-S05-P												
DX-S06	open											
DX-S07	open	C	C			tool					5electric bike	
DX-S08	open	D	C				advertisement					
DX-S09	N/A											
DX-S10	open	A	C	chair								
DX-S11	N/A											
DX-S12	open											
DX-S13	open										electric bike	
DX-S14	closed											
DX-S15	N/A											
DX-S16	open	AD	C	table and chair			advertisement					plants
DX-S17	open	AD	C	chair			advertisement					
DX-S17-P												
DX-S18	open	D	C				advertisement					
DX-S19	open	B	C		commodity							sundries
DX-S20	closed	AD	C	chair			advertisement					
DX-S21	open										bike	sundries
DX-S22	open	AD	C	chair			advertisement				electric bike	sundries
DX-S23	closed											plants
DX-S24	N/A											
DX-S25	closed										tricycle	
DX-S26	closed										bike, tricycle	

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Appendix D: Result of Observation Survey (Daxue Road - 12:00)

DX-S27	closed											
DX-S27-P												
DX-S28	open	G	P							children's goods	bike, electric bike	sundries
DX-S29	open	BCE	M		counter	work station		chair			bike	sundries
DX-S30	open											
DX-S31	open	D	C					advertisement			electric bike	
DX-S31-P												
DX-S32	N/A											
DX-S33	N/A											
DX-S33-P												
DX-S34	N/A											
DX-S35	closed											
DX-S36	closed											
DX-S37	open										bike, electric bike	sundries
DX-S38	N/A											
DX-S39	open											plants
DX-S40	open	D	C					advertisement, sculpture			electric bike	plants
DX-S41	open	B	C		commodity						bike	sundries
DX-S42	open										tricycle	sundries
DX-S43	open											sundries
DX-S44	N/A											
DX-S45	open	B	C		amusement						4bike	sundries
DX-S46	open	BE	M		commodity			chair				plants
DX-S47	open	B	C		commodity							sundries
DX-S48	N/A											
DX-S49	N/A											
DX-S50	N/A											
DX-S51	open											
DX-S52	open											
DX-S53	open	BE	M		commodity			chair			tricycle	sundries
DX-S54	open										bike	plants
DX-S55	open											plants
DX-S56	open											
DX-S57	N/A											roadblock
DX-S58	N/A											
DX-S59	closed											sundries, roadblock
DX-S59-P												
DX-S60	N/A											
DX-S61	N/A											
DX-S62	N/A											
DX-S63	N/A											
DX-S64	open	AD	C	table and chair		open		advertisement				plants
DX-S65	N/A											
DX-S66	open	BEG	M		commodity			table and chair		teaset		sundries
DX-S67	open	AD	C	table and chair				advertisement			bike	sundries
DX-S68	closed											
DX-S69	open	BCE	M		commodity	tool		chair			bike	sundries, plants
DX-S70	N/A											
DX-S71	closed											
DX-S72	open	DE	M					advertisement	chair		bike	
DX-S73	open	BEG	M		commodity			table and chair		toy, children's goods		sundries
DX-S74	open	D	C					advertisement			bike	plants
DX-S75	N/A										bike, electric bike	
DX-S76	open	EG	P					table and chair		toy, children's goods		plants
DX-S77	open										bike	sundries, plants
DX-S78	N/A										bike	
DX-S79	N/A	F	P						laundry			
DX-S80	open	AD	C	chair				advertisement				sundries

Appendix D: Result of Observation Survey (Daxue Road - 16:00)

Unit	open/closed	typology	purpose	A. Furniture	B. Goods	C. Operation	D. Display	E. Furniture	F. Household	G. Hobby	H. Vehicle	I. Others
DX-N01	N/A										electric bike	
DX-N02	open										bike	
DX-N03	open	ABD	C	table	commodity, counter		advertisement				2bike	
DX-N03-P												
DX-N04	open	A	C	table and chair								
DX-N05	open	CEF	M			tool		table	kitchenware			sundries
DX-N06	N/A											
DX-N07	N/A	BC	C		commodity	work station					electric bike	sundries
DX-N07-P												
DX-N08	open	A	C	table and chair								plants
DX-N09	open	A	C	table and chair								
DX-N10	open											
DX-N11	open										bike	
DX-N12	open	C	C			tool					electric bike	
DX-N13	N/A											
DX-N14	N/A											
DX-N15	closed											
DX-N15-P												
DX-N16	open	B	C		commodity						electric bike	
DX-N17	open										bike	
DX-N18	open											
DX-N19	open											
DX-N20	open											
DX-N21	open	CEF	M			tool		chair	kitchenware			
DX-N22	open	C	C			work station						sundries
DX-N23	open										electric bike	
DX-N23-P												
DX-N24	open										electric bike	sundries, plants
DX-N25	open	EG	P					table and chair		teaset	bike	sundries
DX-N26	closed										electric bike	
DX-N27	open	BCE	M		counter	work station		chair				sundries
DX-N28	open	D	C				advertisement				2electric bike	
DX-N28-P												
DX-N29	open											sundries
DX-N30	open	BE	M		commodity			table and chair				
DX-N31	open	CF	M			tool			laundry		bike, electric bike	sundries
DX-N31-P												
DX-N32	open	AD	C	table and chair			advertisement					plants
DX-N32-P												
DX-N33	N/A										2bike	
DX-N34	N/A	E	P					chair				sundries
DX-N34-P												
DX-N35	open										2electric bike	
DX-N36	open											sundries
DX-N37	open	A	C	chair								plants
DX-N38	closed										electric bike	
DX-N39	open	D	C				advertisement					
DX-N39-P												
DX-N40	open											
DX-N41	open	AD	C	table and chair			advertisement				electric bike	plants
DX-N42	closed											
DX-N43	closed											
DX-N44	closed	E	P					chair				
DX-N45	open	F	P						laundry		bike	
DX-S01	N/A										bike, electric bike	
DX-S02	open	A	C	chair								sundries
DX-S03	open											plants
DX-S04	N/A											
DX-S05	open	D	C				advertisement				bike	plants
DX-S05-P												
DX-S06	open											
DX-S07	open	C	C			tool					5electric bike	
DX-S08	open	D	C				advertisement					
DX-S09	N/A											
DX-S10	open	A	C	chair								
DX-S11	N/A											
DX-S12	closed											
DX-S13	closed											
DX-S14	open	AD	C	table and chair			advertisement					
DX-S15	N/A											
DX-S16	open	AD	C	table and chair			advertisement					plants
DX-S17	open	AD	C	chair			advertisement					
DX-S17-P												
DX-S18	open	D	C				advertisement					
DX-S19	open	B	C		commodity							
DX-S20	closed	AD	C	chair			advertisement					
DX-S21	open										bike, electric bike	sundries
DX-S22	open	AD	C	chair			advertisement				electric bike	sundries
DX-S23	open											plants
DX-S24	N/A											
DX-S25	open										bike	
DX-S26	open										bike, tricycle	

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Appendix D: Result of Observation Survey (Daxue Road - 16:00)

DX-S27	open										bike	
DX-S27-P												
DX-S28	open	G	P							children's goods	bike	sundries
DX-S29	open	BCE	M		counter	work station		chair			bike	sundries
DX-S30	open											
DX-S31	open	D	C					advertisement			bike	
DX-S31-P												
DX-S32	N/A											
DX-S33	N/A											
DX-S33-P												
DX-S34	N/A	AEG	M	table and chair				table and chair		teaset		sundries
DX-S35	open											
DX-S36	open	AD	C	table and chair				advertisement			bike	
DX-S37	open										3bike	sundries
DX-S38	N/A											
DX-S39	open											plants
DX-S40	closed	D	C					advertisement, sculpture			electric bike	plants
DX-S41	open	B	C		commodity						bike	sundries
DX-S42	open										tricycle	sundries
DX-S43	open											sundries
DX-S44	N/A											
DX-S45	open	B	C		amusement						2bike	sundries
DX-S46	open	BE	M		commodity			chair				plants
DX-S47	open	B	C		commodity							sundries
DX-S48	N/A											
DX-S49	N/A											
DX-S50	N/A											
DX-S51	open											
DX-S52	open											
DX-S53	open	BE	M		commodity			chair			electric bike	sundries
DX-S54	open										bike	plants
DX-S55	open											plants
DX-S56	open											
DX-S57	N/A											roadblock
DX-S58	N/A											
DX-S59	open											
DX-S59-P												
DX-S60	N/A											
DX-S61	N/A											
DX-S62	N/A											
DX-S63	N/A											
DX-S64	open	AD	C	table and chair				advertisement			electric bike	plants
DX-S65	N/A											
DX-S66	open	BEG	M		commodity			table and chair		teaset		sundries
DX-S67	open	AD	C	table and chair				advertisement			bike	sundries
DX-S68	closed											
DX-S69	open	BCE	M		commodity	tool		chair			electric bike	sundries, plants
DX-S70	N/A											
DX-S71	open	E	P					chair				
DX-S72	open	DE	M					advertisement	chair		bike	
DX-S73	open	BEG	M		commodity			table and chair		teaset, children's goods		sundries
DX-S74	open	D	C					advertisement			bike	plants
DX-S75	N/A										bike	
DX-S76	open	EG	P					table and chair		teaset, children's goods		plants
DX-S77	open										bike	sundries, plants
DX-S78	N/A										bike	
DX-S79	N/A											
DX-S80	open	AD	C	chair				advertisement			bike	sundries

Appendix D: Result of Observation Survey (Daxue Road - 19:00)

Unit	open/closed	typology	purpose	A. Furniture	B. Goods	C. Operation	D. Display	E. Furniture	F. Household	G. Hobby	H. Vehicle	I. Others
DX-N01	N/A										bike	
DX-N02	open										bike	
DX-N03	open	ABD	C	table and chair	commodity, counter		advertisement				2bike	
DX-N03-P												
DX-N04	open	A	C	table and chair								
DX-N05	open	CEF	M			tool		table	kitchenware		electric bike	sundries
DX-N06	N/A											
DX-N07	N/A	BC	C		commodity	work station					electric bike	sundries
DX-N07-P												
DX-N08	open	A	C	table and chair								plants
DX-N09	open	A	C	table and chair							2bike	
DX-N10	open											
DX-N11	open										bike	sundries
DX-N12	open	CE	M			tool		chair			electric bike	
DX-N13	N/A											
DX-N14	N/A											
DX-N15	open	B	C		commodity							sundries
DX-N15-P												
DX-N16	open	B	C		commodity						electric bike	
DX-N17	open										bike	
DX-N18	open											
DX-N19	open											
DX-N20	open											
DX-N21	open	CEF	M			tool		chair	kitchenware			
DX-N22	open	CE	M			work station		chair			bike	sundries
DX-N23	open										electric bike	
DX-N23-P												
DX-N24	open										electric bike	sundries, plants
DX-N25	open	AEG	M	table and chair				table and chair		teaset	bike	sundries
DX-N26	closed										bike, electric bike	
DX-N27	open	BCE	M		counter	work station		chair				sundries
DX-N28	open	D	C				advertisement				2electric bike	
DX-N28-P												
DX-N29	closed											sundries
DX-N30	closed											
DX-N31	open	CF	M			tool			laundry		bike, electric bike	sundries
DX-N31-P												
DX-N32	open	AD	C	table and chair			advertisement					plants
DX-N32-P												
DX-N33	N/A											
DX-N34	N/A	E	P					chair				
DX-N34-P												
DX-N35	open											
DX-N36	open										bike, electric bike	sundries
DX-N37	open	A	C	chair								plants
DX-N38	closed										electric bike	
DX-N39	open	DE	M				advertisement	chair				
DX-N39-P												
DX-N40	open											
DX-N41	open	AD	C	table and chair			advertisement				electric bike	plants
DX-N42	open											
DX-N43	open	B	C		counter							
DX-N44	open	E	P					chair				
DX-N45	open	F	P						laundry		bike	
DX-S01	N/A										bike	
DX-S02	open	A	C	chair								sundries
DX-S03	open											plants
DX-S04	N/A											
DX-S05	open	D	C				advertisement				bike	plants
DX-S05-P												
DX-S06	open											
DX-S07	open	C	C			tool					5electric bike	
DX-S08	open	D	C				advertisement					
DX-S09	N/A										car	
DX-S10	open	A	C	chair								
DX-S11	N/A										bike	
DX-S12	open											
DX-S13	open										electric bike	
DX-S14	open	AD	C	table and chair			advertisement					
DX-S15	N/A											
DX-S16	open	AD	C	table and chair			advertisement					plants
DX-S17	open	AD	C	chair			advertisement					
DX-S17-P												
DX-S18	open	D	C				advertisement				electric bike	
DX-S19	open	B	C		commodity							
DX-S20	open	AD	C	chair			advertisement					
DX-S21	open										bike, electric bike	sundries
DX-S22	open	AD	C	chair			advertisement					sundries
DX-S23	closed											plants
DX-S24	N/A											
DX-S25	closed										tricycle	
DX-S26	closed										bike	

Appendix

Appendix D: Result of Observation Survey (Daxue Road - 19:00)

DX-S27	closed											
DX-S27-P												
DX-S28	open	G	P							children's goods	bike	sundries
DX-S29	open	BCE	M		counter	work station		chair			bike	sundries
DX-S30	open											
DX-S31	open	D	C					advertisement				
DX-S31-P												
DX-S32	N/A											
DX-S33	N/A											
DX-S33-P												
DX-S34	N/A	AEG	M	table and chair				table and chair		teaset		sundries
DX-S35	open	A	C	table and chair								
DX-S36	open	AD	C	table and chair				advertisement			bike	
DX-S37	open										2bike	sundries
DX-S38	N/A											
DX-S39	closed											
DX-S40	open	D	C					advertisement, sculpture			electric bike	plants
DX-S41	closed											
DX-S42	open											
DX-S43	open										car	sundries
DX-S44	N/A											
DX-S45	closed											
DX-S46	open	BE	M		commodity			chair				plants
DX-S47	open	B	C		commodity							sundries
DX-S48	N/A											
DX-S49	N/A											
DX-S50	N/A											
DX-S51	open										electric bike	
DX-S52	open											
DX-S53	open	BE	M		commodity			chair			electric bike	sundries
DX-S54	open										bike	
DX-S55	open											plants
DX-S56	open											
DX-S57	N/A											roadblock
DX-S58	N/A											
DX-S59	open										electric bike	
DX-S59-P												
DX-S60	N/A											
DX-S61	N/A											
DX-S62	N/A											
DX-S63	N/A											
DX-S64	open	AD	C	table and chair				advertisement				plants
DX-S65	N/A	F	P						laundry			
DX-S66	open	BEG	M		commodity			table and chair		teaset		sundries
DX-S67	open	AD	C	table and chair				advertisement			bike	sundries
DX-S68	closed											
DX-S69	open	BCE	M		commodity	tool		chair			bike, electric bike	sundries, plants
DX-S70	N/A											
DX-S71	open	E	P					chair				
DX-S72	open	DE	M					advertisement	chair		bike	
DX-S73	open	BEG	M		commodity			table and chair		toy, children's goods		sundries
DX-S74	open	D	C					advertisement			bike	plants
DX-S75	N/A										bike	
DX-S76	open	EG	P					table and chair		toy, children's goods		plants
DX-S77	open										bike	sundries, plants
DX-S78	N/A											
DX-S79	N/A											
DX-S80	open	AD	C	chair				advertisement				sundries

Appendix D: Result of Observation Survey (Daxue Road - 22:00)

Unit	open/closed	typology	purpose	A. Furniture	B. Goods	C. Operation	D. Display	E. Furniture	F. Household	G. Hobby	H. Vehicle	I. Others
DX-N01	N/A										bike	
DX-N02	open										bike	
DX-N03	open	ABD	C	table and chair	commodity, counter		advertisement				bike	
DX-N03-P												
DX-N04	closed											
DX-N05	closed											
DX-N06	N/A											
DX-N07	N/A											sundries
DX-N07-P												
DX-N08	open	A	C	table and chair								plants
DX-N09	open	A	C	table and chair								
DX-N10	closed											
DX-N11	closed											
DX-N12	closed											
DX-N13	N/A											
DX-N14	N/A											
DX-N15	closed											
DX-N15-P												
DX-N16	open	B	C		commodity						electric bike	
DX-N17	open											
DX-N18	open											
DX-N19	closed											
DX-N20	closed											
DX-N21	closed											
DX-N22	closed											sundries
DX-N23	closed										bike	
DX-N23-P												
DX-N24	open											sundries, plants
DX-N25	open										bike	
DX-N26	closed	E	P					chair			electric bike	
DX-N27	closed											
DX-N28	closed										electric bike	
DX-N28-P												
DX-N29	closed											sundries
DX-N30	closed											
DX-N31	closed										bike, electric bike	sundries
DX-N31-P												
DX-N32	closed											
DX-N32-P												
DX-N33	N/A											
DX-N34	N/A	E	P					chair				
DX-N34-P												
DX-N35	open											
DX-N36	closed										electric bike	sundries
DX-N37	open	A	C	chair								plants
DX-N38	closed											
DX-N39	open	DE	M				advertisement	chair				
DX-N39-P												
DX-N40	closed											
DX-N41	closed											plants
DX-N42	closed											
DX-N43	closed											
DX-N44	closed											
DX-N45	open										bike	
DX-S01	N/A										bike	
DX-S02	open	B	C	chair								sundries
DX-S03	closed											plants
DX-S04	N/A											
DX-S05	closed											plants
DX-S05-P												
DX-S06	closed											
DX-S07	closed											
DX-S08	open	D	C				advertisement					
DX-S09	N/A											
DX-S10	open	A	C	chair								
DX-S11	N/A										bike	
DX-S12	closed											
DX-S13	open										electric bike	
DX-S14	closed											
DX-S15	N/A											
DX-S16	open	AD	C	table and chair			advertisement					plants
DX-S17	closed											
DX-S17-P												
DX-S18	open	D	C				advertisement					
DX-S19	open	B	C		commodity							
DX-S20	open	AD	C	chair			advertisement					
DX-S21	closed											
DX-S22	closed											
DX-S23	closed											plants
DX-S24	N/A											
DX-S25	closed										tricycle	
DX-S26	closed											

Appendix

Appendix D: Result of Observation Survey (Daxue Road - 22:00)

DX-S27	closed										bike	
DX-S27-P												
DX-S28	closed											
DX-S29	closed											
DX-S30	open											
DX-S31	open	D	C				advertisement					
DX-S31-P												
DX-S32	N/A											
DX-S33	N/A											
DX-S33-P												
DX-S34	N/A	AEG	M	table and chair			table and chair		teaset		sundries	
DX-S35	open	A	C	table and chair								
DX-S36	closed											
DX-S37	closed									2bike	sundries	
DX-S38	N/A											
DX-S39	closed											
DX-S40	closed										plants	
DX-S41	closed											
DX-S42	open											
DX-S43	open											
DX-S44	N/A											
DX-S45	closed											
DX-S46	closed										plants	
DX-S47	closed											
DX-S48	N/A											
DX-S49	N/A											
DX-S50	N/A											
DX-S51	closed											
DX-S52	closed											
DX-S53	closed											
DX-S54	closed											
DX-S55	open										plants	
DX-S56	open											
DX-S57	N/A										roadblock	
DX-S58	N/A											
DX-S59	closed									electric bike	roadblock	
DX-S59-P												
DX-S60	N/A											
DX-S61	N/A											
DX-S62	N/A											
DX-S63	N/A											
DX-S64	open	AD	C	table and chair			advertisement				plants	
DX-S65	N/A											
DX-S66	open										sundries	
DX-S67	closed											
DX-S68	closed											
DX-S69	closed										sundries	
DX-S70	N/A											
DX-S71	closed											
DX-S72	closed											
DX-S73	closed											
DX-S74	closed										plants, roadblock	
DX-S75	N/A											
DX-S76	closed	E	P				table				plants	
DX-S77	closed										sundries, plants	
DX-S78	N/A											
DX-S79	N/A											
DX-S80	open	AD	C	chair			advertisement				sundries	

Research Activities

Research Activities

Peer-reviewed Papers

- Li, S. & Nishide, K. (2018) Spontaneous Placemaking: A Quantitative Study on the Meaning of Places in Qilou Verandah Space. Proceedings of 13th International Symposium for Environment-Behavior Studies. Wuhan, 2018.
- Havlova, Z., Li, S., Ikalovic, V. & Reggiani, M. (2018) Public Space for Sedentary Activities in Tokyo: Unnecessary and Undesired Luxury?. UA 城市建筑 - Urbanism and Architecture, 2018(6), 108-118.
- Reggiani, M., Wu, Z., Li, S., Havlova, Z. & Ikalovic, V. (2018) The Metamorphosis of Contemporary Public Space: The Role of Informal Buffer Zones in Shinjuku Area, Tokyo. UA 城市建筑 - Urbanism and Architecture, 2018(4), 26-34.

Papers not peer-reviewed (Chief author, include papers presented at international conferences)

- Li, S. & Nishide, K. (2018) Problem and Countermeasure: A study on possible causes for spontaneous utilization of Qilou verandah space. 日本建築学会大会 建築計画 学術講演梗概集 .Tokyo, 2018, 651-652.
- Li, S. & Nishide, K. (2018) Complementary Space in a Dispersed Spatial Network: A Study on Utilization of Qilou Verandah Space in Amoy. 人間・環境学会誌 MERA journal. Tokyo, 2018.
- Li, S. & Nishide, K. (2017) A study on architectural type and usage pattern in old town area of Xiamen City: Taking Qilou streets as case study. 日本建築学会大会 建築計画 学術講演梗概集 .Tokyo, 2017, 595-596.
- Li, S. (2017) Evaluation on Evolution of Architectural Types in China's Rural Area: Case Study on Xiamei Village, Fujian Province. 人間・環境学会誌 MERA journal 20(1). Osaka, 2017, 43-44.
- Li, S. & Zou, Y. (2016) Evolvment of Architectural Types in China's Rural Area: Case Study on Xiamei Village in Fujian Province. Proceeding of International Symposium on Architectural Interchange in Asia 2016. Sendai, 2016, 10-22.

Papers not peer-reviewed (Other than Chief author, include papers presented at international conferences)

- Imoto, S., Gao, H., Fujita, Y., Li, S., Shakya, L., Otsuki, T. (2016) Disaster Situation after the Gorkha Earthquake and the Process of Housing Reconstruction Project in Bhaktapur 日本建築学会大会建築計画 学術講演梗概集 . Tokyo, 2016, 1101-1102.

Awards

- First Prize, Urban Public Space Design Competition 2017 (最優秀賞, 都市のパブリックスペースデザインコンペ 2017)
- Second Prize, The Japan Institute of Architects - Architecture Lighting Design Competition (優秀賞, JIA 第 11 回建築家のあかりデザインコンペ 2017)
- Merit Prize, UIA-HYP Cup 2017 International Student Competition in Architectural Design (佳作賞, UIA HYP 国際大学生建築設計コンペ 2017)
- Academic Award, ISAIA International Conference 2016

Projects

- Caretaker's House in Slum (built). Nairobi, Kenya. 2017
- Reconstruction Planning and Architectural Design for Post-Earthquake Community. Bhaktapur, Nepal. 2016
- Public Courtyard for Post-Disaster Community (built). Izu Oshima, Japan. 2016.
- Reconstruction Planning for Post-Disaster Community in Izu Oshima. Izu Oshima, Japan. 2015-2016

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