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Opening gated Shanghai
The potential of Shanghai's gated housing compounds

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supervised by

Mag. Dr,

Alexander Hamedinger

Vienna University of Technology

Faculty of Architecture and Planning

Zhao Wei

Ph.D., lecturer, master supervisor

Tongji University, Shanghai

College of Architecture and Urban Planning

submitted by

Severin König, BSc.

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ABSTRACT

Since hundreds of years the citizens of Shanghai have enclosed their residential communities. A habit, which outlasted several political, economic, and social system changes. Only the forms of the communities' appearance changed. Still they all generate various forms of semi-private spaces within their walls and gates.

Gradually, planning- and political officials recognise negative effects of Shanghai's gated residential compounds and call for a change in this tradition. Re-structuring these communities is supposed to benefit the distribution of public (green) spaces as well as contribute to the city's small-scale road network.

In order to do so, it is essential to understand the happenings within these walls and gates. Since such changes affect open spaces close to people's homes, this thesis evaluates the potential of different parts of the community. To do so, a qualitative and quantitative evaluation system is created and tested in two case studies. It is based on comprehensive observations of Shanghai's most common residential typologies: the *Danwei*, and the *Xiaoqu*.

Key Words: Shanghai, Gated Communities; Semi-private space, Danwei, Xiaoqu

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1 Introduction

More people than ever before in history, live in China's cities. In fact, more people than ever before in history live in cities all around the world. Chinese cities inhabit presumably 57.96 % of the whole country's population (The World Bank Data, 2019). The second strongest economy in the world (The World Bank Data, 2019) therefore has a higher urbanization rate than the world average, with about 54%. (The World Bank Data, 2019)

Although some people in the west may associate China with giant (ghost) cities, built from scratch to fulfil the needs of the country's fast ongoing urbanization, the really exciting and urgent questions for China's urban development lie in its "real" cities: the places with a history that are confronted with growth, migration, and economic development.

China's recent as well as its historical urban development formed its cities. Cities like Shanghai. It is a combination of both, modern as well as historical influences. These days they are characterised by high-rise buildings, shopping-malls, wide streets, walls, and fences. Whoever criticises China's urban development is confronted with a development that due to its economic success has avoided some of the issues of other cities with rapid population growth. (The World Bank, Development Research Center of the State Council, 2014, p. 3) When walking through Chinese cities like Shanghai, Beijing, or Nanjing it seems to be obvious that these cities do not have problems in providing basic infrastructure and or with informal settlements. However, this urban development is by far not flawless. Critics complain that in the past decades China's city development was formed by a drive for quantity not quality (ibid. p 86 & 363).

A few decades ago, the People's Republic of China was far away from being the second biggest economy in the world. Since then, the political as well as the economic situation in the country has gone through multiple changes. These also resulted in changes in the planning system. They are reflected in the urban fabric of cities. Shanghai, as China's most populated city (when considering the administrative borders, *Chongching* is China's biggest city with more than 30 million inhabitants), is the perfect example to illustrate these changes. One can not only see it in the impressive skyline of *Pudong,* erected since the 1980's, or the seemingly countless shopping centres that

enforce the privatisation of public space, but also in the very structure of the city. In its wide street grid (The World Bank, Development Research Center of the State Council, 2014, p. 141), in its – mostly gated – residential *Super Blocks* (Amesberger, 2017, p. 41) and in the public spaces which are established somewhere in between. The answers to many of Shanghai's urban development issues are connected to the crossing point of these three issues: *the open space within Shanghai's gated residential Super Blocks*.

This thesis takes this as an opportunity to deal with the question of what is happening in these gated *Super Blocks* and how exactly they can contribute to Shanghai's future city development. First, Chinese problem definitions and analyses are examined to establish the research question (s). The findings from this coincide in many points with the UN-Habitat's New Urban Agenda (cf. UN-Habitat, 2016, p. 2). But even though e.g. the *Shanghai Master Plan-2017* (cf. Shanghai Urban Planning and Land Resource Administration Bureau, 2018) identified similar issues, these are not linked to the gated residential blocks, although the urban fabric was definitely identified as the cause of many problems in the city.

But a national document actually seems to call the problems by its name, at least partially. According to a news article from Zhang Hui (2016) published in the "Global Times", the Chinese government released a document with instructions to open up gated communities in order to address several problems Chinese cities are confronted with. Although the article mentions mostly traffic issues, air quality issues and green space, this can also have a positive effect on social peace and sustainability. (UN-Habitat, 2016, p. 2) This inside view is especially important to this thesis, since it is believed that issues must be acknowledged inside a system in order to work on them and to solve them. Judging solidly from a Western perspective is a path that leads to incorrect research results and irresponsible planning decisions. However, two Chinese documents, which will be discussed further in chapter 2 *Research question and methodology* p. 4, show an acknowledgment of the problems of the pure existence of the gated residential *Super Blocks* and they see a shortage in public spaces.

Furthermore, the thesis provides an insight into China's urban development, with a focus on Shanghai's building blocks and communities. History has formed Shanghai as it is today. During the 19th century the *Lilong* was born, to shelter the rising numbers of China's working migrants. (Liang, 2008, p. 483) In the communist era the so-called *Danwei* were built all over China to build communities in harmony with socialist values. (Sha, Wu, Ji, Li Ting Chan, & Qi Lim, 2014, p. 10 f.) For more than two decades now,

there is a new form of residential community. The *Xiaoqu* consist of several (high-rise) buildings with green space in between. (Wallenwein, 2013, p. 1 ff.)

All of these three main typologies have in common that the space in between is separated from the outside by walls, fences and gates, making the open spaces in between not usable for every citizen and also blocking paths through a smaller grid of streets in-between the wide grid of Shanghai's main roads.

Consequently, the thesis addresses the question of what kinds of spaces arise in these communities, both inside and outside. A focus is set on the nuances between public and private spaces and which functions they should fulfil.

From this point on, the thesis focuses on the implementation of changes in the system. In order to do so, the insights of previous chapters are used to form dimensions and indicators based on which the possibilities of opening up at least certain parts of gated communities can be evaluated. Based on comprehensive observations the evaluation-methods are tested. The basis for this are two case studies on two different compounds in Shanghai.

Dealing with Shanghai's gated residential *Super Blocks* can help solve multiple planning issues. This is why the thesis' topic and the research are considered to be so significant. The wide spread of the typologies paired with the many issues attached to them makes it inevitable to address this thesis' topics, when planning for the city's future.

Based on multiple observations (combined with other quantitative and qualitative methods) on the open spaces within these communities an evaluation system is developed and tested to identify which parts of these gated residential *Super Blocks* can be opened for a wider public and which cannot. The work always follows a principle: "*Quality must be put first for both design and materials, at the same time preserving the special character of the various locations. Well-designed public spaces encourage not just alternative mobility (walking and cycling) but first and foremost various positive social and economic interactions. Some of the most transformative changes in cities are indeed happening in public spaces, but it takes a consistent legal framework for this to happen, with clearly defined land and occupation rules that encourage a mix of houses, building types, blocks and street patterns, as well as rules for access to, and enjoyment of, these spaces, particularly for the most vulnerable citizens.*" (UN-Habitat, 2016, p. 192)

2 Research question and methodology

Research question and methodology are the backbone of every scientific research. The following chapters deduce the research questions based on chapter 1 *Introduction* p. 1. Furthermore, chapter 2.3 *Research process and methodology* p. 9, shows the planned research process as well as the methods used. This thesis was written under extraordinary circumstances. Therefore, a focus is also set on the limits of the methodology and on additional possibilities under different research conditions.

2.1 Research motive

Public spaces and gated communities are all global topics, although they occur in different ways, on every continent. In all cases and with every nuance they differ from one another, they have different effects on cities and societies. In no way are all effects negative. Rather, they give people privacy and a feeling of safety, two things every human being should be able to experience in his/her daily life.
But there is more to these topics. To a great extend, the establishment of semi-private spaces in almost every form of gated communities is an expression of segregation. Reasons for segregation can be ethnicity, social status, geographic background, or economic income, to name some. And to a certain degree this can surely be seen as a natural human habit. But when segregation is established in the built environment to a certain degree (this for sure cannot be measured) it affects people in negative ways.

It is a topic of social justice and peace. There is a lot of literature about how wealth and power are manifested in the built environment. Some people can afford to buy certain infrastructure, and they do so. But many more people rely on public space. They need public space for social interactions, to let their children play, to do sport, to sell their products and services. For them, public space is more than just a place for transit. And it is crucial that they have it. It is also necessary for people who do not fit into the ideals of those who control private and semi-private space and are therefore banned from using it.

Spatial planning as well as urban design can have enormous effects on these issues.

Although a lot of these topics are political issues, well designed public and semi-private space which fits the needs of users but does not necessarily exclude people by force, can help to overcome the need of enclosing oneself behind walls and fences.

The idea is to address these global issues on a local level, in the city of Shanghai. The thesis will contribute to the effort to make the city more accessible, for those who depend on public space. There is no easy solution and it cannot be done by force. It needs to be done with care, to fit the needs of residents as well as other inhabitants of the city. During a university-project focusing on city development in *Xuhui District* in Shanghai, a simple solution to this phenomenon was tested. The planned area was subdivided into different grades of privacy. The following design was developed based on this graduation. However, this subdivision was only done from an outside perspective and without gathering necessary research data. It is questionable if such solutions would be accepted by residents, other potential users, and important stakeholders. For this reason, the master thesis will focus on providing a planning approach based on scientific research, to make sure different interests and needs are taken into consideration, if the city plans to act on this important issue. For this reason, there is more than just the direct outcome of the thesis regarding the research questions and their sub-questions. Another important part of the thesis is the methodology.

2.2 Approach and research question

China's urban development has gone through many radical changes in the past century. This development has led to cities that seem to be far away from "common" planning goals like ecological, social, or even economic sustainability. One of these cities is Shanghai.

There are numerous researches, books, articles, and documents dealing with planning goals and strategies. Some of them for certain regions, some of them claim to be globally applicable. An example of the latter one is the *World Cities Report 2016* by *UN-Habitat*. It is the latest of three reports and tackles urban challenges that are emerging due to an increase in global population. In total, it names eight such challenges. It is little surprising that some of them also apply to Shanghai and to the issues described before with gated *Super Blocks* (see chapter 1 *Introduction* p. 1). Especially the topics "*Urban Growth*", "*Challenges in Providing Urban Qualities*" and

"*Exclusion and Rising Inequality*" are directly linked issues. (UN-Habitat, 2016, p. 2)

However, the look from the outside on Shanghai's main planning issues is not the preferred research approach for this thesis. There is little doubt that Shanghai's gated *Super Blocks* seem to be one of the city's biggest problems regarding urban planning. But this is not an evaluation from outside but from the inside. Not only Shanghai's newest urban development plan, the *Shanghai Master Plan 2017 – 2035*, tackles these issues but also government officials.

But this issue is not only dealt with on a local level. According to a news article from Zhang Hui (2016) published in the "*Global Times*" the Chinese government released a document with instructions to open up gated communities in order to address several problems Chinese cities are confronted with. Although the article mentions mostly traffic issues, air quality issues and green space, this can also have a positive effect on social peace and sustainability (UN-Habitat, 2016, p. 2).

The *Shanghai Master Plan 2017 – 2035* also includes various goals linked to the issue of Shanghai's gated *Super Blocks*, even though they are not mentioned directly. In total six goals have been detected tackling the issue (Shanghai Urban Planning and Land Resource Administration Bureau, 2018, pp. 23, 25, 32,56)*:*

- *Up to 90% accessibility to open public space (park and squares over 400 square meters) within 5 minutes' walking distance.*
- *Reduce total carbon emission by about 5% compared to the peak in 2025 (sic!)*
- *Park green space will be up to 13 square meters per capita through efforts*
- *[…] the building of a "life circle" within 15 minutes' walking distance so as to provide appropriate housing for residents, create a more pleasant environment of living, facilitate more convenient transportation and bestow residents with a higher sense of belonging and identity.*
- *99% public facilities within a 15-minute walking distance in communities (including a sub goal of safe and comfortable stroll on streets)*
- *4 m^2 community public space per capita*

Sadly, to all the planning goals there is no analytical data and no detailed (or none at all) description (or none at all) of how these planning goals will be reached. However, they show that the urban grid, public spaces, and gated communities are issues addressed by the government.

When looking at those goals there seem to be two main overall objectives linked to them. These are the basis of the research question as well as the further research process and the methodology:

- Create a more "walkable" city
- Create more public/publicly accessible open spaces

From the first exploratory observations on it was clear that there is high potential related to these goals within the borders of Shanghai's gated residential areas. Also, previous master theses written at Tongji University saw this potential. However, those theses strongly focused on the built environment and built aspects. As a counterpart, this thesis focuses on social aspects and the communities that exist within these gated blocks. Nevertheless, it is strongly believed that many issues can only be tackled if gated residential areas become more accessible for all people. As the following chapters show, there are massive qualitative and quantitative differences between the open spaces in the three different typologies *Lilong*, *Danwei*, and *Xiaoqu*.

As the following images show (Figure 1.1 - Figure 1.4), some communities have to outsource functions into the public space that others have in their semi-private space in. Others provide space for "public functions" within this semi-private space. This indicates that there is a willingness to switch (even though it is often based on necessity) for several functions between semi-private, semi-public and public spaces. So why are massive and extended semi-private spaces needed at all? This consideration leads to the first assumption this thesis is based on: *The more public an open space in a gated residential area is now, the bigger its potential to become more accessible in the future.*

Semi-Private Space in gated residential Areas

Figure 1.1 Drying Clothes

Public/Semi-Public Space

Figure 1.2 Drying Clothes

Figure 1.3 Tai Chi

Figure 1.4 Tai Chi

Based on this assumption the further goal was to determine what the most public areas of the different typologies are. While different approaches on "measuring the publicness of public spaces" were found promptly, none of these methods seem to fit, since they lack important criteria. The reason is that all these approaches deal with space that is supposed to be public. However, this thesis does not deal with public space but with semi-private space. It deals with the living environment of people very close to home. Therefore, besides others, criteria to evaluate issues like privacy and small-scale community life seemed to be important. All of this will be discussed further in chapter 2.3 *Research process and methodology* p. 9.

However, based on these considerations the following research questions occurred:

- *How can the potential to open semi-private space in Shanghai's gated residential areas be evaluated in order to be comparable?*
  - *Based on which indicators can the potential for opening Shanghai's gated residential communities be evaluated?*
  - *What are the advantages and disadvantages of quantitative and qualitative approaches in this context?*

- *Which prior determined indicators are in favour of communities being opened?*
  - *What are the differences between Shanghai's most common gated residential typologies, regarding the prior researched indicators?*

Since there is no known methodology to answer these research questions, the following thesis has two objectives. On the one hand it aims to answer the primary question itself. On the other hand, it shows and documents the process of creating a suiting methodology and evaluates this methodology in the end.

2.3 Research process and methodology

The story of this thesis' methodology is a story of pragmatism. The research takes place in an environment mostly unknown to the researcher. Due to language barriers, the access to certain documents and the use of many, research methods, fitting under normal circumstances, is limited. The following chapter will describe the methodology necessary to answer the research questions. Figure 2.5 helps to put the single methods into a relation.

Daily observations and secondary literature research with a focus on certain issues (helping to verifying certain assumptions) are the core elements leading to the research questions. From this point on, the objective is to determine how the potential of community openings can be measured, and if there is valid reasoning not to do so. It does so from a researcher's and planner's perspective, and with the aim to find ways of contributing to these goals. To do so a certain process is developed and tested.

The best way to answer the research questions and to test the methodology is a case study conducted with two different cases. Those represent two out of the three most common typologies in Shanghai, the *Danwei* and the *Xiaoqu*. Details to the types and the selection of the individual cases can be found in Chapter 3.4 *Shanghai's gated Super Blocks* p. 41. The actual case study is preceded, among other things, by extensive literature research and an expert interview.

To develop a methodological frame, extensive secondary literature research is necessary. Since an evaluation model has to include physical/built structures, as well as social community structures (both spheres are inseparable) the research must focus on both parts, too.

A third essentially pillar is the research on the methodology itself. To develop an appropriate evaluation model, other assessment methodologies are an important source for both, indicators as well as feasibility.

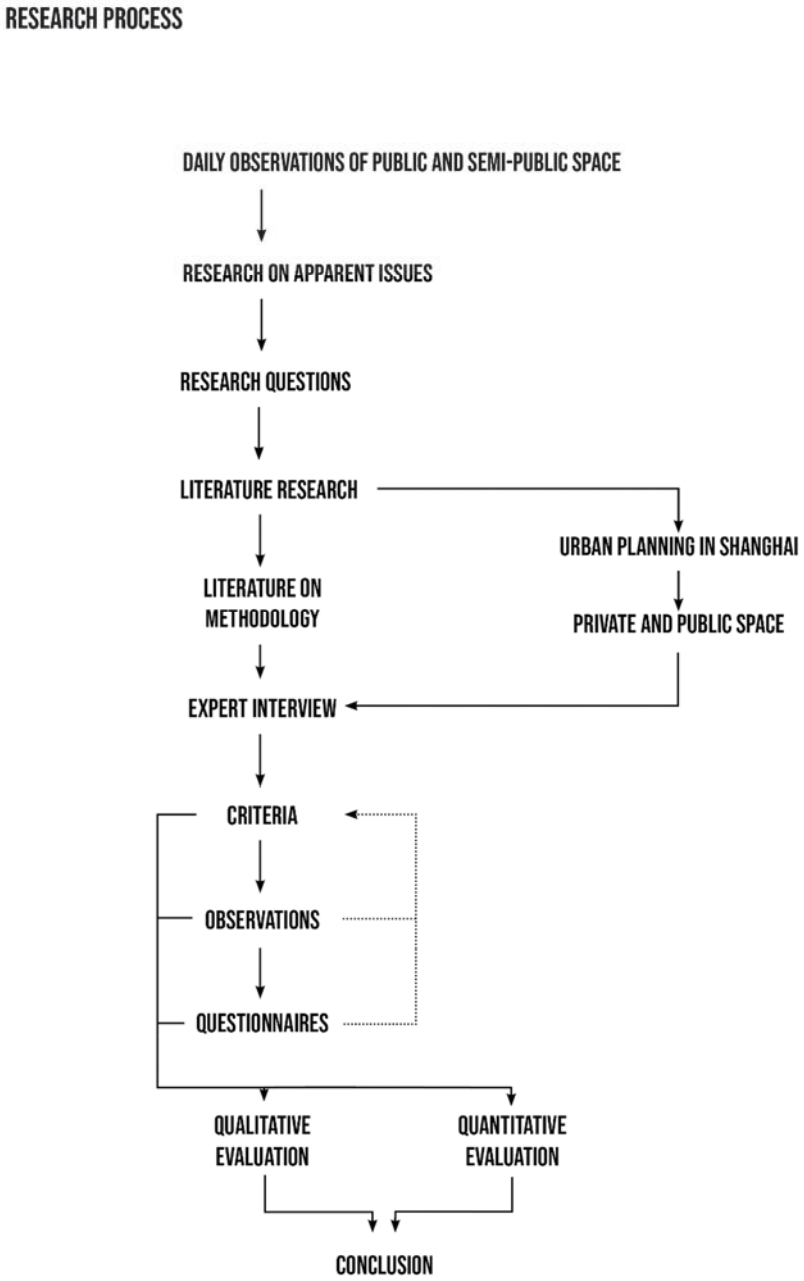

Figure 1.5 Research process

Research on the built environment mostly includes urban development in China and Shanghai (see chapter 3 *China's urban development* p. 17) gated communities as a global phenomenon (chapter 3.4.1 *Excursus: Gated communities – a* global phenomenon p. 47) block sizes and the conception of the *Super Block* (chapter 3.4 *Shanghai's gated Super Blocks* p. 42), but also the built aspects of public, semi-public, semi-private, and private spaces (chapter 4.2 *Semi-private and semi-public* p. 57)

Literature regarding social issues, includes, besides other topics, the conception of more, or less public and private spaces, as well as their functions (chapter 4.2 *Semi-private and semi-public* p. 57) and of course also the social aspects of China's (urban) development over the past decades (chapter 3 *China's urban development* p. 17).
The findings regarding adjustable methodology and research structure are mostly discussed in chapter 5 *The potential of gated residential areas* p. 61, since most literature addresses the topic in order to determine how public alleged by public spaces really are. The approaches found are not suitable for this thesis, but certainly a valuable input to its objective. This also includes sources regarding evaluation indicators. These have been collected from literature sources, reduced to the most necessary, and adapted by fitting ones, in order to assess aspects of privacy, community living, and factors regarding the neighbourhood (chapter 5.1 *Evaluating the potential of gated residential areas* p. 61).

Finding literature on the conception of different grades of privacy and publicness (but also almost all other relevant topics) from a Chinese perspective is a difficult task. First, there is limited English literature on the Chinese (conception of) open spaces which seems to be up to date. Second, this literature can only describe them to a certain extent. Third, much of the literature about China and its different forms of public or private spaces, especially the English one, has a Western influence. That is to say, it is influenced by these Western authors' cultural- and research-backgrounds.

However, there is some research which apparently provides useful insights, especially when it comes to uses and users of public spaces. These are needed to compare public spaces with the spaces found within the borders of Shanghai's gated residential *Super Blocks*.

With these sources, it is possible to gain a first conception of public and private space, in order to help introducing indicators for the structured observations following later. Since the conception of different kinds of publicness and open spaces is considered to be something different from a European perspective, an approach limited

to literature research does not seem to be sufficient. The existing literature, for example "*Public Man and Public Space*" (Orum, et al., 2009) or "*New Public Space in Urban China*" (Gaubatz, 2008) is a great help, and for most parts confirms daily observations. However, both articles are up to ten years old. In a fast-growing city like Shanghai, ten years in a planning-context are much more decisive than in Europe. Secondly both show undoubtedly a European/Western influence.

To tackle this issue, the findings from literature research are discussed with a planning expert in Shanghai, whose company has hands-on experience in planning for residential purposes as well as public spaces. The expert interview, a specialised form of guided interviews, uses the expert as a representative of professional planners in China, to get feedback on the literature research. These insights regard mainly built aspects, but also social aspects. The results are incorporated into the subsequent formation of the evaluation-indicators.

Based on the findings from secondary-literature research, first observations and interview, a set of indicators is developed. The 14 indicators are classified in three dimensions: *Current usability*, *Privacy for residents,* and *Connection to the outside*. The definition of dimensions and indicators is shown and discussed in chapter 5.1.1 *Dimensions* p. 62 and 5.1.2 *Indicators* p. 63.

Due to the language barrier mentioned before, almost only observable indicators made it into the final set. There are two exceptions: "Ownership" and "Funding/Programs". Both could not be researched with the means available. Therefore, to anticipate the results, it is rather important for the future research process to combine the methods used with others in future research processes.

For the survey-phase, all indicators are classified based on two characteristics: time dependency, and scope of validity. Time dependent indicators are researched during the observations (users, uses, small scale community living, etc.). Non time dependent indicators (accessibility, restrictions, ground floor use, etc.) were focused on during a separated inspection of each area.

Furthermore, a distinction is made as to whether the indicators concern the whole case or not. Those who do, are rated in the same way each observation area, the others individually. During the analysis of the results, a further classification has proved to be practical: *passing*, *free-time related uses*, and *work-related uses.*

In the end every indicator has three attributes: dimension, time dependency, and scope of validity.

Consequently, soft indicators have been used. As chapter 4.1 *Measuring publicness* p. 51, shows, this is an frequently used approach. However, the quantification of soft indicators is a more than questionable approach, since it is, in this case, the assessment of single person and, what is more, a person with a completely different cultural and planning background. To be fair, with the lack of references, this issue would also be relevant when selecting quantitative indicators.

In the end, a system was chosen that allows both a qualitative and a quantitative evaluation. The details of the exact system can be found in chapter 5.1 *Evaluating the potential of gated residential areas* p. 61.

Observations are the thesis' core element. Uwe Flick (2017, p. 282) names five dimensions to classify observations, based on Friedrichs (1973, S. 272 f.). Projected on spatial matters these dimensions are the following:

- To what level do the observed individuals know they are observed
- To what scale is the researcher part of the field
- Is the space observed with some sort of systematic / standardized methods or is it or is it totally open
- Does the observation take place in an artificial setting or within a natural habitat
- Self-observation versus the observations of others

The observations take place according to a previously determined scheme. For the case study, two different compounds, one *Danwei* and one *Xiaoqu* (described in chapter 3.3.2 and 3.3.3). Both typologies are widespread in the city and therefore ideal as cases for the observation the empirical part is based on. In both cases of the case study, observation areas are divided to make a comprehensive observation possible. However, not all parts of the communities are examined. Some parts that, due to their design and location, do not indicate relevant results, have been left out. Overall, however, all sub-typologies perceived as relevant are covered for each case.

Each of the, in total, nine observation areas are observed with the same method. A period of 16 hours (from 6 a.m. to 10 p.m.) was defined as the relevant observation period. However, not the entire time is observed. Within each hour, three five-minute slots per area are examined as a sample, that is to say, 15 minutes an hour, evenly

distributed (e.g. 6:00-06:05, 6:20-06:25, 6:40-6:45). In total this results in 48 timeslots, or 240 minutes per day and area. For each area, a weekday and a weekend day are examined.

During these timeslots, an oral observation protocol is recorded (recording the observations with a smartphone has proved to be less noticeable/influencing during the first observations than making a transcript). All observed processes were recorded in this protocol. Among other things, the activities are recorded in predefined categories: Which ones, but also how often they occur. Also, walking-connections between pre-identified entrance/exit points to the area as well as buildings, or age and gender distribution (both estimated). In the case of children, the statistics did not classify them by gender. Of course, estimating age is a source of many possible errors. Therefore, statements regarding it should be viewed with caution. Also, it is not differentiated between single residential buildings, since this has no effect on the use ("passing") itself.

The recorded data is later transcribed and coded. Later some numerical data are extracted.

						Time slot	10:40 - 10:45	
Traffic	Car		E-Scooter		Bicycle		Other	
	2		1		1		1	
Users	Female							
	Inf./Child		Teenager		Young adult		Adult	Seniors
							6	
	Male							
	Inf./Child		Teenager		Young adult		Adult	Seniors
							8	1
	Unspecific							
	Inf./Child		Teenager		Young adult		Adult	Seniors
							1	
Uses	Playing w. Children	Playing cards/games	Meeting/Talking/Leisure	Strolling	Walking a dog	Sport	Music	Passing
			3		1			8
	Housekeeping	Security	Delivery worker	Maintenance worker	Other worker	Other use		
		1	2	1				
Connections	From / To	0	1	2	3	4	5	6
	0							
	1	2		1	2			
	2						1	
	3		1					
	4				1			
	5							
	6							
Transcript	An elderly man walks from a building to the community exit; a security guard drives through the area on a bicycle; a car drives though; a delivery man comes out of a building, gets on a e-scooter parked at the front porch and drives out of the community; three men sit in front of a building at a front porch, they look at me and talk to each other; in front of another building a package delivery man sorts some packages next to an e-scooter at the front porch; a woman enters the community and walks into a building; another woman walks from the park to a building; a van drives through the area; a maintenance worker waters plants with a hose; a woman enters the community and walks into a building; a man and a woman enter the community too, together, the man carries some groceries in a plastic bag; another woman walks a dog; another car drives through; a person on an e-scooter drives through; it is very quiet in the area, one can hear birds singing; a woman walks from the community entrance to the north							

Figure 1.6 Example of time-slot transcript and analysis

To verify some of the evidence gained during the observation, a questionnaire has been designed. In both cases this questionnaire was handed out to the same number of people. The questionnaire was designed after the observations, as well as the expert interview in order to complement the findings form the first two phases of empirical research with further quantitative data (see 10.5 *Questionnaire in English* p. 214 and 10.6 *Questionnaire summary – Site 1* p. 216 plus *10.7 Questionnaire summary – Site 2*

p. 217).

However, questionnaires entail problems. Due to the language barrier (that has been underestimated at first) only quantitative methods seemed reasonable. However, this would require pre-defined answers. Pre-defined answers would need more background research in the first place to gain a better understanding about the Chinese view on public space. The questionnaires in the case of this thesis is not used for the statistic values it provides. In the end it was only used to confirm or disproof certain assumptions that occurred during the observations.

Also, other methods were considered, for example mental maps, to see what kinds of spaces are used for public functions and are seen as public. However, this again would have needed a form of communication in order to explain the methodology. Personal experience with certain methods showed, that it is by far not a concept that is easy to explain to participants. In the case of this thesis, the possibility of a native speaker's help was often discussed but in the end the decision was made not to use multiple hours of time resources by third parties.

Before the last step of evaluating the data, a final correction and adaption of the indicators is executed. The data is comprehensive and gives enough scope for such changes. In the end, all observation data are collected and evaluated based on the indicators determined before, both, qualitatively and quantitatively.

So, as shown, the methodology is limited due to multiple external factors. This limits the possibilities and compromises the gained results gained. Nevertheless, the chosen (and developed) methodology proves to be exercisable, in order to provide a comprehensive insight into both cases and to produce valid results.

Another important issue to clarify is not only the methodology, but the conception of space, that is used in this research context. There is no right and overarched conception of space fitting for all purposes. It depends on research question and used methodology. (Schmidt, 2010, p. 29) This is also suiting for this thesis. Furthermore, depending on the different sections within the thesis, as well as different scopes the conception of space changes.

For one part it is acknowledged that space can be seen as something constructed by individuals based on one's experiences and the resulting perception of space. Space is identified, evaluated subjectively and therefore also used individually. (Weichhart,

2018, p. 86) This conception is reflected in the observation of uses and behaviour within the case studies.

However, for a large part of the empirical thesis, space is considered as a part of a world existing in a physical-material reality. (Weichhart, 2018, p. 82) Schmidt (2010, p. 28) defines a naturalistic space concept, that sees space as something materialistic and real existing, with an effect on humans and their actions. This is sure suiting for most of the empirical research, even though the effect on people by the built environment (e.g. the walls and gates of the communities, but also the inner design) can only be assumed when observing the individuals during the case studies.

Furthermore, there is a big part of research done that is considering a more basic spatial concept. For the analysis of the built space inside the community, space can simply be considered as something existing, independent from one's use, conception or perception. Weichhart (2018, p. 82 ff.) provides an overview on basic conceptions of space and gives the examples of space in form of objects and material conditions that when the concept is widened be located a conception of a container. The so-called container concept sees space as the existing structure that remains when all the materialistic content is excluded from the container. These two concepts that describe space as something real-existing and unaffected by people's perception is suiting for most of the thesis, since it focuses on aspects of the built environment.

As Weichhart (2018, p. 88) explains, a clear separation of different conceptions of space is barely possible in practice. This is also the case for this thesis, since space can neither exclusively be seen as something with an ultimate claim of being reality to all, but neither as just a construct of people's perception.

3 China’s urban development

China’s urban development is often described as outstanding. It is a fact that currently now second strongest economy in the world has had a very high urbanization rate in recent decades, and that it has managed it without many downsides that other countries have to deal with, as the following chapters show. To give a better impression, Chinas urban development is first shown in a global and national context.

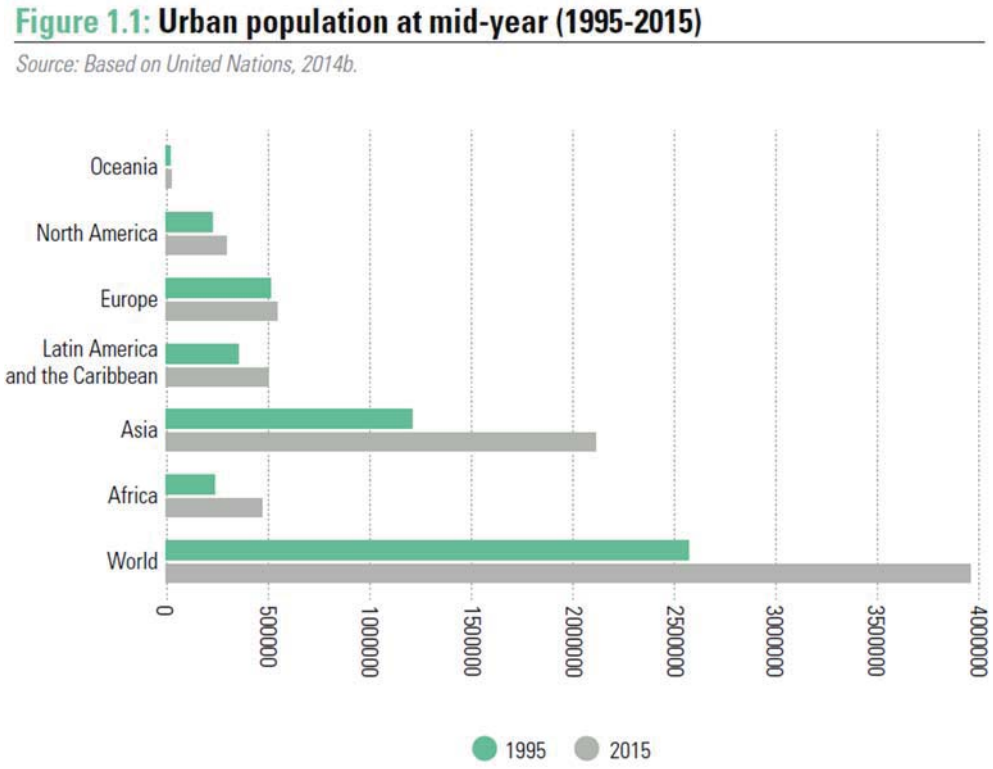

Figure 3.1 Urban population at mid-year (1995-2015)
Source: : (UN-Habitat, 2016, p. 6)

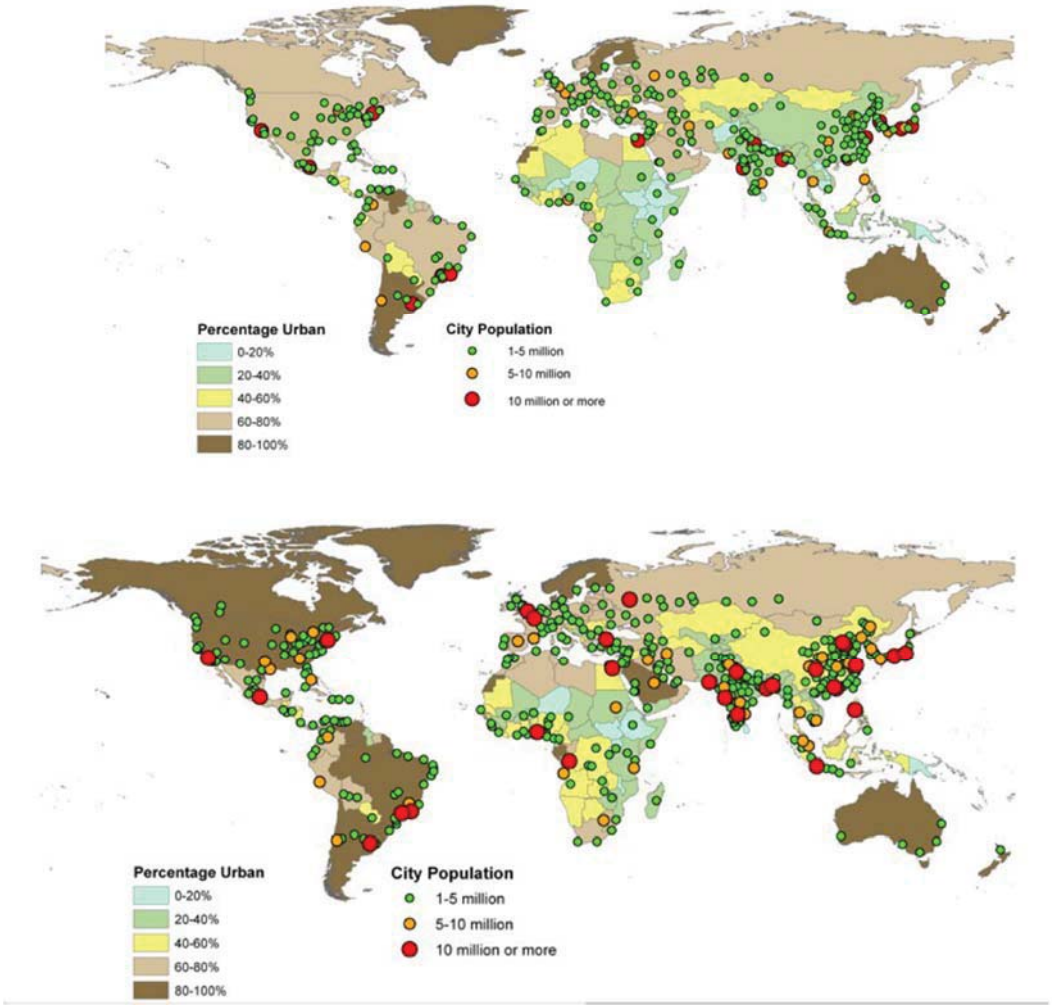

Figure 3.2 Global patterns of urbanization, 1995 and 2015
Source: (UN-Habitat, 2016, p. 8)

Globally, more people live in cities around the world than ever before. Worldwide about 54 % of people live in cities (The World Bank Data, 2019). On all continents, the urban populations have risen in the past century. Especially in Asia and Africa this number has grown in the past 20 years. On a global scale, especially low- and middle-income countries have higher growth rates in urbanisation. (UN-Habitat, 2016, pp. 7-8)

China's urbanization rate is often described as something outstanding, especially in absolute numbers. These days, European city-growth cannot be compared to Shanghai's level and neither can the US American cities. The most strongly growing cities these days are in Asia, Western-Africa and Latin-America. An interesting fact, though, is that when looking at the United States of America, both of them had similar urbanization growth rates, just hundred years apart (Amesberger, 2017, p. 10).

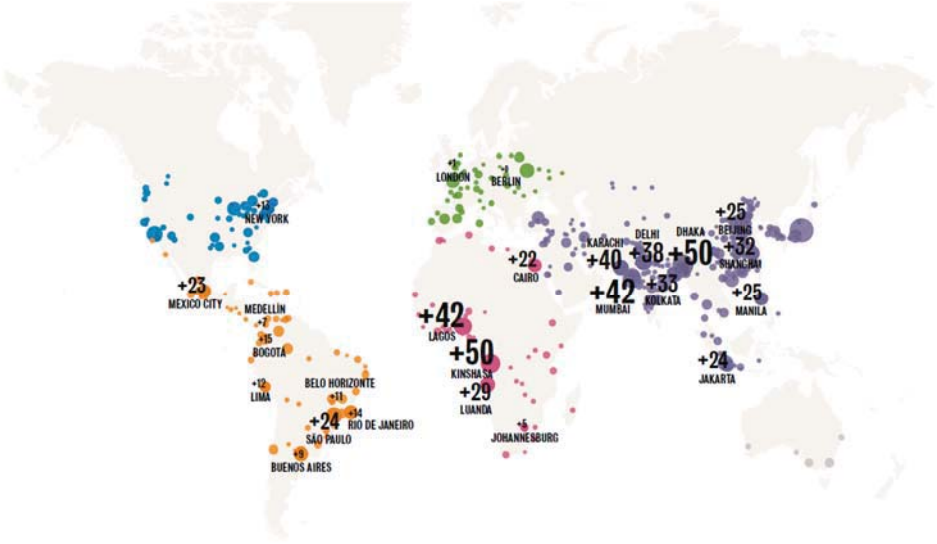

Figure 3.3 Population growth per hour in some of the fastest growing cities with more than one million people
Source: (Urban Age Programme, 2009, p. 17)

As the following chapter will show, this urbanisation process is not arbitrary. It is well planned, including a nation-wide system to control migration within the country. It is estimated, that China's urban population will rise up to 70% of its total population in 2030 (The World Bank, Development Research Center of the State Council, 2014, p. 3).

But this urbanisation process does not spread over the country equally. Especially coastal cities have grown in the past decades, making the southeast a very densely populated area compared to the north-western regions of China.

In the end it has to be said, that China seems to have managed this urban development without many of the problems other countries seem to have. Due to the regulation of migration within the country during the main phase of urbanisation, a somehow controlled urbanization was possible and still is. (The World Bank, Development Research Center of the State Council, 2014, p. 3)

3.1 A brief introduction to China's urban history

In the past decades China's social, economic, and political system went through multiple, partially radical changes. For one part, the system has changed from a Maoist planned economy with strong regulations to a more and more liberal market economy.

According to *The World Bank* (2018, online) and Debora Davis (1997, p. 249) privatisations as well as the general wealth in the country have risen. At the same time, financial disparities have increased, but nevertheless "*China's cities have largely avoided the social ills of rapid urbanization such as widespread urban unemployment and poverty.*" (The World Bank, Development Research Center of the State Council, 2014, p. 6). Those shifts in the systems come hand in hand with various changes in the planning systems and, of course, everything that affects urban and rural planning. One rapid change in the planning system, which is especially important for this thesis, came after the death of *Mao Zedong*, founder of the *People's Republic of China (PRC)* in 1976. Shortly after his death, the *PRC* began to shift to a more open market, and a more open migration system between urban and rural population (Davis, 1997, p. 248 ff.).

Before this time, the so-called *Hukou System* (household registration system) restricted migration within the country much more strictly than it does now. The System was introduced in 1958 and divides people into an "urban" and a "rural" population. The kind of Hukou given to someone is defined by birth. It defines certain rights, and also access to social benefits, education and so on (Pradier, 2018). As it was mentioned before, Chinese cities have been able to avoid issues like the development of large scale unemployment and poverty (often coming hand in hand with the manifestation in the built environment in the form of informal housing or slums) (The World Bank, Development Research Center of the State Council, 2014, p. 3). Even though some of the settlements may appear to be far away from modern living standards, there is no doubt that all of them have access to drainage, electricity, and water.

Nevertheless, the *Hukou System* can surely be criticised, from the fundamental criticism that it restricts the liberty of migration within the country to the fact that it divides China's population in two different classes. Especially in the last years, the system faces more and more criticism. What was once the protecting force from mass urbanisation is now often seen as a big problem for China's urban development. Due to the massive workforce in the cities, the *Hukou System* was reformed to get access to cheap rural workforce for the ongoing urbanisation (Davis, 1997, p. 248 ff.). This has led to the situation that even though more than half of China's population lives in cities, only 70% of those had an urban Hukou in 2014, and therefore access to the full national social insurances. On the other hand, the 30%, or about 220 million, urban residents without an urban Hukou had less access to these services (Zhang, LeGates, & Zhao,

2016, p. 265). The numbers that can be found linked to this topic vary from source to source. Anyway, the issue itself brings about enormous social inequality and excludes far more than 30% of the urban population from parts of society. In 2013 about 528 million people were counted as urban non-agricultural work force. More than half of them, 50.93 percent or about 269 million, were so-called "peasant workers". About 166 million of those people have left their Hukou address to seek work in cities (Zhang, LeGates, & Zhao, 2016, p. 362).

This inequality is now seen as a danger for China's ongoing urbanisation. For this reason, *The World Bank* together with the *Development Research Center of the State Council* (2014, p. 49) has proposed a system that shifts from an origin-based to a residence-based system

The *Hukou System* is certainly one important factor that formed (and still forms) China's urban society. But there are other factors as well. As mentioned before, there have been several changes in China's political and economic system during the past decades. From 1960 to 2010 the agricultural share of the *gross domestic product (GDP)* declined from 35% to 10%. During this process of becoming an industrial nation, especially coastal cities grew in terms of population and size. Most of the population came from western and central China (Zhang, LeGates, & Zhao, 2016, p. 257). In this process the coastal cities became the "*factories for the world.*"(ibid.) Much of this change happened since the 1980's, when international investors were permitted to invest in the Chinese economy and its infrastructure (The World Bank, Development Research Center of the State Council, 2014, p. 123).

Hand in hand with this shift came the shift from a rural to an urban society. From 1978 to 2012 China's urban population rose from 20 % of the total population to 52%. Although this is a high percentage, other South-East-Asian countries like Malaysia, Korea or Japan had even higher rates in the same or comparable time frames (The World Bank, Development Research Center of the State Council, 2014, p. 6). According to Chun-Chung Au and J. Vernon Handerson (2006) China's urban population was mainly located in cities between 100,000 and 1 million inhabitants in the 1990s. In other parts of the world the urban population was mainly located in big cities. This changed after work migration became easier. Nowadays, China shows the same distribution of population in cities as other countries in the global north (The World Bank, Development Research Center of the State Council, 2014, p. 126). With growing cities

and agglomeration areas, it is important to have a look how this urbanization is happening.

For many countries and cities, Chinas urbanisation is an ideal example of how a government can handle massive urban growth. But the Chinese way is by far not perfect. Books like *"Understanding China's Urbanisation"* by *Li Zhang*, *Richard LeGates* and *Min Zhao* or *"Urban China"* by *The World Bank* and the *Development Research Center of the State Council* give, besides many others, a good insight to China's urban development from different perspectives.

When comparing Chinese cities to other cities in the world, it becomes clear, that the much-praised urbanization is not only a story of success. Two circumstances seem to be especially important.

First, China's urbanisation has produced cities which become less dense. This is not an uncommon phenomenon, but since usable space is limited and the number of potential further migrants is enormous, the efficient use of space is critical for China's future development (Zhang, LeGates, & Zhao, 2016, p. 368). According to the National Bureau of Statistics of China (2014) the area of urban construction land reached 47,109 km² in 2013. This number is 4.06 times higher than it was in 1990. At the same time, also according to the National Bureau of Statistics (2015), the urban population reached 749 million people in 2014, a number 2.47 times higher than in the year 1990. So, it is clearly recognisable that China is building its new urban development at the cost of density and everything connected to it. Lower energy efficiency, so-called *Super Blocks* and the higher infrastructure costs that go with it, as well as longer commuting times are only some manifestation of this development. Furthermore, urban sprawl can lower the positive economic effects of agglomeration. (The World Bank, Development Research Center of the State Council, 2014, p. 88)

The second problem that gets addressed regularly regarding the problems of China's fast urbanisation, are the ecological costs of this development. As stated before, especially cities on the east and south-east coast have become important global industrial headquarters. A study done in the year 2018 took a close look on air pollution in Chinese cities and discovered that in several cities the air is polluted by many chemicals up to a dangerous level. However, the same article also links the high air pollution to the extension of motorised transportation. This again is connected to the low density of the cities, as well as the rising wealth of many Chinese citizens. Apart

from air, soil and water are polluted, too, which is also intensified by the ongoing urbanisation patterns. (Han, Zhou, Pickett, Li, & Qian, 2018)

In the past, Chinese urbanisation happened without much consideration as to environmental consequences. It seems that this was a price the Chinese government was willing to pay in the past, but: "*China can now afford to invest in environmental remediation to improve air quality and clean up polluted rivers and lakes and enforce much tougher standards on new construction.*" (The World Bank, Development Research Center of the State Council, 2014, p. 363)

It is yet to be seen how China will use this potential even though it seems like "*[…] after 2002, urbanization policy gradually shifted its focus from quantity to quality.*" (The World Bank, Development Research Center of the State Council, 2014, p. 86)

What seems to be sure is that China is again in an era of change. The prognoses about the nation's future vary, regardless if they are about economy, environment, or urban and rural development. The economy is still growing on a level that seems to be far out of reach for European countries. While China's annual *Gross Domestic Product* (*GDP*) was at 6.9 percent according to *The World Bank* (2019) in 2017, in compression, the *European Union* had a growth of 2.7 percent (The World Bank, 2020). Due to this growth and even higher growth rates in the past decades, China has become one of the biggest economies in the world. According to different studies, economic growth and urbanisation are often linked to each other. Right now, China's urbanization rate is much lower than that of other countries with similar *GDP* (The World Bank, Development Research Center of the State Council, 2014, pp. 85, 101). Chinese cities will need a big share of its fortune for a positive future development. It is always difficult to make predictions for future development, but: "*[...] experience from Japan, Korea, and the United States, suggests that China's large cities will move from their current concentration of industry toward a higher concentration of services and that in the future the innovation and service economy will be even more concentrated than the industrial one has been.*" (The World Bank, Development Research Center of the State Council, 2014, p. 7)

Furthermore, *The World Bank* and the *Development Research Center of the State Council* (2014, p. 124) states that China's government needs to make a change from direct planners to regulators. In particular they name three main challenges for China's future urban development.

- *Reduce sprawl and increase productivity by implementing a unified market-based land pricing system for both rural and urban areas.*
- *Foster liveable, highly productive, and efficient cities through flexible people-caentered planning.*
- *Facilitate the development of clusters by improving connectivity of people and businesses.*

(The World Bank, Development Research Center of the State Council, 2014, p. 124 f.)

These economic goals certainly make sense from a planning point of view as well and they will definitely influence people's lives. But nevertheless, these are just suggestions. The real influence comes from the plans and policies the national and local governments make.

According to *China's National Urbanization Plan 2014-2020*, China planned to reach an urban population of 60 percent by 2020. This calls for an additional 100 million people living in cities (Zhang, LeGates, & Zhao, 2016, p. 371). Other prognoses expect a growth of further 250 million people in the coming two decades (The World Bank, Development Research Center of the State Council, 2014, p. 81). But growth cannot be limited to the necessity of providing living quarters. As Zhang, LeGates and Zhao put it: "*Social development requires a large amount of government support. Fully urbanizing an additional rural and semi-urban migrant population of over 100 million by 2020 is a tremendous task and large public financial resources are indispensable. If urbanization is to maintain such a high development speed, economic growth needs be maintained at a high level to provide money for income distribution and social welfare.*" (Zhang, LeGates, & Zhao, 2016, p. 357)

This ambitious goal becomes even more ambitious when considering the changes China's society is going through. They are numerous, and they will get more and more diverse, as the population is changing. New needs will occur and become more important. One example is China's aging society. According to Zhang, LeGates and Zhao (2016, p. 362), there are two different ways by the *United Nations* (*UN*) to measure whether a population is "aged" or not. According to both ways of measurement, population over 65 years old as contrasted with children under 14 years old, and the proportion of the population over 65 years old to the total population, China has an aged population. The aging society, of course, is just one example to illustrate how important it is that China uses its now existing wealth for a socially sustainable and socially just development.

This chapter does by far not cover all aspects of China's urban growth. Nevertheless, it gives an impression of the different influences Chinese urban development had and has to face, with a focus on those things that seem to be important for this thesis:

- China's urbanization is planned. It started decades ago and is ongoing right now.
- China's economy is growing on a high level, offering great possibilities for investment in needed (social) infrastructure.
- Urban planning needs to be more inclusive as the needs of a changing and aging society will change.
- China's current urbanization patterns harm its economy, the social welfare of its citizens as well as their health.

The developments outlined before have formed the cities of today, and they will do so in the future. If China succeeds in planning for a more inclusive society, this will certainly change its cities' structures and their societies. Inclusive city development will have to face these issues on multiple levels. At least it seems that China is tackling these issues more than ever with (urban) development plans on many different levels. The future will show how sustainable these plans really are.

3.2 City development in Shanghai on a regional and local scale

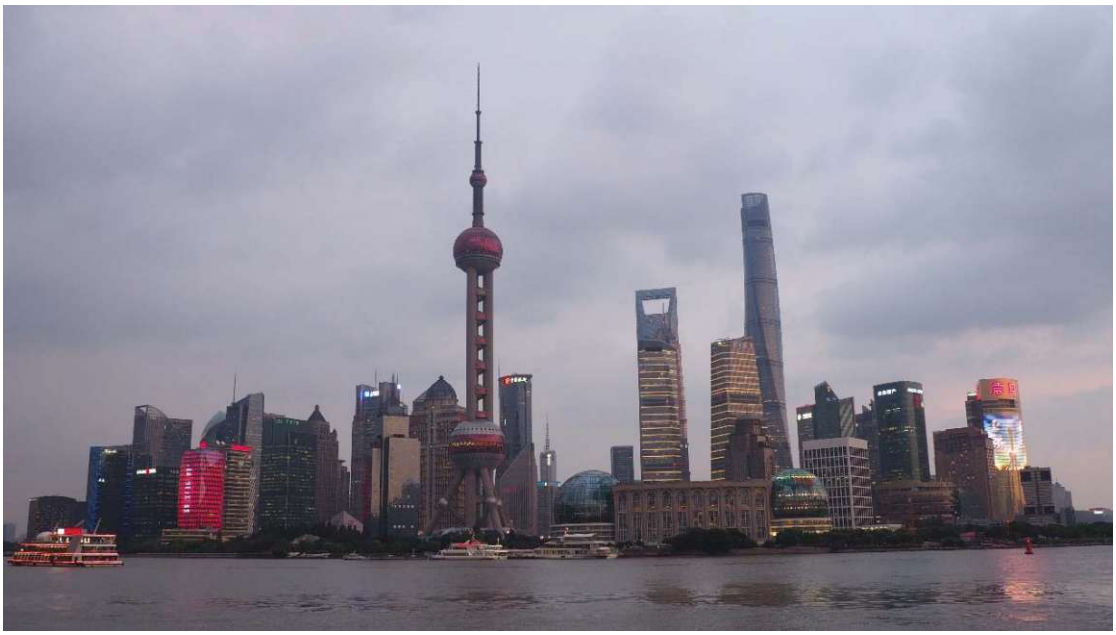

Figure 3.4 View on the skyline of Pudong
Source: author

Figure 3.5 Shanghai location
Source:
https://en.wikipedia.org/wiki/Shanghai#/media/File:Shanghai_in_China_(+all_claims_hatched).svg

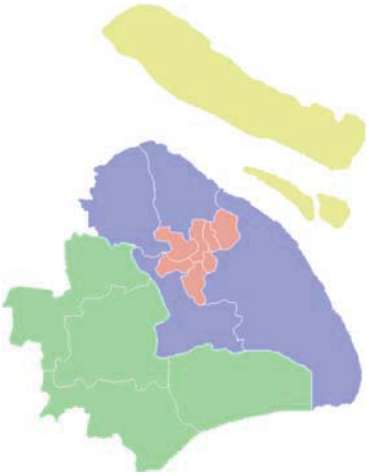

Figure 3.6 Districts of Shanghai
Source:
https://zh.wikipedia.org/wiki/File:ColorShanghaiMap.png

While previous chapters have addressed urban development on a nation-wide level, the further research regarding urban development is concentrated on Shanghai. The first part discusses the city's development in general, its population growth, its urban sprawl, and the prognoses for the future, while also providing and overview of the planning instruments in Shanghai. The second part discusses Shanghai's development from the city it was 200 years ago to the city it is today. Chapter 3.4 *Shanghai's gated Super Blocks* p. 42 and its sub-sections focus on the built environment and the most common residential typologies (and their history) and describe how they produced a city behind walls, fences and gates.

As it was shown before, Shanghai's urban growth is among the highest on a global scale (see 3 *China's urban development* p. 17) The city is one of Asia's most important financial centres and, not only because of its skyline, one of the best known cities in the world. Like the rest of China, Shanghai has undergone enormous changes during the past two centuries. The thesis focuses on these, since they have formed Shanghai as it is today. the most (regarding data on the city's population, the thesis focuses on a period of about 50 years).

The number of people inhabiting the city has risen drastically over the past decades. There have been six censuses since the 1950s, but only the last three of them use comparable time frames. However, when looking at the past three decades, one can recognise some trends (see 3 *China's urban development* p. 17 and 3.1 *A brief introduction to China's urban history* p. 19).

The categories used are often hard to compare. For example, the cohort of the 15 to 59-year-olds is by far bigger than the two others. However, the data shows how the number of people aged less than 15 is shrinking, while the number of people aged 60 years, and more is rising. If this trend goes on like this, it means that in future fever people will have to take care of more people in need. This issue does in fact exist on a national scale, as chapter 3.1 *A brief introduction to China's urban history* p. 19 shows.

When it comes to the future population development of Shanghai, it gets a bit more difficult. The United Nations generated a prognosis of Shanghai's development (see Figure 3.7 Population of Shanghai Agglomeration
Source:). But it is not clear how this forecast was generated. Also, the population numbers from prior years differ from those of the official census. If these numbers differ because of different statistical areas that have been considered, or if it is because of other reasons, is unclear. The data collected by the United Nations are marked to consider Shanghai's agglomeration. However, the numbers are constantly lower than the ones from the census.

Anyway, the prognosis shows further population growth. Shanghai's population is estimated to grow up to more than 30 million people in 2030 before the population

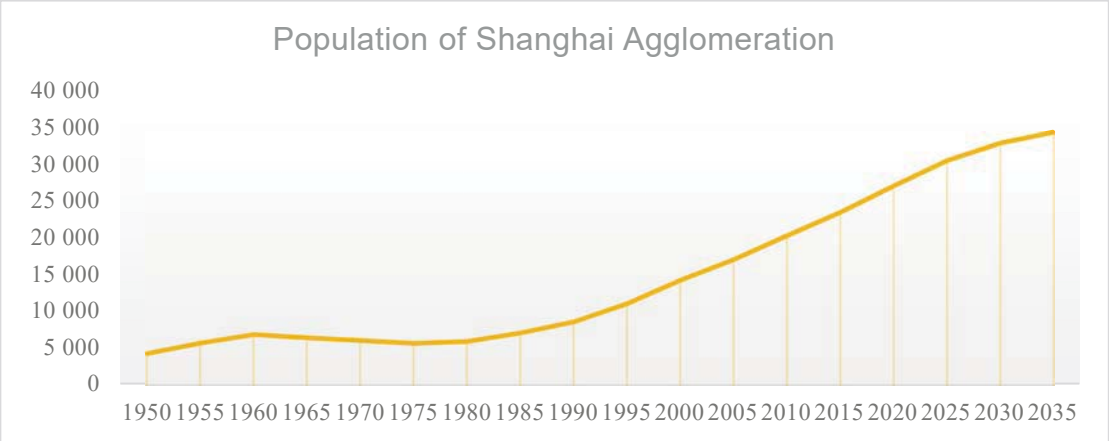

Figure 3.7 Population of Shanghai Agglomeration
Source: (United Nations, Department of Economic and Social Affairs, Populaion Division, 2018)

increase slows down.

However, there is no definite way of predicting that Shanghai will reach this population number since: *In order to mitigate the contradiction between rapid population growth and resource and environment restrictions, Shanghai will control permanent population within 25 million persons by 2020, and set population size of around 25 million persons as the goal for permanent population regulation by 2035.* (Shanghai Urban Planning and Land Resource Administration Bureau, 2018, p. 28)

If Shanghai actually limits the population to 25 million, it will not grow much further. The future will show the city's abilities to control its growth that strictly, but the *Hukou System* explained before (chapter *3.1 A brief introduction to China's urban history* p. 19) seems to be a powerful tool to reach a goal like this.

An issue coming along with this population growth is Shanghai's urban sprawl. The number of urban areas rose from 308 km² in 1984 to 1,302 km² in 2014, spreading out from the core city, taking over other cities and villages. And with the rising urban area the population density sank, from 8,700 people per km² in the year 2000 to 6,900 people per km² in 2010 (NASA, 2017). Even though the time periods are different, the trend is clearly visible (see page 29-30).

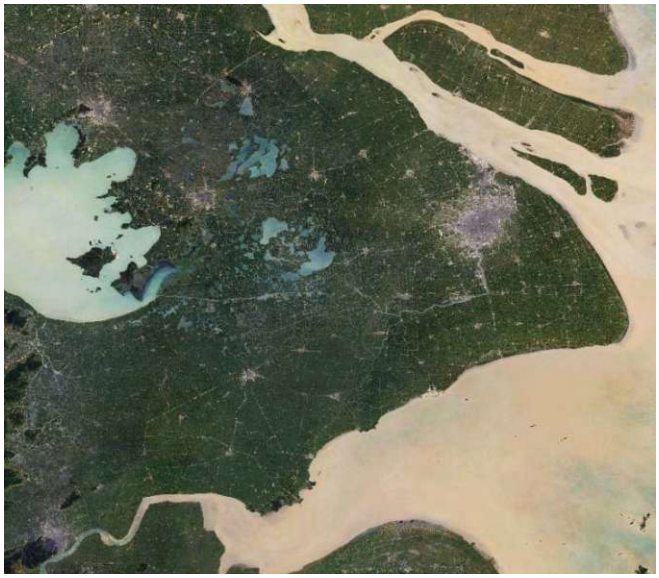

Figure 3.9 Shanghai's urban sprawl 1984-1988; Source (NASA, 2017)

Figure 3.8 Shanghai's urban sprawl 2013 – 2017; Source (NASA, 2017)

Figure 3.10 Shanghai's urban sprawl 1984
Source: (NASA, 2017)

Figure 3.11 Shanghai's urban sprawl 1989
Source: (NASA, 2017)

Figure 3.12 Shanghai's urban sprawl 1994
Source: (NASA, 2017)

Figure 3.13 Shanghai's urban sprawl 1999
Source: (NASA, 2017)

Figure 3.14 Shanghai's urban sprawl 1999
Source: (NASA, 2017)

Figure 3.15 Shanghai's urban sprawl 2004
Source: (NASA, 2017)

Figure 3.16 Shanghai's urban sprawl 2014
Source: (NASA, 2017)

Figure 3.17 Shanghai's urban sprawl 2016
Source: (NASA, 2017)

In order to deal with the issues of Shanghai's population growth, its urban sprawl and the many other issues it has to address, the city has different planning/regulatory instruments.

China in total (including Taiwan) has 23 provinces, four autonomous regions and two special administrative zones with planning documents on various scales. However, Shanghai, as well as Beijing, Tianjin and Chongqing are exceptions to this, as they are so called *direct-administrated municipalities of China*. Those municipalities are governed differently than the other 23 provinces with planning tools on different levels of administration.

On the one hand Shanghai itself has the before mentioned *Shanghai Master Plan 2017-2035*. However, this plan is very unspecific and seems only to show general planning goals of the city, without any formality.

On the other hand there is the *Urban Comprehensive Plan* (*UCP*). The last *UCP* was active from 1999 to 2020. The new plan will be valid from 2020 to 2040. It covers different topics, such as land use, transportation and other technical infrastructure as well as other facilities and infrastructures. Parts of the *UCP* are the *Urban System Plan,* with planning strategies on a higher scope (similar to most European cities), the *Municipal Land Use Plan* (also very similar to most European cities) as well as a *Regulatory Detail Plan* (similar to a lay-out plan). All of these plans are formal planning instruments and each scale has to fit the parameters given by instruments on a higher scale. (Ren, Mekigrana, Zhang, & Campbell Anderson, 2008, p. 271)

3.3 Shanghai's three eras of urbanization

It is hard to describe a city as big and diverse as Shanghai. The past decades have formed a city as unique as it can be. Due to its scale and its importance for the whole country, its (urban) development is an important issue, and has ever been. When reading about Shanghai's and Chinese city development, it seems that there has been a high focus on quantity and outside representation to the outside, especially when it comes to famous cities as Shanghai, Beijing and Shenzhen.

To organize its development, Shanghai still follows the *Shanghai Comprehensive plan 1999-2020*. The plan is often referred to as *1-9-6-6* plan: 1 central city, 9 satellite cities, 60 central towns and 600 central villages. These units cover all of Shanghai's administrative area. At the beginning of the new decade the city tried several approaches

to combine quality of urban life and developing new industries at the same time. (Sha, Wu, Ji, Li Ting Chan, & Qi Lim, 2014, p. 16).

But Shanghai's urbanization entails more problems. One big issue is environmental sustainability. The plan of using one third of Shanghai's area for urban development, one third for agriculture and one third for ecological land use has already proved impossible, since the urban land already extended to half of the land in 2014.

Shanghai today is a city that seems to have almost the entire technical infrastructure it needs. The street layout is set, including highways and metro lines (Sha, Wu, Ji, Li Ting Chan, & Qi Lim, 2014, p. 17). There is no doubt that the city can still change in ways nobody might be able to imagine. With its built structures, Shanghai is at a status that other Chinese cities will only reach in up to 20 years (ibid.). If the City can make the shift to a more qualitative and inclusive planning approach, it can again be a pioneer and an example for other Chinese cities.

Obviously, there is more to Shanghai's urban development than population, infrastructure, sprawl, and density. It is, besides many more factors, also a product of its past. In its three eras of urbanization, Shanghai has become the financial centre of China that it is today (Sha, Wu, Ji, Li Ting Chan, & Qi Lim, 2014, p. 9). The following chapters show how different time periods formed the city up to its present status. While doing so, it focusses on the built environment to explain the city's urban fabric, including the issues Shanghai's gated residential areas bring with them.

3.3.1 The first era of urbanisation – Introducing the Lilong

The first phase of urbanisation began almost two centuries ago, in the 1840s, as a result of forced settlements established by the British and the French north of the, back then, walled city of Shanghai. Over the time more and more Chinese moved to the foreign settlements. Especially wars drove Chinese settlers near the Europeans, since they provided more safety. The foreign settlers not only developed Shanghai as an important trade hub, but also brought industrialisation into the town. (Sha, Wu, Ji, Li Ting Chan, & Qi Lim, 2014, p. 9)

The development of that time is still reflected in Shanghai today, especially in its residential areas, since the residential compounds named *Lilong* originated at this time, as an answer to the urgently needed development of housing. (Liang, 2008, p. 483)

For about a hundred years, from around 1850 to 1950 the *Lilong* was the dominant form of residential development in Shanghai. The name is a combination of the Chinese term for gated residential compounds, *li*; and the term for the alleys inside these areas,

alone which the individual buildings were positioned, called *long*. (Liang, 2008, p. 483)

Although everything began with new regulations, allowing foreigners to build residential compounds (just for other foreigners) in parts of *Shanghai* (Liang, 2008, p. 482 f.), according to Chen (2011, p. 5) and Rowe (2005, p. 124) the number of *Lilong* communities in the city reached up to 9000, with more than 200,000 single buildings. Some of the communities allegedly had more than 200 houses. Although these numbers could not be checked, since the original source was not found, they confirm the picture of a clearly dominant typology. (cf. Castañeda, 2018, p. 26 f.; Sha, Wu, Ji, Li Ting Chan, & Qi Lim, 2014, p. 37)

The extensive use of this type of housing started in the middle of the 19th century, when, due to immigration, the need for housing got drastically higher, and a new type of housing that could be built quickly became necessary. (Liang, 2008, p. 483)
The *Shikumen* (stone-framed housing), a form of housing unit (mostly two stories high), is the origin of many later building types. "*The* Shikumen Lilong *represents an economic opportunity responding to a housing shortage, where European and Chinese landowners invested in the development of a speculative mass housing model based on the* Shikumen *unit prototype.*" (Castañeda, 2018, p. 28 based on Chow, 2015)

The different patterns of Western and Chinese settlements led to a typology of houses and communities formed by both influences. The similarity to the European model of terrace or row housing are easily observable. (Arkaraprasertkul, 2009, p. 13). Beside the new design, also new regulations and the development of whole city blocks by single investors was introduced to *Shanghai*. (Liang, 2008, p. 482 & 486)

At the beginning, the single buildings' design was luxurious, compared to the later versions, since they were used by well-situated Chinese and foreigners. (Liang, 2008, p. 486) Behind the eponymous entrance was a courtyard, functioning as entrance area to the building. At the beginning of this development, the *Shikumen* was designed to accommodate a single family (see Figure 3.18 and Figure 3.23)

This new urban development eventually replaced the system of courtyard houses, each built individually (resulting in a more organic city growth). The traditional form of Chinese town planning is reflected in some of the *Lilong's* characteristics. The compounds are surrounded by walls (and can be closed with gates if needed), just like the individual residential buildings protect their forecourts with walls or gates. Shops, merchants, and businesses of all kind were oriented to the streets. (Liang, 2008, p. 488)
Since: *Important as it was to the booming urban economy, the street was considered*

indecorous, dangerous, and morally inferior to walled domains. This spatial hierarchy corresponded to the Confucian social ladder, on which merchants were assigned to a very low rung. (ibid.)

These are traces of an urban structure, that has centuries of tradition in China. However: *The uniqueness of the* li *in the foreign settlements of Shanghai lay in its synthesis of some features from these two urban models: on the one hand the mass production of* li *houses was to some extent comparable to the imperial planning of the residential wards; on the other hand the joint commercial production of the li by foreign landowners and local craftsmen, besides adding vernacular motifs to the rational layout, gave a new meaning to the amorphous street—its meandering form already straightened. By integrating the enclosed compound with surrounding streets and shops, the* li *erased the borderline between orderly walled spaces and promiscuous streets, to the extent that the walls' functions of enclosure and protection were weakened.* (ibid.)

At the beginning of the 20th century, population growth reached a new level and the need for housing became even more urgent. On the one hand, the traditional *Shikumen* were sub-divided in order to let it to more tenants, forcing them to share the kitchen and sanitation (Johnston & Erh, 1992, p. 12) resulting not only in a structural, but also a social shift in the communities. (Arkaraprasertkul, 2009, p. 20)
As another answer to these new needs, the so-called *New Style Shikumen* was developed. The single housing units were reduced to a third of the original *Shikumens'* floor space area with only a small version of the frontcourt (see Figure 3.19 p.35). At the same time the lanes were widened (in order to make space for vehicles). (Junhua, Modern urban housing in China: 1840–2000, 2001, p. 67)

As mentioned before, the traditional *Shikumen* in Shanghai already blurred the definition of public streets and semi-private alleys. Although the main alley (*long*) and the dead-end side alleys (*longtang)* already functioned as an extension to the forecourt (Liang, 2008, p. 488) the new development increased the shift of uses from the private space inside single houses or apartments to the open alleys (Junhua, Modern urban housing in China: 1840–2000, 2001, p. 67).

As shown, especially *Shanghai's Lilongs* marked a new era of residential compounds. For centuries, Chinese cities were shaped by courtyard-housing, developed individually, and resulted in a more organic urban development and a strict separation of uses, as well as private and public spaces. (Liang, 2008, p. 488)

However, the new *Lilong*-development, which was originally only supposed to

ensure standardized and faster development, has in the end broken up usage structures and introduced new forms of semi-private space to Shanghai.

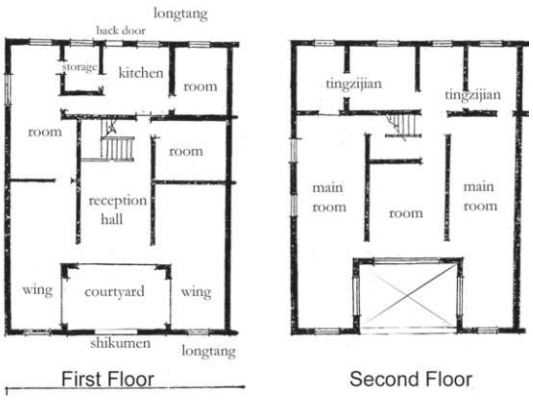

Figure 3.18 Plan of first and second floors of a typical li house in the foreign settlements of Shanghai, ca. 1910–30
Source: (Liang, 2008, p. 487)

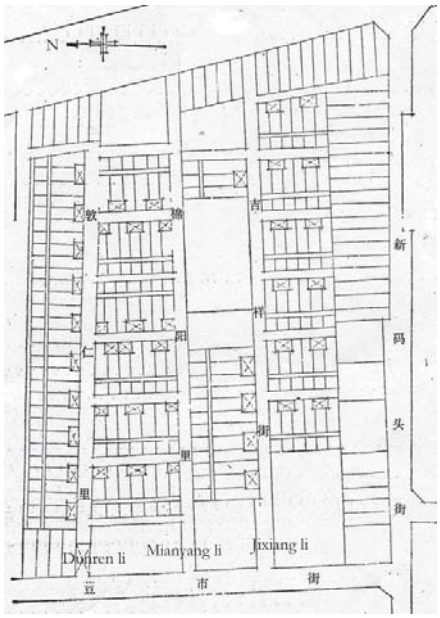

Figure 3.19 Site plan of Dunren li, Mianyang li, and Jixiang li, Shanghai, 1980s
Source: (Liang, 2008, p. 489)

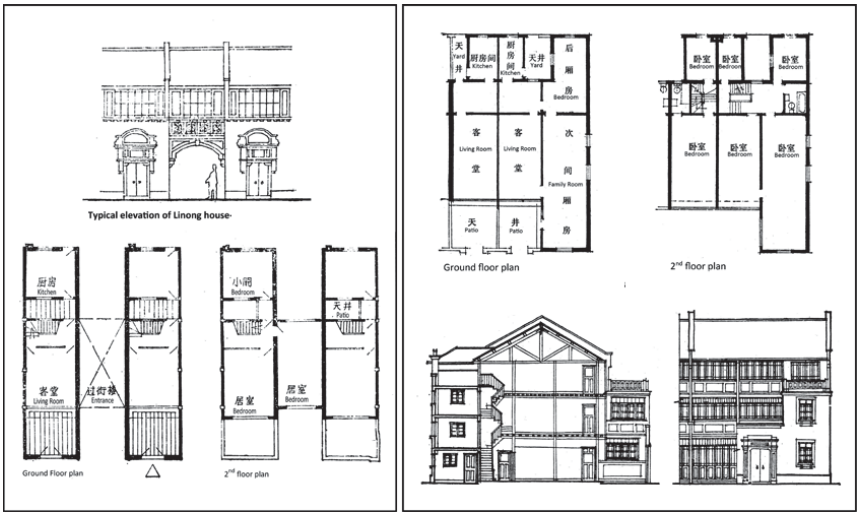

Figure 3.20 Typical floor plan, section and elevation of Linong houses
Source: (Sha, Wu, Ji, Li Ting Chan, & Qi Lim, 2014)

3.3.2 The second era of urbanisation – Introducing the Danwei

After the foundation of the *People's Republic of China* (*PRC*), Shanghai's role as an industrial centre increased, since it had to carry most of the weight of rebuilding China's economy. The city soon became China's "*[...] greatest manufacturing site, converting from a consumer city to a production city."* (Sha, Wu, Ji, Li Ting Chan, & Qi Lim, 2014, p. 10)

But the establishment of the *PRC* and the rise of the *Chinese Communist Party (CCP)* in 1949, not only marked a changing point for society and economy, but also for the face of Chinese cities. This is, when the city's second phase of urbanisation began. This period can be divided in two parts: The Mao-Era from 1949 to the late 1970s and the reform period from then to the 1990s.

For many years, Shanghai produced up to 10% of China's total national revenue (Min, 1993). The development of industry and infrastructure was complemented by massive planned immigration to the city. Critics say that the city development of that time cannot be called urbanisation since the industrial areas with attached housing, the so-called *Danwei*, did not produce urbanity. (Sha, Wu, Ji, Li Ting Chan, & Qi Lim, 2014, p. 10)

It was the claim of the Chinese government to accommodate the new armies of workers in a way that corresponds with socialist values. This marked the rise of the *Danwei* (Chinese for *unit* or *worker's unit)*. These state-owned units, consisted of a factory on the one side, as well as the workers' (and their families') living quarters, but also social infrastructure and other facilities, needed for their daily lives. (kindergartens, schools, healthcare, etc.). (Sha, Wu, Ji, Li Ting Chan, & Qi Lim, 2014, p. 10 f.)

Even though these units marked a radical change in the city's structure and improved housing conditions compared to older structures in Shanghai (Sha, Wu, Ji, Li Ting Chan, & Qi Lim, 2014, p. 23), one particular element stayed mostly the same, since these new compounds were mostly: "*[...] walled, gated and guarded.*" (Huang & Low, 2008, p. 183)

The residential compounds of the *Danweis* are called *New Villages*, and in fact, they have a lot in common with a village. As mentioned before, these areas included social facilities and provided all the resident's daily needs. Furthermore, they created a proximity to the people's workplaces, making it unnecessary for most people to leave their *Danwei*. (Chai, 2014, p. 185) Summed up, this led to two major outcomes

regarding social structure. On the one hand, this system is said to produce a sense of community and social integration, but on the other hand, it led to a spatial and social separation between the single communities. (Bjorklund, 1986, p. 25 f.)

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The *Danweis* were mostly built at the borders of the, cities existing. (Sha, Wu, Ji, Li Ting Chan, & Qi Lim, 2014, p. 10) They mark the beginning of the Chinese *Super Blocks*, as they often were built in blocks of 400 times 400 meters (some even more) with wide roads, and a large street grit. A structure that continues in modern city development. (The World Bank, Development Research Center of the State Council, 2014, p. 140 f.)

Over the course of time, the face of the socialist communities changed. At the beginning, buildings were two to three storeys high and had a high coverage of green space. But soon this model was not efficient enough anymore. From the 1960's onward, buildings got higher, up to four or five storeys. Kitchens and washrooms were shared as before. From the 1970s onwards, buildings got even higher again (six to seven storeys) and compounds had a much denser layout. However, in the 1980s and 1990s

new forms of the *New Villages* appeared, breaking with the paradigm of row housing, and introducing new forms like the point typology. Old and new forms were constructed as mid- and high-rise buildings, with a focus of providing high quality open spaces and new public facilities. However, the end of the *Danwei* era had already begun. This was especially due to the fact that: "*[…] contrary to Shanghai's contribution to the country, the Shanghainese quality of life kept falling. Up till the early 1990s, Shanghai's average living space per capita, green space per capita, public transport situation and other key indexes of living conditions ranked among the country's worst. It was also during this prolonged period of declining living conditions that Linong* (Note: different name for Lilong) *areas and other historical areas became extremely densely populated, giving such places a slum image.*" (Sha, Wu, Ji, Li Ting Chan, & Qi Lim, 2014, p. 13)

But already before that, in the late 1970s, after Mao Zedong's death, a process of transition began in China. Part of this modernisation was a housing reform. Additionally, there was a change in the tax system, that shifted planning and construction funds to local governments, strengthening the role of local governments in planning processes. This made it possible to manage infrastructure and planning decisions on a local level and facilitated a development initiated by local authorities. (Sha, Wu, Ji, Li Ting Chan, & Qi Lim, 2014, p. 13)

"*On the one hand, this change brought about a rapid improvement in basic urban infrastructure and a substantial improvement in the living conditions of the public. Shanghai's living space per capita rose from 6.9 m 2 in 1992 to 13.1 m 2 in 2002. On the other hand, such rapid development has also raised questions and criticism of various aspects of the city's history, culture and social problems.*" (Sha, Wu, Ji, Li Ting Chan, & Qi Lim, 2014, p. 14)

The housing reform resulted in the emergence of a private housing market, with private property developers, on the other hand, in the privatisation of existing state settlements, the *New Villages*. "*Households are encouraged to purchase their occupied public dwellings at subsidized prices or to buy commodity housing at market prices.*" (Huang Y. , 2005, p. 196) From this point on, the city changed drastically. Many tenants of *Danwei* "*[…] with favorable locations near city centers have simply sold their old compound site and relocated elsewhere."* (Chai, 2014, p. 186) In particular, the dissolution of social institutions and the link between the place of residence and the workplace changed the image of the city permanently: "*The spatial transformation has*

resulted in changes to both residents' daily life and economic development. With the relaxation of previously rigid spatial restrictions, residents began to enjoy expanding spaces of personal autonomy […]." (Chai, 2014, p. 186)

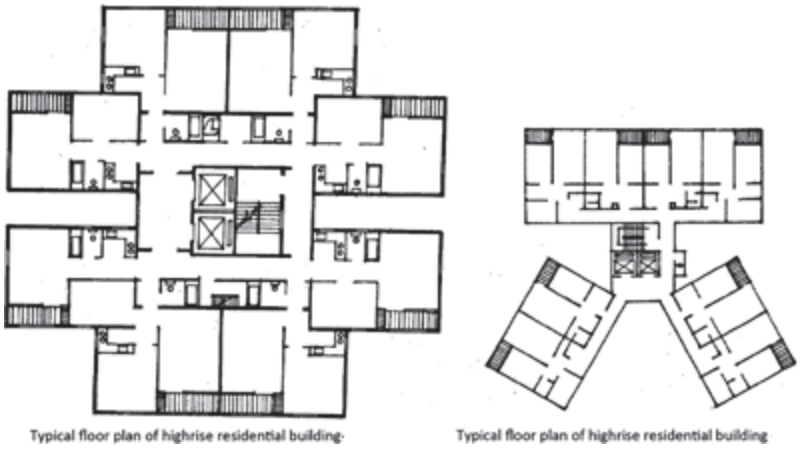

Figure 3.23 Source (Sha, Wu, Ji, Li Ting Chan, & Qi Lim, 2014, p. 25)

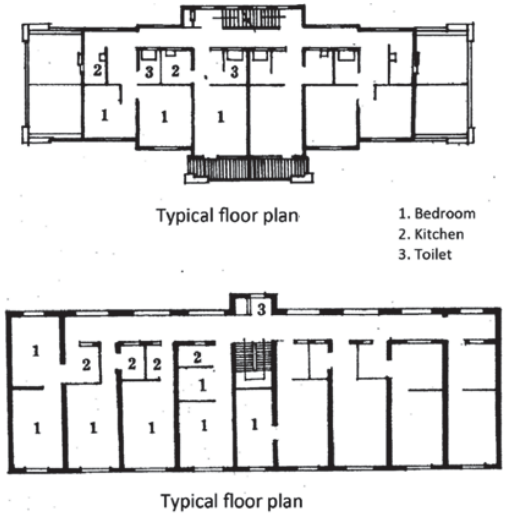

Figure 3.21 Source (Sha, Wu, Ji, Li Ting Chan, & Qi Lim, 2014, p. 25)

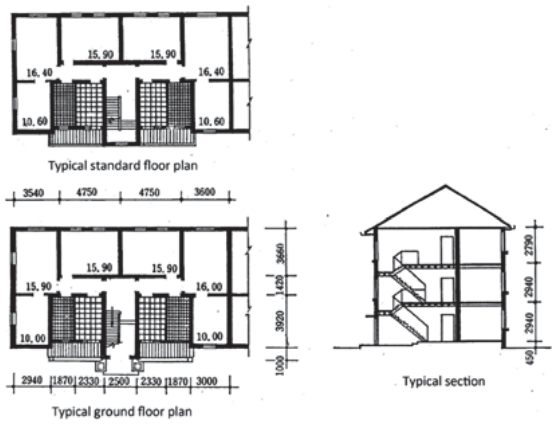

Figure 3.22 Source (Sha, Wu, Ji, Li Ting Chan, & Qi Lim, 2014, p. 25)

3.3.3 The third era of urbanisation – Introducing the Xiaoqu

The 1990s finally introduced the third (ongoing) phase of Shanghai's urbanisation. The most prominent product of this time is the skyline of *Pudong* (see Figure 3.4 p. 26). But this *Central Business District*, developed in only a decade (Sha, Wu, Ji, Li Ting Chan, & Qi Lim, 2014, p. 54), is only the symbol of a much bigger change in Shanghai: The disengagement from residential and work areas, in contrast to what was practised before (see chapter 3.3.2 *The second era of urbanisation – Introducing the Danwei* p. 36). "*This trend, together with the influx of rural-urban migrants, has produced an urban society that is more fragmented, heterogeneous and divisive therefore providing a recipe for urban unrest.*" (Nguyen, 2013, p. 216) The economic, social and ecological impacts were various. Many of these changes are manifested in China's built environment.

Starting with the years of the transformation, China started to experiment with different building typologies, housing depths, apartment layouts as well as management forms. (Junhua & Shao, 2001, S. 204 ff.) "*When compared with the 1980s, the variety of housing today is not merely reflected, but is an objective reflection of differing social lifestyles.*" (Junhua & Shao, 2001, S. 266) But it is not just a reflection of different lifestyles. It is also a reflection of rising disparities in the country at this time (The World Bank, Development Research Center of the State Council, 2014, p. 6) and therefore reproduces the segregation of different socioeconomic groups. (Huang, 2005, p. 196; Wu & Li, 2006, p. 700 ff.)

In the city of Shanghai (as in other cities too), all these changes are reflected in so called *Xiaoqus*. They are much less homogenic in style and layout as prior typologies, but especially in the form of compounds with high-rise residential buildings. Due to the diversity of *Xiaoqus,* an exact definition is difficult. In her thesis, Fabienne Wallenwein (2013) summarises different definitions and formulates four different key elements. According to her, the *Xiaoqu* can be defined as a gated residential community that includes (depending on size and prosperity) different social as well as public infrastructure and whose residents share a certain lifestyle or culture. Though, the expressions used to be examined more closely, since some of them are clearly misleading.

Although the *Xiaoqu* is an enclosed compound, it is not necessarily cut off from the rest of the city. Some of them might be penetrable by externs. However, they are

often not only gated but also guarded by security workers or with electronical system. (Wallenwein, 2013, p. 24 f.) The strictness of the execution varies from case to case.

Also, the term public infrastructure is misleading in this case. It is more about semi-private or semi-public functions (see chapter 4.2 *Semi-private and semi-public* p. 57). The functions included are often parking lots for the residents, semi-private parks and plazas, but also fitness centres, sports facilities, swimming pools and so on, but also, shops, barbers and other services like kindergartens. There are only few limits if one is willing to pay the price. In some cases, there is also real public infrastructure like schools or post offices. (Wallenwein, 2013, p. 28) Many of these functions and services certainly have the potential to take over the functions of walls and gates. Yanwei Chai explains the concept of the distribution between public facilities as such: "*Of the daily-life circle, only the residential quarter is the walled compound. And the formation of residents' daily-life space is completely based on their own choice."* (Chai, 2014, p. 187) The closed residential area is supposed to "*[...] create a quiet environment and a platform for social interaction.*" (ibid.) Maintenance of the infrastructure is financed by all residents. (Wallenwein, 2013, p. 30) Of course, the different design is not limited to the exterior. Also, the building itself, and apartment sizes can differ greatly.

When describing social features of the community Wallenwein mostly focuses on social institutions and activism, such as the often existing homeowner's committees, a coalition of different homeowners, who protect the rights of homeowners against the development companies. (Wallenwein, 2013, pp. 31-33) Li Zhang (2012, p. 8) argues, that such kind of "*property-based activism*" can help to construct a social identity. While the importance of a social identity is clearly understood, it is doubtful whether such an approach is sufficient. Other signs of a community identity can also be smaller signs, like people engaging in activities together (e.g. Tai Chi).

Finally, a *Xiaoqu's* residents are said to often have a kind of lifestyle or culture in common. It is more than just the similarity of their socio-economic status. How that can express itself is difficult to say. This can be defined by certain activities, financial status, or other. (Wallenwein, 2013, pp. 33-36) Developers act on that, and therefore advertise in order to not only sell the single housing units, but also a lifestyle. For example, exterior design gained in importance to many potential buyers, in order to practice certain activities. This change is also reflected in the names of many communities that have been given names such as "garden", "plaza" or other exclusive expressions. (Junhua & Shao, 2001, S. 276) "*Consequently, citizens show great interest in the*

environment of the residential area as a whole during their home purchases, as well of the social strata of neighbours and the meaning of the area's architectural image." (ibid. p. 272)

3.4 Shanghai's gated Super Blocks

As the previous chapters show. The city of Shanghai has a long history of gating its residential communities. With the rising block sizes in the time the *Danweis* have been introduced to Chinese cities, one can clearly speak of *Super Blocks*. This chapter takes a look at the concept of *Super Blocks*, the origin of the term, and how the general concept can be implemented in Shanghai.

Super Blocks are mostly related to Barcelona, Spain. The concept was first presented in the city's *Urban Mobility Plan*. Nine of Barcelona's street blocks, well known for their strict raster, form a unity, a *Super Block (*see Figure 3.22 p. 39*)*. Each of those is surrounded by a high priority street network, while within the block, traffic is reduced by limiting the allowed car speed, redesigning the street, and making it more pedestrian and bike friendly. This results in a decline of air pollution, noise pollution and other issues linked to individual motorized transportation (Ajuntament de Barcelona, 2014, pp. 7-17). In an interview *Salvador Rueda*, director of the *Urban Ecology Agency of Barcelona,* and alleged inventor of the *Super Block,* said that, if the concept is fully implemented motorized traffic can be reduced by up to 21% (Valerio, 2016).

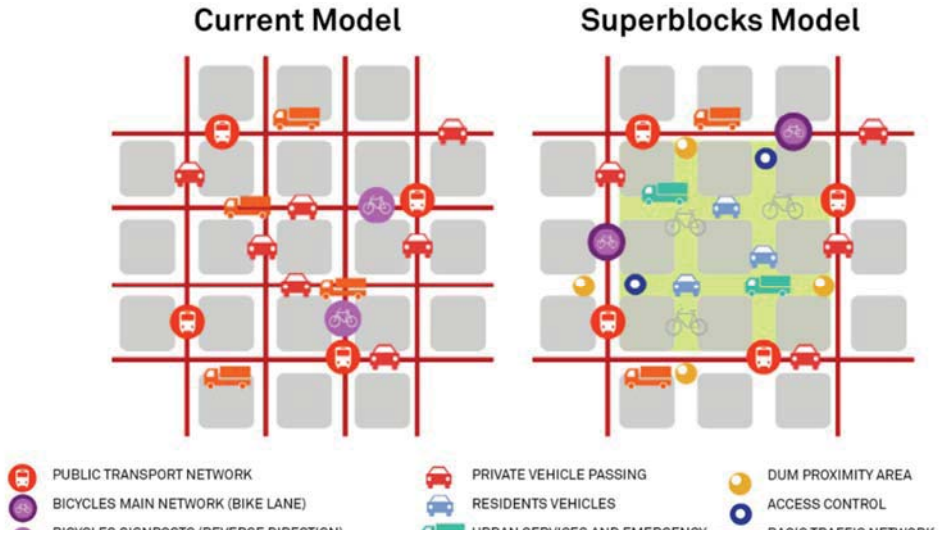

Figure 3.24 Barcelona's *Super Block* Model
Source: (Ajuntament de Barcelona, 2014, p. 10)

The concept as implemented in Barcelona cannot be used the same way in Shanghai. Nevertheless, there are many similarities. To start with, the following figures show different block sizes in cities around the world, in order to help understand the dimensions of Shanghai's layout (see Figure 3.24 to Figure 3.29). All examples show residential, or mixed-use urban areas.

As the figures show, one of Barcelona's blocks is approximately 130 x 130 meters. One *Super Block* is therefore about 450 meters wide (with streets). This is comparable to the same size of one of the *Super Blocks* of Shanghai. However, there is no definition what qualifies as *Super Block* and what does not.

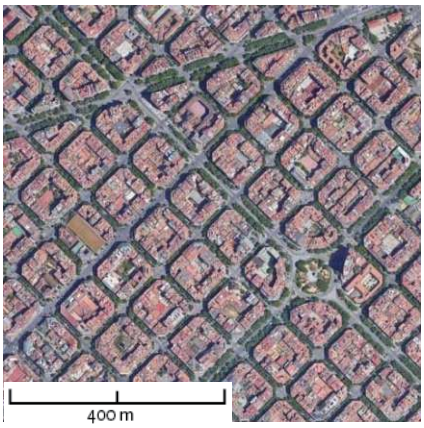

Figure 3.25 Blocks in Barcelona
Source: Google Earth

Figure 3.26 Blocks in Manhattan
Source: Google Earth

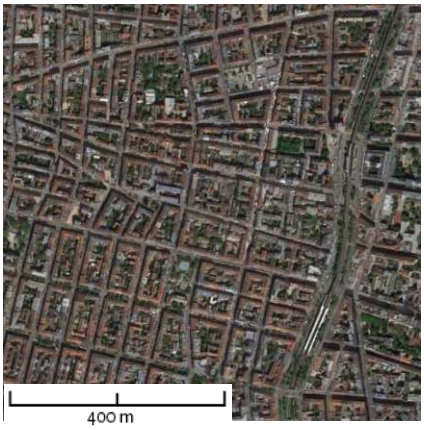

Figure 3.27 Blocks in Vienna
Source: Google Earth

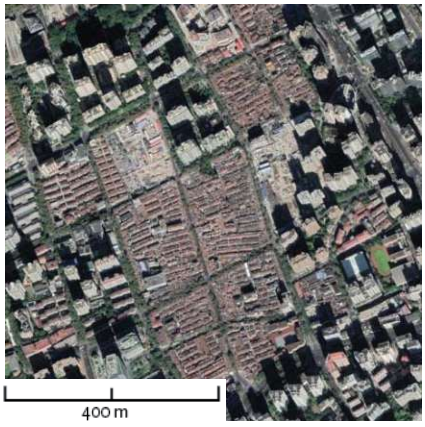

Figure 3.28 Lilongs in Shanghai
Source: Google Earth

Figure 3.29 Danwei in Shanghai
Source: Google Earth

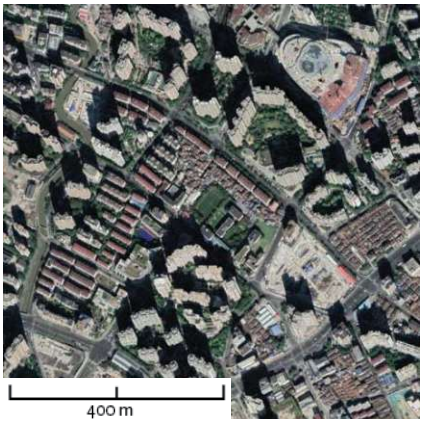

Figure 3.30 Xiaoqu in Shanghai
Source: Google Earth

When comparing the goals of the *Shanghai Master Plan 2017 – 2035*, which are discussed in chapter 2.2 *Approach and research question* p. 5 and the goals from Barcelona's *Urban Mobility Plan* (Ajuntament de Barcelona, 2014, pp. 7-17) it is evident that both plans follow the same two narratives (besides others):

- Create a more "walkable" city
- Create more public/public-accessible open spaces

However, the two systems do not seem to have more in common, than their size, and the issues going along with them. According to the *World Bank* and the *Development Research Center of the State Council* (2014, p. 141), the history of China's *Super Blocks* begins with the construction of the first *Danwei*. These Blocks often range from 400 to 800 meters (see chapter 3.3.2 *The second era of urbanisation – Introducing the Danwei* p. 36). In *Puxi*, the inner districts of Shanghai, there are also much smaller blocks. But in most cases, they are still bigger than examples from many other countries. Additionally, it has to be stated that also older structures, the *Lilongs*, show block sizes far bigger than the Western examples. But the big problem for Shanghai's future is that the new system of *Xiaoqu* does not change that systematically. This is due to planning and financial regulations.

In order to develop one of the blocks, every resident or "owner" has to be compensated. This is mostly done by a government backed *Urban Development Investment Corporation* (*UDIC*). This corporation has to negotiate with every "owner", since new development in only a part of a community is not possible due to Chinese planning regulations. As a result, small scale development is not possible, a system that

favours large developers with the necessary financial and time resources. This works the same way for residential, commercial, or financial industry development. (The World Bank, Development Research Center of the State Council, 2014, pp. 140-141)

According to the the *World Bank* and the *Development Research Center of the* State Council, P.R. China (2014, pp. 141-142), in order to compensate lower possible building coverage ratios – due to regulations – the city grows vertically, resulting in the need for wider distances to other blocks, and therefore setbacks from the street space, limiting the connection between street and building. All these practices together lead to three negative effects:

- Overly large Super Blocks that are not divided into smaller blocks
- Over-dimensional roads focused on motorized traffic and not on pedestrians or other forms of transportation
- The absence of a road-system based on providing certain functions

Shanghai shows that this is only partially true. At first, there are big differences between the *Xiaoqu* compound, and the *Danwei*. Additionally, the central parts of Shanghai in fact show streets with ground-floor use and smaller blocks. Anyway, the street space is in fact mostly focused on motorized traffic. Sidewalks are often too narrow to hold all the functions they are needed for, such as walking, parking bicycles and e-scooters, drying clothes, and leisure activities, just to name some.

But what can Shanghai learn from Barcelona? When looking at the previous chapters and the description of the *Super Block* model from Barcelona, a major difference is obvious. While Barcelona tries to generate *Super Blocks*, the existence of Shanghai's *Super Blocks* is linked to many of the problems the strategy in Barcelona is supposed to solve.

The reason for this contradiction lies in the details, and in a Chinese and Shanghainese phenomenon, which has been mentioned in many previous chapters: The gates, walls and fences that enclose the city. According to Dieter Hassenpflug (2010, p. 49), 83% of the city's residential communities are gated.

As chapter 3.3.2 p. 36 to 3.3.3 p.40, as well as the case studies show (chapter 3.3.2 p. 36 to 3.3.3 p. 40), the spaces in between these communities are quite different. Nevertheless, what they all have in common, is a system of streets and/or paths. While

Barcelona sees the need to create such a system to provide certain qualities, this system already exists in Shanghai. But this small grid system is locked away behind walls, fences, and gates.

Typologies and uses are very different in both cities, as well as their historical, social, and cultural background. Only tearing down walls and fences is probably as little promising as just blocking roads. For a successful implementation, of more open communities, there is a need for inclusive concepts. But, while Barcelona has a clear concept of how to test and implement the system, Shanghai is still at the level of "first ideas". There is no concept just analysis, suggestions and demands from experts.

As the research has shown, all the three main residential typologies are as diverse as they can be, even though they have some things in common. Furthermore, their relevance for Shanghai's further development is different. *Lilongs*, as well as *Danweis* are not built anymore. But for now, it seems as if mostly *Lilongs* (and older structures) are torn down in order to make room for the new *Xiaoqu*.

In theory, it seems as if officials already share the point of view that the gated compounds, especially the *Danwei* and the *Xiaoqu,* do harm to the city. But in practice, it still takes a lot of persuasion. Also, the government's plan to open gated communities does not state what kinds of compounds are exactly addressed (cf. Hui, 2016). The city of Shanghai does not mention the aim of opening of communities directly but it mentions many goals that can be connected to it (see chapter 2.2 *Approach and research question* p. 5, like increasing walkability, the reduction of air pollution, and the implementation of new public areas.

There are multiple arguments in the call for a more open urban development with smaller lots. The most common and best researched argumentations are either of a financial or an ecological nature. There is also argumentation regarding city structure in connection with social structures and sustainability, but this is often not backed up by data. On the other hand, arguments with a stronger financial and ecological background are. And those often argue for smaller blocks and the use of the secondary and tertiary street grid too. Arguments regarding social issues on the other side argue against segregation and in favor of a mix of uses, therefore against the enclosure with walls and gates.

3.4.1 Excursus: Gated communities – a global phenomenon

Before closing the research on Shanghai's urban development, it is necessary to make a digression to look at the phenomenon of the city's gated residential compounds from a global perspective again. It is not uncommon that residential areas are enclosed by walls and fences. This is a global issue. The so-called gated communities can be seen all over the world. Therefore, it seems to be necessary to compare the global trend to the situation in China. "*From Los Angeles to Rio de Janeiro and Johannesburg, an archetype of militarized space, with electrified fences, impenetrable walls, and armed security guards, has developed, protecting and securing residential, commercial, and corporate zones from the dangerous outside world.*" (Lemanski, 2010, p. 289)

Although gated communities vary in local contexts, they all generate space that is enclosed and monitored. In most counties, especially wealthier of social classes seek the security these communities promise them. (Lemanski, 2010, p. 189 f.)

However, the social impacts of such communities are far beyond the effect they have on the people living in them in particular such, especially the segregation of citizens, mostly based on their wealth. Furthermore, such a development increases the privatisation of space, and therefore limits the usability for people wjp dp not belong to such a community. (ibid. p. 190)

Interestingly, the beginnings of Shanghai's gated compounds are very comparable to the global phenomena (see chapter 3.3.1 *The first era of urbanisation – Introducing the Lilong* p.32). It was during China's communist times, when the segregating functions based on wealth disappeared. So, it is questionable, if the *Danwei* is a gated community in a classical sense. Nevertheless, they separated people from each other (see chapter 3.3.2 *The second era of urbanisation – Introducing the Danwei* p. 36). However, the modern development of residential quarters brings back the segregation by wealth, with all negative effects related to it (see chapter 3.3.3 *The third era of urbanisation – Introducing the Xiaoqu* p. 40)

So, with a partial exception of *Danweis*, Shanghai's gated residential compounds are definitely gated communities as they appear in the whole world. They cut off citizens from valuable resources for their daily needs.

4 Public spaces in Shanghai

To generate a model for the evaluation of open spaces in gated communities, regarding a possible opening to a wider public, the thesis approaches the topic from two different angles. The first part of the thesis (chapter 3 *China's urban development* p. 17, and its sub chapters) mostly focusses on the physical, but also historical components of Shanghai's gated compounds, and while doing so, subsequently deals more with the issues of walkability, and the accessibility of infrastructure. This chapter, on the other hand, focuses on the other issue brought up by Shanghai's government: the supply and accessibility of open (green) spaces (see chapter 2.2 *Approach and research question* p. 5.

Before dealing with open space in Shanghai, it is important to say that the general necessity of public spaces is not questioned. On the contrary, the thesis assumes the importance of public spaces as proven. As Orum et al. put it (in a Shanghainese context): *Public spaces, such as parks and plazas, we have argued are very important to the life of people as well as to the cities of which they are a part. Such space provides the common ground on which people can meet, socialize, and exchange ideas with one another: it can be truly the site at which people can come together and help to create a civil order that moves beyond their own private lives and spaces.* (Orum, et al., 2009, p. 387)

A description well known from European contexts. But as mentioned in chapter 3 *China's urban development* p. 17, and its sub chapters, public space was regarded as rather unimportant in China for a long time. For centuries, life happened inside walls. According to (Gaubatz, 2008, p. 74), it was as late as in the 1950s that this changed. Then, China saw a rise in so-called "*cultural public spaces*", which Huang (1993, p. 219) describes as the places where society and state come together and interact, resulting in different kinds of public spaces (more in a theoretical, not a physical sense). Based on this definition, Gu (1999, p. 391) further defines five kinds of public spaces in China:

- state-generated public space
- society-originated, officially backed public
- societal public space
- dissident public space.

So, even though public space is often considered something relatively new to China, there are different concepts of public spaces, depending on their relation to the state, and their function for a political discourse. But regarding the physical forms and dimensions, China, first in the Mao-Era, seemed to orient itself on Soviet examples: "*grand public monuments, large public squares, and new city centres dominated the monumental landscape, while residential areas were formed on the low-density Soviet "superblock" principle*" (Gaubatz, 2008, p. 74 f.) The concept of public squares was only introduced back then to a wide public (Gaubatz, 2008, p. 76 based on Ellin, 1999).

In the reform era, beginning in the late 1970s, three phases of new concepts of public places have been introduced (Gaubatz, 2008, p. 75):

- 1978-1991: *... a new emphasis on landscaping and on fulfilling basic needs for redevelopment space.*
- 1992-1999 *... [implementation] of western styles, including the construction of new urban plazas and western-style pedestrian streets as fulfilment of sensory needs.*
- Since 2000: *...emphasis on environment and urban "green" spaces and a more varied approach that emphasises a wide range of both short-term and long-range needs.*

However, there is another trend in Chines cities (as in cities all over the world): The privatisation of public space. As Ellin (1999, p. 171) puts it: "contemporary built environment offers a dwindling supply of meaningful public space and that which exists is increasingly controlled by various forms of surveillance and increasingly invested with private meanings." This goes for the countless shopping malls, and the supposedly public space in them, as well as the squares that are often constructed in connection with them. But it also applies to the streets, which are "the main form of civic space in Chinese cities." (Miao, 2003, p. 52)

Another form of this privatisation of public spaces are the spaces inside Shanghai's gated *Super Blocks* (see chapter 3.4 *Shanghai's gated Super Blocks* p. 42).

The commercialisation and privatisation of public space in Shanghai indicates that free space is increasingly becoming an asset that is mainly reserved for the wealthy.

As this chapter shows, public spaces are considered something rather new in China. Still, especially in recent times, they are exposed to similar difficulties as in Europe (e.g. privatisation). However, current discussions lack two critical pieces of information. On the one hand, they lack a differentiation of types of the public spaces. Gaubatz (2008), for example, describes public spaces very generally, and only goes into detail when it comes to privatisation and commercialisation. An insight into other specific spaces is not provided. Orum's et all. (2009) research is a case study of certain public parks. So, information on other public spaces, like streets, or small plazas or openings in the street grid, just to name a few, is missing.

On the other hand, even though the literature addresses issues like privatisation and different grades of publicness, it does not classify it, or go into detail what the issues exactly are. Neither does it define certain grades of publicness. Nevertheless, there is evidence that open spaces are not evenly distributed between different socio-economic groups (as described before in this chapter).

Both pieces of information would be helpful in the further process of the thesis. Since it is believed that the key for opening up gated residential communities is the evaluation of the publicness of different spaces inside the communities (see 2.2 *Approach and research question* p. 5.

Since neither the research carried-out, nor the *Shanghai Master Plan 2017 – 2035* provides any insight into differentiations or demands, the further research first focuses on different approaches to evaluating or measuring publicness.

4.1 Measuring publicness

Measuring publicness is not a new topic and it is, and has always been, a controversial idea. There are several approaches to measuring and evaluating the publicness of public spaces. This includes different quantitative methods, all of them with advantages and disadvantages. Most ideas have an undeniably Western influence. The following chapter will show and discuss previous attempts. In the end, none of the examples shown fit the objective of this thesis, since all the methods focus on the publicness of public space. However, this thesis is not about public space per se but about semi-private space. Nevertheless, the following examples have great influence on the following empirical work.

Before going any further, it is important to understand what kinds of spaces different researchers try to measure in their work. When it comes to the publicness of public spaces, the different systems seem to be designed to investigate parks or plazas, not necessarily streets. It is believed that the reason for this is that parks normally have clear borders, which makes it easy to limit the research field. As the case studies show later, setting the boundaries of the observed areas is in fact a difficult and critical issue.

Nèmeth J. (2012, p. 3 f.), Varna and Tiesdell (2010) describe points of view in order to "conceptualize publicness": *...] attempts to conceptualize publicness can be categorized into inductive/external and deductive/internal approaches. Inductive approaches seek to understand "what is out there," external to the person. [...] Deductive approaches seek to investigate the socially constructed meanings of public space.*" (Németh, 2012, p. 3)

So while one approach is more interested in a more "objective" way to describe publicness (how objective these attempts really are, is discussed later on in this chapter) the other, the deductive approach, is more strongly focused on how people actually experience the publicness of a specific space.

Most attempts to measure publicness consider both, but the two examples that are discussed in detail only use methods to gain an "inductive" point of view.

When talking about the attributes of public space, it is noticeable that all researchers and writers talk about similar dimensions. Németh J. (2012, p. 4) states that Staehli and Mitchell (2008): "*[...] theorize publicness as a set of relationships between*

property and the people who inhabit it." and when looking at the dimensions, most researchers seem to follow a similar concept.

Kohn (2004) uses the dimensions of:

- Ownership
- Accessibility
- Intersubjectivity

Németh and Schmidt (2011, p. 12) use the dimensions:

- Ownership
- Management
- Users/uses

Varna (2011, p. 132) uses more than three dimensions:

- Ownership
- Physical configuration
- Animation
- Control
- Civility

A special case is the approach of L. Lessing (2001), who also talks about the concept of publicness in the virtual space in three dimensions ("layers"), which he then transfers to the physical space:

- Pysical (Programming, spatial relationships, location, adjacencies, mobility, physical access restrictions, aesthetics/style)
- Code (Laws, regulations, policing techniques, opening hours, cultural norms, behavioural norms, design guidelines, governance, authority, language)
- Content (Use, behaviour, symbolism, monuments, meaning, interaction, relationships)

In three of the examples, "ownership" is the most obvious overlap. Also, all examples deal with accessibility (accessibility, users, control, physical access restrictions) and some kind of set of rules (accessibility, management, control, regulations) as well as the uses and/or users (intersubjectivity, users/uses, animation,

use), of course. When looking at the criteria Nèmeth and Schmidt as well as Varna use, the overlapping intensifies.

Nèmeth and Schmidt use a set of 20 indicators measuring laws/rules, surveillance/policing and design/image, separated in those which "encourage use" and those which "discourage use" (2011, p. 14) based on (Németh & Schmidt, 2007):

- Features encouraging use
  - Sign announcing `public space' laws/rules
  - At a commercial building surveillance/policing
  - Restroom available design/image
  - Diversity of seating types design/image
  - Various microclimates design/image
  - Lighting to encourage nighttime use design/image
  - Small-scale food consumption design/image
  - Art, cultural, or visual enhancement design/image
  - Entrance accessibility surveillance/policing
  - Orientation accessibility access/territoriality surveillance/policing

- Features discouraging or controlling use
  - Visible sets of rules posted laws/rules
  - Subjective or judgment rules posted laws/rules
  - In business improvement district surveillance/policing
  - Security cameras surveillance/policing
  - Security personnel surveillance/policing
  - Secondary security personnel surveillance/policing
  - Design to control behaviour or imply appropriate use design/image
  - Presence of sponsor or advertisement design/image
  - Areas of restricted or conditional use design/image
  - Constrained hours of operation design/image

Varna (2011, pp. 136-140), as stated before, uses not three, but five dimensions with 19 indicators:

- Ownership
  - Ownership status
- Physical configuration
  - Crossings
  - Public walkways
  - Cycle routes
  - Fences
  - Sitting opportunities
  - Walking opportunities
  - Opportunities for active engagement and discovery
  - Active frontages
- Animation
  - Diversity of activities
  - Presence of street vendors and entertainers
- Control
  - Control technology: CCTV cameras
  - Control presence: Police/ guards presence
  - Control by design: Sadistic street furniture
  - Control signage
- Civility
  - Physical maintenance and cleansing regime of hard landscaped areas and street furniture
  - Physical maintenance and provision of green areas
  - Physical provision of basic facilities: public toilets
  - Physical provision of basic facilities: lighting

As stated before, the two lists of indicators show further overlapping between approaches selected for a closer look. Additionally, there are further noticeable facts overlapping. On the one hand, the different dimensions have a different number of indicators (how the two cases operationalise these indicators is discussed later on in this

chapter). On the other hand, it is noticeable that in both cases, surveillance is a generally negative factor, even though "*[...] some form of control is often required or desired, else a "tragedy of the commons" arise whereby each actor advances her own position at the expense of others and only the fittest survive.*" (Hardin, 1968) according to (Németh, 2012, p. 3)

There are many possible scientific methods to investigate and research the above-named dimensions and indicators. An overview over a possible methodology and the actual methods used is shown in the chapters *Research process and methodology* and *Evaluating the potential of gated residential areas*. Further on, the approaches of the examples mentioned before are described.

When trying to measure or evaluate publicness, the different dimensions and indicators have to be operationalized. Even though the indicators are overlapping, the approaches of measuring publicness are different.

Németh and Schmidt (2011, p. 13) and (2007) score spaces on a range from -2 to 2, depending on the variable encouraging use or discouraging use. Therefore, the highest score for a public space can be 20, the lowest score -20. Even though they also use indicators, it seems that the authors equate publicness with absence of control.

This approach has different advantages and disadvantages. The grading of different public spaces allows researchers and planners to compare different cases. However, grading only makes sense if it is somehow objective and comprehensible. Both of this does not seem to be the case in this thesis, although the topic is tackled: "*To be objective, the index quantifies directly observable indicators and does not weight the factors.*" (Németh & Schmidt, 2011, p. 13) However, this does not tackle the issue of comprehensibility.

On the other hand, the advantage of the system is that it is very flexible. Researchers with fundamental background knowledge about public space in any country might be able to use their system and to apply it in the particular context.

Varna (2011, pp. 132-153) uses quite a different approach. As shown before, Varna's five dimensions are backed up by 19 indicators. Also, in this case, apart from "ownership" all indicators are observable. However, the grading system is different. Varna uses a grading system from 1 to 5. Every grade is predefined. In the dimension "Control", for example, one can find the indicator "Control signage" with the grading:

1 point: Sign(s) deterring more than three behaviours

2 points: Sign(s) deterring three behaviours

3 points: Sign(s) deterring two behaviours

4 points: Sign(s) deterring 1 behaviour

5 points: No signs deterring behaviours

This example shows how structured the Varna's system is. Other indicators also have quantitative values, even though they are mostly estimated. Although it has to be acknowledged that Varna discusses the construct of publicness as a cultural reality in multiple chapters, the final rating system seems to be very inflexible to different contexts. But on the other side, the indicators are well described and backed by comprehensive research, which is an argument for its comparability, at least in a similar context.

After grading the public spaces both systems described divide the total scores per dimension by the number of indicators and use different visual forms to display their findings as shown in the following figures:

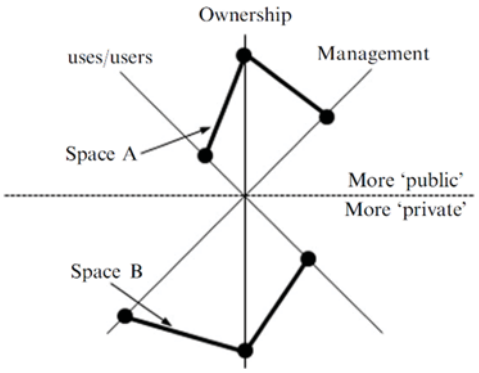

Figure 4.1 Evaluation visualisation by Nèmeth and Schmidt
Source: (2011, p. 12)

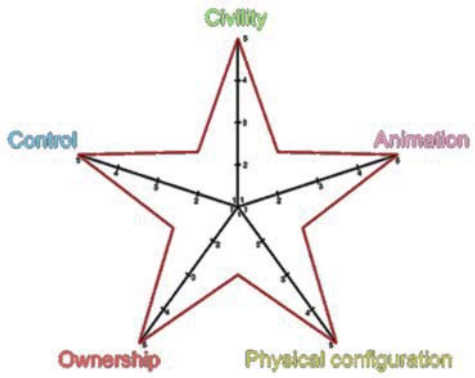

Figure 4.2 Evaluation visualisation by Varna
Source: (2011, p. 151)

To conclude: There are multiple approaches to measuring publicness quantitatively; there is no single one. When looking at these two cases (Figure 4.1 and Figure 4.2), one gets the impression that comparability reduces flexibility and vice versa. All in all, it is questionable how much sense a method makes that is transferable to too many different contexts. Also, both attempts do not use questionnaires as a method of measuring publicness, which is quite remarkable, leaving the evaluation to the subjective eyes of the researcher.

The advantages and disadvantages of a self-developed methodology to answer the research regarding this thesis is discussed in the following chapter. It appears as if both approaches might be more suitable for planning purposes, but not so much for scientific research. However, it is clear that the two methodologies cannot be used in the case of this thesis for multiple reasons. The first reason is the context. The research in this case takes place in China, that is to say far away from a Western context. Second, the research areas are wide open spaces, while the research areas are often close to buildings and in the immediate surroundings of people's homes. So even though the basic methodology is helpful in order to develop an evaluation model for the research areas, other dimensions and indicators must be considered.

4.2 Semi-private and semi-public

As the previous chapter shows, there are different approaches to measuring publicness. As criticisable as they are, they show that there is something in between the two extremes of totally public, and totally private. In literature, these are considered to be "Semi-spaces" (Torisson, 2008). Even though these forms of space, semi-private and semi-public, might be much more present than public and private spaces, the attempts to define them are somehow unsatisfactory for the thesis' purpose. This chapter further investigates definitions and discusses these two types of spaces, which are in fact critical for the essential to the aim of the thesis.

First, before discussing the so called "Semi-spaces" it is important to look at the terms, public and private, in a spatial-planning context. Ali Madanipour (2003, p. 232) defines both terms in many ways. For him, the private sphere begins in one's mind, is extended to the body, "expands" from there and is eventually manifested in private property. When using the word private, Madanipour (ibid. p. 40 f.) means, besides other things, things (including land, as a form of space) that are intended to be only used or controlled by a single person or a small group of people. Further it can mean something is owned or provided by a single person or a group of people. However, it can also be characterised as something that is just not provided by the state (which, in this case, is the public) or outside of its control. Further, as indicated before, Madanipour describes public spaces as something: "[...] *provided by the state and used by the society.*" (Madanipour, 2003, p. 134) However, it must be mentioned, that Madanipour (2003, p. 64) also recognises ownership as a way of definition in the cause of spatial matters.

Public and private are two co -existing spheres and they are "[...] *a continuum, where many semi-public or semi-private spaces can be identified, as the two realms meet through shades of privacy and publicity rather than clearly cut separation.*" (Madanipour, 2003, p. 239) He further argues that "*There may be no intrinsic qualities to the subsections of the space. It is only the way this space is subdivided through boundaries that creates its character.*" (Madanipour, 2003, p. 60)

Non the less, even though the separation between those two is very diffuse, there are researchers and practitioners who try to define these terms. Frederik Torrison provides a simple definition of semi-private spaces to start with: "*[...] a space that is access controlled and accessible to residents and associated people only. An example here would be a communal staircase in a residential building with a controlled front door access. These spaces are not really private since they're shared, but since they're usually inaccessible to outsiders, they're not really public either.*" (Torisson, 2008)

With the term semi-public space, it gets more complicated. It can be defined in two ways. On the one side it can be defined as "*[...] a private space accessible to the general public, e.g. a shop or a Public house.*" (Torisson, 2008) On the other hand, it can be defined as "*[...] a space open to the public but has a certain private character to it. It can be a small local park, an open courtyard or something similar. It is accessible to anyone but is understood to be used primarily by the surrounding residents.*" (ibid.)

When considering both definitions, neither usability nor possession are clearly assignable dimensions for a definition as they seem to be on a short look. This approach to the separation of such spaces clearly also includes gated residential areas as they are found in Shanghai.

As the approaches presented in chapter 4.1 *Measuring publicness* p. 51 show, there are dozens of indicators more, as to whether a space is totally public. In a city like Shanghai, with video surveillance in each street, it would be arguable that the city has no "real" public space at all.

Another approach to the definition of semi-spaces can be made based on the theories of Hülbusch (1978) and Böse (1981). It is based on the consideration that (public) open space is, among other things, an expansion of private space in a residential area, to which certain functions can be outsourced (Böse, 1981, p. 52 f.). Böse (ibid.) further uses this theory to categorize different types of open spaces based on social

interaction, the users' possibilities for appropriation and his*her relation to the space. These can be classified from private to public:

- Private open spaces
- House related open spaces
- Housing block related open spaces
- Street related open spaces
- Neighbourhood related open spaces

Other open spaces are not considered, as the classification only refers to open spaces close to private space. Further, it is necessary to mention that according to Böse (ibid. 52 ff.) different types of these open spaces cannot replace one another. At the same time, it is not entirely clear how exactly a categorization would work. Nevertheless, it underlines that semi-spaces are not fixed categories, and therefore allow, or even need a sub-division. And the approach to start determining publicness from the most private spaces coincides with later observations regarding some uses that (would) seemingly require a certain amount of privacy.

It is further necessary to acknowledge that all the theories presented here take a European view on space. Therefore, they cannot be expected to fit for Shanghainese gated residential communities. However, they prove to be a valuable insight for the evaluation of exactly such spaces. Even though none of them can provide clear definitions and borderlines of different grades of semi-spaces, in the end, the separation between these grades can either be physical/structural or abstract. Sometimes they even overlap, since according to the definition, streets, for example, can be the most public part of a city, but also part of a more private neighbourhood.

The theoretical elements for the necessary evaluation model was being all set, the further chapters of the thesis focus on the evaluation itself. As a final result of the research, Figure 4.3 shows the prototype of a conception of semi-spaces, based on the research in chapter 3 *China's urban development* p. 17, and 4 *Public spaces in Shanghai* p. 48. Even though there are no clear definitions between these types of spaces, this thesis draws a clear line between semi-private and semi-public for the further work. Better said, it is clearly defining the space inside the community walls as semi-private, even though, the question of land ownership is not totally clear until the end. The definition as semi-private instead of semi-public is due to the notion of the areas. They

clearly are supposed to be only used by a small group of people. In no way they are designed to include others than those living in it. Even if gates are not guarded and others use them after all, the design with walls and gates clearly tries to exclude people. In the end it is also Madanipour who contributes to this approach (in a US American context): "*Gated neighbourhoods are extreme forms of differentiation and stratification of urban space, extending private space beyond home to the neighbourhood level.*" (Madanipour, 2003, p. 158)

The further research takes this definition as a starting point for the conception of the methodology and is expected to be supplemented by the findings of the following research.

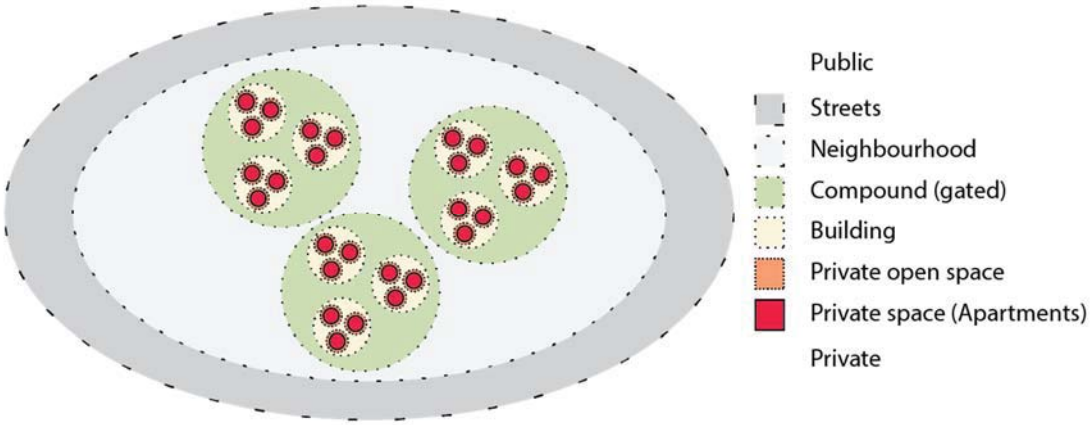

Figure 4.3 Prototype of conception of semi-spaces in Shanghai
Source: Author's design based on (Torisson, 2008)

5 The potential of gated residential areas

A basic assumption of this thesis is that the mostly very large building blocks and the residential areas enclosed on them, can contribute to supply Shanghai with public spaces and a small-scale road network for pedestrians. This could also improve the walkability within the city, as the Shanghainese government intends to do according to the *Shanghai Master Plan 2017 – 2035*. But only if they are opened to a wider public. This hypothesis is backed up by the research of Wu, Chen, Wang, He and Zhou (2020) who researched on the equality of access to green spaces. Core of the research was to determine if a policy to open gated communities can improve the equality of green access in Wuhan, China. Their result is that it can improve, especially in favour of lower income-groups (Wu, Chen, Wang, He, & Zhou, 2020, p. 9).
The previous chapters show the theoretical background and the derivation of this assumption. They are also the basis for the methodology and content of the following investigations. Further they help to evaluate the results and put them in context. As already explained in Chapter 2.3 *Research process and methodology* p. 9, the operationalization of the soft indicators is one of the most crucial parts of this thesis.

The following chapters show the derivation of the evaluation model, used for the case studies, including the dimensions and indicators for the evaluation of the case studies.

5.1 Evaluating the potential of gated residential areas

This chapter discusses the basics of evaluating the potential of gated residential areas. Theoretical considerations, as well as the composition are discussed, before dimensions and indicators are introduced in the following chapters.

To evaluate the potential to use open space in one of the three typologies *Lilong*, *Danwei* and *Xiaoqu*, the systems of measuring publicness, which are discussed before, are a good starting point for this thesis' own cause. However, those systems do not fit the exact purpose. As mentioned before, this thesis does not deal with public space but with semi-private space (see chapter 4.2 *Semi-private and semi-public* p. 57). For this

reason, it is necessary to figure out and further, adapt the relevant dimensions and indicators regarding the object of investigation.

At first, the theoretical and methodological considerations were made. Chapter 2.3 *Research process and methodology* p. 9 discusses various difficulties regarding language and cultural barriers. For this reason, dimensions and especially indicators are mostly observable. Also, there is very limited access to vector- and geo-data, making quantitative indicators less usable, especially distances, sizes, and ranges. In these cases, only estimations are possible. Therefore, the indicators are mainly qualitative.

The shown research regarding measuring the publicness of public places has shown that an inductive approach is common (Németh & Schmidt, 2011, p. 3). For this reason, it is also considered suitable in this case.

Another critical issue is the understanding of public, private, semi-public, and semi-private space, but also their functions. That is why, the systematic is adapted further during the observation-phase. This "feedback-loop" improves the evaluation. In order to build an evaluation process, the different dimensions have to be considered. A process which is closely connected with the approaches discussed in chapter 4.1 *Measuring publicness* p. 51. It is only later, that the different dimensions are equipped with indicators.

5.1.1 Dimensions

As stated before (chapter 2.3 *Research process and methodology* p. 9, 3 *China's urban development* p. 17 and 4 *Public spaces in Shanghai* p. 48, and their sub-sections) there is good reason to believe that even though Shanghai is a city with very clear borders, the uses within these borders shift between different grades of publicness and privacy. This leads to this thesis' theory that: the more public an open space in a gated residential area is now, the bigger its potential to become more accessible in the future. In the course of the research and the observations, it emerged that an approach based on privacy might make more sense. Meaning the less private a semi-space is, the bigger is the potential to be opened. For these reasons, the dimensions try to approach the issue from both perspectives. The importance of public and private (green) spaces is uncontroversial and discussed in chapter 4 *Public spaces in Shanghai* p. 48. The necessity of semi-spaces and the inequality of its distribution in China are discussed in the chapters 4.2 *Semi-private and semi-public* p. 57 and 3 *China's urban development* p. 17.

When planning in an open field, all this could be considered from the beginning

on. However, when planning in already existing structures, with a shortage of some types of open space, one must find solutions in those exact structures. In the end this means that it is important to not only consider the publicness and usability of different areas within the community as it is now, but also the necessity of privacy and small-scale communities. Both of these considerations lead to the first two dimensions:

- Current usability
- Privacy for residents

Current usability summons indicators that consider publicness and usability for residents and externs. Privacy for residents on the other hand only considers people living in the community. Both dimensions consider the current conditions.

Besides changes in the distribution of public (green) spaces, another issue that is supposed to be tackled by the opening of Shanghai's gated residential compounds is the objective of increasing certain facility's (needed for the daily life) reachable.

To address this, it is also necessary to consider the surroundings of a compound and its place in the urban pattern. These considerations result in the third and last dimension:

- Connection to the outside

These three dimensions are the base of the evaluation model. The next chapter introduces each dimension's indicators. Further, in chapter 5.2 *Evaluation Model* p. 76 the systematic of the evaluation model is explained.

5.1.2 Indicators

As mentioned before, to measure the potential of opening space in Shanghai's various residential typologies, three dimensions must be considered: *Current usability*, *Privacy for residents* and P*otential connection to the outside* (see chapter 5.1.1 *Dimensions* p.62). Using scales or indexes can hold multiple risks, since they often claim to be universal and objective. However, they are always influenced by a researcher's cultural and social background and prejudices. This carries the risk of these influences manifesting into a supposedly objective system. Evaluation structures and criteria must be flexible so that they are able to adapt to local conditions. When it comes to public or private spaces, with all grades in-between, different regions have different political and social concepts.

Confronted with cultural and language barriers, as well as differences in the planning culture, the following indicators have been developed mainly from literature. Further, the findings from these sources are complimented by the information gathered through an interview with a local expert and were also controlled in a feedback loop during the observations.

Due to the aforementioned language barriers, it is necessary to rely mostly on observable indicators. Due to the lack of data and reduced research possibilities, almost all indicators are qualitative, or so called "soft indicators". Meaning, they cannot be measured quantitively. This is a big issue regarding operationalisation and comparability. However, as discussed in chapter 2.3 *Research process and methodology* p. 9, even quantitatively indicators lack a needed foundation for reference and evaluation.

Finally, it has to be noticed that the evaluation system is thought to be a potential support in a very early phase of a potential planning process. The objective is to find potential sites for public space, based on a set of evaluation criteria that is adaptable to regional differences, and also makes the comparisons between various residential compounds possible. In later phases of a planning process, the methodology sure must be extended.

With further methods also comes the possibility to extend the indicator set. One of those indicators for example is "ownership". Chapter 4.2 *Semi-private and semi-public* p. 57 discusses the role of ownership in the classification of semi-public and semi-private spaces. However, it is not possible to evaluate ownership via observations. Also does the status of ownership (public or private) alone does not necessarily provide information about factors pro and contra opening. What it would need is a stakeholder analysis including willingness for an actual implementation of changes. Additionally, it is necessary to research policies and politics (e.g. substitutions) that can be used in the process. But since none of this is observable, it is not included in the evaluation process. Since the tested evaluation process is thought to be implemented in an early phase of the planning process, to evaluate possible sites for further process phases, it is not essentially necessary to be included.

Further, all three dimensions with a total of 14 indicators will be described and discussed. Also, the criteria for each numerical evaluation is described in this section in order to create a comprehensible evaluation and research process. The indicators evaluate the existing status of a place. In the case of an actual redesign of a community,

a set of measures can be deducted from them.

Nevertheless, to test a quantitative evaluation system, in order to answer the thesis' research questions, an evaluation-scheme is tested. To do so, each indicator-description includes factors that influence the evaluation positively (pro opening) or negatively (contra opening). Since the evaluation has to consider two different planning-goals (see chapter 2.2 Approach and research question p. 5) neither the operationalisation nor the assessment of indicators is always that clear. All indicators have three attributes: dimension, time dependency, scope of validity. The detailed evaluation-model is presented in chapter 5.2 *Evaluation Model* p. 76.

5.1.2.1 Current usability

In literature, publicness and usability are strong linked attributes. Therefore, the indicators used by Németh and Schmidt (2011, p. 14) and Varna (2011, pp. 136-140) are valuable sources regarding this dimension. However, not all indicators are useful, since some of them are not that important or not practical for semi-private space. In the case of security and observation (both can be found in Vrana's and Németh and Schmidt's indicator sets) it was not clear how to assess it. Security can have a positive effect for some groups in public spaces. Still, in all the researched indicator sets, it is seen as something negative. For the matter of semi-private space, this seems to be much more complicated. Security and observation are a subjective matter, therefore not observable. For this reason, they are cancelled from the indicator set for this thesis.

In the end it is important to highlight that the usability of observation areas is mostly evaluated from a resident's perspective. Nevertheless, the indicators *uses* and *users* also focus on alleged non-residents. These factors are very important, since they are the core of the qualitative evaluation and this thesis. An important argument opposed a quantitative evaluation with equally weight indicators.

However, due to the hypothesis that, the more usable and public an area is now, the better it suits opening plans, every indicator that shows a limitation of present usability speaks against an opening.

In the end, this leaves a set of eight indicators to be observed during multiple field observations. Some of them are universal for each case-site, others individual in each observation area.

Design:

Not only regulations can control behaviour. Design "solutions" tend to influence the users' behaviours, often only little-noticed. Harmless examples for such design would be hedges to control walking flows or the accessibility of certain areas, as well as pollards to prevent cars from parking on an open space. A crueller form of it is so called *sadistic urbanism/furniture*. This describes the kind of public furniture or other design elements which prohibit people from using them in certain ways (benches designed so one cannot lay down, pollards designed so one cannot sit on them, etc.).

Whenever such kind of design elements control cars and other big motorized vehicles from occupying an area, as well as design that influence safety, it is evaluated as a positive factor. Design that clearly excludes people or prevents other uses has a negative effect.

Pro opening	design defines entrance areas in front of buildings; paths that provide short connections; design that contributes to an assumptive intended use; definition of sub-areas; design increases safety; design protects from traffic; design allows high variety of uses
Contra opening	design does not define sub-areas; design does not define entrance areas, design does not provide appropriate paths for connections through the area; design produces conflicts between single uses; design decreases safety; design does not protect areas from traffic; design does not allow a high variety of uses

Traffic:

Flowing and stationary traffic occupies a lot of space. Space that cannot be used (or only in a limited extent) for other functions. If so, only with security compromises. During the first observations, the presence of different kinds of traffic was so noticeable that it was identified as an important factor, even though it is not mentioned in chapter 4.1 *Measuring publicness* p. 51. This is probably due to the different kind observation areas (e.g. parks, plazas, …). Thus, there are multiple factors that can have a positive or negative impact on the evaluation.

Pro opening	no or only little observed influence on usability by traffic (non-stationary); no stationary traffic; little stationary traffic compared to the whole size of the area; small proportion of total traffic area compared to the size of the whole area; no transit for cars through the area; low driving speed; considerate driving behaviour of drivers

Contra opening	high influence on safety by traffic, high influence on usability by traffic (non-stationary); large proportion of total traffic compared to the whole size of the area; inconsiderate behaviour of drivers; high driving speed

Uses:

The way people use the open space in a gated compound is an important indicator for publicness and privacy. As chapter 4.2 *Semi-private and semi-public* p. 57 shows, open spaces are often used to outsource functions from private spaces. There is no resource, indicating which uses can be seen as public or private. Interviews to determine if people want a certain privacy for certain uses are not feasible. Also planning documents like the *Shanghai Master Plan 2017 – 2035* do not indicate any formal or informal references that can help with the classification. For this reason, the thesis generates its own comparison group. From literature about public spaces in China, uses are filtered. These uses are then considered as public uses. Others not described in literature are evaluated during the observation phase. If they are seen as private, they reduce the qualification. What uses are seen as public and private is further described in chapter 5.2 *Evaluation Model* p. 76. The described evaluation models discussed in chapter 4.1 *Measuring publicness* p. 51 mostly evaluate the variety and the number of uses. This is mostly irrelevant in this case.

4 Points	no uses that have not been found in public and no signs of uses that need (further) privacy
3 Points	no uses that have not been found in public or no signs of uses that need (further) privacy
2 Points	single use that has not been found in public, but no uses do indicate a need for (further) privacy
1 Point	single or multiple uses that have not been found in public and they indicate a need for (further) privacy

Users:

In the case of users, it is difficult to determine important characteristics just by observations. Varna (2011, p. 167) uses a coding system to classify users. This coding system is adapted for this thesis' purpose. Primarily the assumed sex and age are divided into in different categories. Estimating these attributes involves a high probability of errors, which is why statistics derived from them should be used with caution. It still can bring important information about the people who use space, especially if certain

user groups seem to be excluded from areas. However, in this case it is just data to get an impression of the age and gender structure.

To evaluate the indicator in the case of this thesis these data is not used. The aim is to evaluate the use of the area by certain user-groups. These groups are mostly defined by the way they use the area. During the observations three main user groups have been identified: people who just pass through the area, those who use it for free-time related uses, and those who work in the area.

Although the proportions between the different user groups change during the day, the numbers provide a comprehensive insight who uses the areas the most. An area with a high number of users who just walk through sure is better designed as a transit space and therefore for sure also more adequate in the future. The number of those, and the numbers of users who are working in the area are put in relation to those who use the area for other purposes.

4 Points	users who walk through or workers are more than all others together on weekdays and the weekend
3 Points	users who walk through and workers together are more than all others together on weekdays and the weekend
2 Points	users who walk through and workers together are more than all others together on weekdays or the weekend
1 Point	users who use the area for free-time related uses are more than people who walk through and/or work in the area on weekdays and weekend.

This chapter described the first dimension's indicators, their reason, and how they are evaluated. It is important to keep in mind that all these indicators have two goals: walkability and the availability of new public spaces. Therefore, the indicators should contribute to achieving these goals.

5.1.2.2 Privacy for residents

As it was mentioned before, this thesis per se, is not about public places. When determining the potential for an intervention in such a delicate space, one must consider possible effects on the community. In the case of opening certain parts of these communities, one of the worst possible effects is a loss of privacy. Chinese residential areas especially have a relatively strict separation of uses. With no commercial functions on the ground floor, in many communities the ground floors are used for

residential purposes. In some communities, one can look or even step directly from the street in someone's private rooms. For this reason, the privacy of residents is an important factor for the evaluation. Since the analysed indexes that measure the publicness of public spaces are designed for totally different settings, they give no indicators for this case. The indicators were developed in the preparation phase and were constantly modified throughout the observation process. The following indicators are mostly connected to the residential buildings within the community:

Privacy for apartments:

There are different elements that can help to provide privacy for residents living on the ground floor. The distance to streets, plazas, paths, or other points is one element. When space is limited, there are elements which can block the view for by-passers. Most common examples are walls, hedges, or plants. The elevation off the ground floor can be an effective tool too. Privacy in a sense of other factors, noise for example, does not influence the suitability in this case.

Each of these elements is rated positively in the sense of an opening. The less the residents' private spaces are protected, the more the indicator becomes an obstacle for an opening process.

4 Points	sufficient view blockage into all (ground floor) apartments from high traffic (pedestrian) areas by distance or view blocking elements
3 Points	sufficient view blockage into most (ground floor) apartments from high traffic (pedestrian) areas by distance or view blocking elements
2 Points	insufficient view blockage for multiple (ground floor) apartments
1 Point	insufficient view blockage for all (ground floor) apartments

Ground floor use:

Like mentioned before, the widespread separation of uses often results in residential ground floor use. If the ground floor use is non-residential, it is a factor influencing the privacy of people living in the buildings. On the other side, other ground floor uses can provide privacy for residents in upper floors and also helps to improve the attractiveness of the area for residents.

4 Points	no residential ground floor use (directly in the area)
3 Points	little residential ground floor use (directly in the area)
2 Points	mostly residential ground floor use (directly in the area)
1 Point	only residential ground floor use (directly in the area)

Access to residential buildings:

In some residential areas it is possible to access apartments directly from the street. In others it is not possible to enter a building without an extra key. This is an issue regarding privacy as well as security.

The more “steps”/“layers” between semi-private and private space (apartments), the more it is a reason for opening an observation area. Such a barriers can be technical, like intercoms, but the can also be concierges or securities.

Access of course, is not only influenced by technical or built aspects. Access as also social aspects and is influenced by design in other ways. However, since these aspects can not be observed, they are not included in the observations.

4 Points	multiple barriers to reach all apartments
3 Points	at least one barrier to reach all apartments
2 Points	barriers (single or multiple) to reach some apartments, but not all
1 Point	no barriers to reach all apartments

Small-scale community:

Signs for existing small-scale communities can be various. This includes small manifestations of community life and self-organisation. Opening or sharing certain parts of the residential areas should not happen on account of the small-scale community life. It should not be forgotten that one of the biggest potentials of gated residential areas, is in fact a strong sense of community. Structures as well as noticeable patterns of users or with certain uses (sitting together in large groups, meeting at the same point again and again, etc.) can indicate community living or forms of self-

organisation. There are also some uses that indicate a need for a certain level of privacy, like actions related to personal hygiene. If these are executed in the semi-public space this is also seen as a form of appropriation of space and therefore considered within this indicator.

Small scale communities would probably be best researched with other methods, like interviews or at least questionnaires. However, due to the limited research possibilities the evaluation is limited to observable factors.

The evaluation of this indicator is rather difficult. Up to a certain degree, the existence of such structures is a factor speaking against an opening. However, if these forms of social community result in social control, and the community seems strong enough, not to be destroyed by an opening, it can be considered a factor in favour of an opening.

Opening is potentially meddling with space, which is very close to people's homes. This brings incredible potential for conflict. Exactly for this reason, it is important to get an overview over matters of privacy and community.

Pro opening	no signs of small-scale community life; no signs of appropriation of open space; no uses that indicate a need of privacy
Contra opening	signs of small-scale community, signs of appropriation of open space; uses that indicate a need of privacy

5.1.2.3 Connection to the outside

While the former described dimensions are focused on the inside of the communities and the block, the third dimension is about the *connection to the outside*. This includes the surroundings of the block, but also elements inside the communities, which might attract people from the outside. Additionally, there are facilities that can profit from additional traffic, such as shops or other commercial uses. Some of the indicators are again taken from the works of Varna or Németh and Schmidt, but some of the indicators are developed individually for this purpose:

Connections:

Super Blocks with gated residential communities often force people to walk long distances around them, and therefore, make the city less walkable. In fact, this is one of the ground stones on which this thesis is based on. It is difficult to identify specific

points of interest in the neighbourhood. But with a consideration of the surroundings, the uses and the street layout there are certain some points of interests can be identified.

There are two things considered regarding this indicator. For one, the direct connections from public transport stations and other points of are analysed. Is the community in between and therefore extends the walking distance, the indicator is to be rated as pro opening. Further the connection of points of interest and residential or mixed-use clusters is evaluated. In this way it is checked to what extent the community is integrated physically integrated into the neighbourhood and to what extent it represents a barrier for pedestrians.

What exactly qualifies as point of interest can depend from case to case. But in general, this means public transport stations, schools, universities, shopping malls, markets, and such.

Evaluated is not only the number of identified points of interest but also the distance to them. The decisive factor is the data about user groups and the ratio of time and distance they can walk in said time. The basis for this is the data used in Damyanovic, Reinwald and Weikmann (2013, p. 23). From this data it can be deduced that an average adult covers a distance of one kilometer in ten minutes. Since a theoretical route connection would not come from the community, a radius of less than 500 meters is calculated as close, a radius of 500 meters (diameter 1000 meters) up to one km (diameter 2 km) as far. Furthermore, points of interest are not considered.

4 Points	direct connection between public transport close by (< 500 m) and other points of interest close by (<500 m) or far away (500 - 1000 m) and the connection of a cluster of residential or mixed-use buildings to public transport
3 Points	either direct connection between public transport close by (< 500 m) and other points of interest close by (< 500 m) or far away (500 - 1000 m), or the connection of a cluster of residential or mixed-use buildings to public transport
2 Points	direct connection between public transport in a distance of 500 to 1000 meters and other points of interest close by (<500 m) or far away (500 - 1000 m) and the connection of a cluster of residential or mixed-use buildings to public transport
1 Point	Position of compound in/by a cluster of mixed use or residential buildings/compounds but no clearly defined points of interest or public transport within the distance of 1000 meters.

Distance to parks/plazas:

The distance to public parks and plazas is an important factor when it comes to social infrastructure of a city or a neighbourhood. Therefore, the distance to the next park or plaza nearby can be an important indicator for the importance of opening up a community. One reason can be, that there is potential public space inside the community itself and therefore the surrounding areas would be provided with new public space. Another reason can be that the time needed to get to the closest park/plaza would be shortened, because of new provided passages.

Last but not least, an opening and/or redesign of certain spaces can be used to compensate for a lack of public space for different needs, depending on size and configuration. However, rating a park or plaza as well would need a total new evaluation just for that. Therefore, the only criteria is distance. The basis for this is the data used in Damyanovic, Reinwald and Weikmann (2013, p. 23). From this data it can be deduced that an average adult covers a distance of one kilometer in ten minutes. A person with a child for example would need the same time for a distance of 500 meters.

Both, the provition for adults as well as for children is considered with this indicator. The distance of 10 minutes walking time is seen as a mark for usability on a daily or at least weekly base.

4 Points	no park or plaza within a distance of 1000 meters
3 Points	next parks and plazas in a distance of 500 to 1000 meters
2 Points	next park or plaza within a distance of 500 meters
1 Point	community is bordering a park or plaza

Surrounding street layout:

The surrounding street layout is an important factor when it comes to the walkability of a city, or an area. The quality of sidewalks and street space alone is a topic that would allow an own evaluation scheme. However, for this purpose, a quick evaluation is needed. The street-layout is evaluated in terms of the dimensions (e.g. sidewalk, street, etc.), safety issues, animation, blocking elements, or illumination at night. Special needs in street-space of people with disabilities are not considered, since they would also need a own evaluation system.

In Shanghai, but also in many other cities the layout of the streets probably does not fit all the needs of its users. If the city cannot provide certain qualities on the space to its disposal, it might be possible and necessary to provide these qualities in semi-

private or semi-public space. However, this must be done thoughtfully, since it cannot be an excuse for cities, not to provide a certain quality of public (street) space.
The worse a community's surrounding street layout is, the more does this indicator speak in favour of an opening.

Pro opening	narrow paths; blocking elements/barriers; high rank streets; air pollution; high traffic volume; walls or residential use as majority of "facades"; sidewalk surface is not handicapped accessible; low grade of cleanness
Contra opening	wide paths; diversified facades (green space, commercial use, etc.) on a majority of space; no blocking elements/barriers; low traffic volume; low/no air pollution; sidewalk surface is handicapped accessible, high grade of cleanness

Accessibility:

Existing accessibility is an important factor in measuring the potential of single observation areas. However, the term accessibility is quite diffuse and can be defined in multiple ways. Accessibility can be granted or limited by multiple factors. There are social and psychological factors to it, but also certain sets of rules or of course built/design aspects. All this can limit access for people in general or at least certain user groups. In the case of physical barriers, the most known kind of barriers would be such that limit accessibility for people with certain disabilities. In the case of gated communities, the most obvious form of barriers are the walls and gates. But these barriers only enfold their full impact because it is backed up by a set of rules and enforced by those who execute these rules (in the case of the communities, on the first line the securities).

All these factors are difficult to evaluate just by observations. For this reason, these factors are not evaluated in detail or specifically what factors of the exactly limit the access to the community, if any do so. With this indicator only the situation as it is right now is researched. Specifically, if there are any signs of externs who use the semi-private space inside communities and if this presumption can be backed up by other data. For this reason, in each community a questionnaire was handed out to people to confirm the presumption or falsify it. In the end the actual accessibility according to the research is put in contrast to the physical barriers and the effort to enforce these barriers. Considered for the evaluation is always the strictest form of control.

Some places might be already accessible in some grade by now, either because guards do not control entrances or because they belong to a community but are not enclosed by walls or fences. The more an area is already accessible in this context, the

more does this indicator speak for an opening.

4 Points	community is accessible for externs with no barriers or guards
3 Points	community is accessible for externs although the access is limited by walls and gates that are traversable without guards actively controlling the entrance
2 Points	community is accessible for externs although access is limited by walls and gates with guards occasionally controlling the entrance
1 Point	all community entrances are permanently controlled by guards or technical systems

Distance to community border:

Opening a community or sharing certain parts of a block with the public is not only possible for walk-through passages. Single parts can be opened or shared without necessarily being connected to each other. Therefore, the distance to an existing entrance or the community border in general is also a indicator for the potential opening.

The closer to the community's borders, the more speaks for an opening. If the area just borders another structure in a block, but no public space, the effect is repealed.

4 Points	area is at the community border and has an entrance/exit gate or is outside the community
3 Points	area is directly at the community border
2 Points	area is separated by one other area (or a similar distance) to the community border
1 Point	area is separated by multiple areas (or a similar distance) to the community border

Inside points of interest:

Opening up a community or sharing some of its infrastructure can not only be useful to connect outside points of interest, it can also provide access to such infrastructure inside the communities. To evaluate the indicator, one must rate the potential to attract people from the outside. This can include special pieces of art and architecture, or infrastructure like commercial buildings inside the community. If there actually are points of interest inside the community, it also can help to attract people from the outside, and thereby help to manifest the new won publicness of the space in the people's minds.

The higher the potential of insight POI is estimated, regarding the attraction of people, the more this indicator speaks in favour of opening the community.

4 Points	multiple points of interest in the area, only accessible from the inside the community
3 Points	single point of interest in the area, only accessible from the inside the community
2 Points	multiple or single points of interest in the area, accessible from the inside and/or the outside the community
1 Point	no points of interest inside the area

5.2 Evaluation Model

The previous chapters discuss the different dimensions and indicators the thesis uses for the evaluation process. This chapter focuses on the data collection, as well as the further processing and the evaluation.

To evaluate the potential of different areas within a gated residential community or a *Super Block*, several factors must be considered. This thesis uses prior work regarding measuring the publicness of public spaces by Németh and Schmidt (2011) and Varna (2011) as a reference for the development of this new evaluation model. The advantages and disadvantages of their methodology are discussed in chapter 4.1 *Measuring publicness* p. 51. Both examples do not fit this thesis' purpose to a necessary extent.

Figure 4.4 Research areas in the Modern Gated Compound (Site 1)
Source: Author

The first exploring inspections of the case study sites showed that each case has to be divided in different observation areas in order to be investigable due to their size and other structural factors. They are divided by factors of built, but also by factors of social environment. Figure 4.4 shows the segmentation into different observations exemplary. Not each part of the community is assigned to an observation area, since some parts only indicate minimal use, and their design also indicates that they

can hardly be used. This is especially true for streets that are away from buildings. In these cases, the expense of having an individual observation slot does not pay off. With the universal criteria, however, these areas are still included in the assessment.

Each area is observed for two days, one workday and one weekend-day. Each of the, in total nine observation areas (both case studies together) are observed with the same methodology. A period of 16 hours (from 6 a.m. to 10 p.m.) is defined as the relevant observation period. However, not the entire time is observed. Within each hour, three, five minutes time slots are examined as a sample. So, 15 minutes an hour, evenly distributed (e.g. 6:00-06:05, 6:20-06:25, 6:40-6:45). For each of those time slots, an individual protocol is recorded. The record is later transcribed and coded. Also, numerical data is extracted mostly to get an impression of the relations of uses or users to each other. Figure 4.5 shows an example of an evaluation-sheet. The numerical data, which was filtered from the transcript, regards the number of users divided by age and

						Time slot	10:40 - 10:45	
Traffic	Car		E-Scooter		Bicycle		Other	
	2		1		1		1	
Users	Female							
	Inf./Child		Teenager		Young adult	Adult		Seniors
						6		
	Male							
	Inf./Child		Teenager		Young adult	Adult		Seniors
						8		1
	Unspecific							
	Inf./Child		Teenager		Young adult	Adult		Seniors
						1		
Uses	Playing w. Children	Playing cards/games	Meeting/Talking/Leisure	Strolling	Walking a dog	Sport	Music	Passing
			3		1			8
	Housekeeping	Security	Delivery worker	Maintenance worker	Other worker	Other use		
		1	2	1				
Connections	From/To	0	1	2	3	4	5	6
	0							
	1	2		1	2			
	2						1	
	3		1					
	4				1			
	5							
	6							
Transcript	An elderly man walks from a building to the community exit; a security guard drives through the area on a bicycle; a car drives though; a delivery man comes out of a building, gets on a e-scooter parked at the front porch and drives out of the community; three men sit in front of a building at a front porch, they look at me and talk to each other; in front of another building a package delivery man sorts some packages next to an e-scooter at the front porch; a woman enters the community and walks into a building; another woman walks from the park to a building; a van drives through the area; a maintenance worker waters plants with a hose; a woman enters the community and walks into a building; a man and a woman enter the community too, together, the man carries some groceries in a plastic bag; another woman walks a dog; another car drives through; a person on an e-scooter drives through; it is very quiet in the area, one can hear birds singing; a woman walks from the community entrance to the north							

Figure 4.5 Example of time-slot transcript and analysis
Source: Author

sex categories, as well as the number of different kinds of vehicles and uses. For the evaluation, the various uses are categorised. Work related uses (*Security*, *Maintenance work, Delivery work* and *other worker*), free-time related uses (*playing with children*, *playing cards/games*, *leisure/meeting/talking, strolling, walking a dog, sport, music and housekeeping*) and *passing* (consisting only of the so named use). Passing as its own category makes sense when one compares the share of people passing through, compared to other uses. Further, there is a category *other uses* where the uses which are not listed are registered.

In total 864 such transcripts have been processed in the cause of this thesis (analysing 72 hours of observations).

The comparison to uses found in public places, in literature about Chinese public spaces (see Orum, et al., 2009; Gaubatz, 2008). gives a wide spectrum of public uses. Additionally, for this thesis, work related uses are defined as public too, since for them, there are no reasons to be enclosed. After the adaption of the evaluation model, at the end of the first observations, most private uses can be summed up under the term *housekeeping*. Others uses are summed up in the category *other uses*. The exact uses found are:

- Singing
- Ballroom dancing
- Learning
- Strolling
- Sleeping
- Badminton
- Photographing
- Tai Chi
- Listening to music
- Jogging
- Using open space as bathroom
- Football

As it goes for the uses two points are important. On the one hand, the observed uses are compared with the uses identified as very public during the prior research. On the other hand, the main uses on site are documented to gain knowledge over the things going on in these spaces. This way it is not only a comparison, but a documentation of happenings in the communities.

The documentation of the observations shows a comprehensive picture of the communities regarding their (social) activities. This alone is an important research output, additionally, the findings are evaluated in two different ways.

For every observation area, the findings from the transcripts are summarized for each indicator. Based on this mostly qualitative evaluation, each indicator is assigned a numerical value in order to make the results comparable. As the previous chapter shows, each indicator has certain criteria that assigns said numerical value.

There are two different forms of evaluation. For one, there are criteria that can be evaluated in form of a fixed scale where there are certain criteria that have to be met in order to get a certain numerical value. For other indicators, there are certain criteria speaking in favour of an opening and some speaking against it. All these points are

collected, and, in the end, the pros and cons are weighed against each other and the indicator is assigned one of the following values:

4 points: All criteria in favour of an opening

3 points: Criteria predominant in favour of an opening

2 points: Criteria predominant contra opening

1 point: All criteria contra opening

However it must be said, that because of the low number of numerical and comparable data, which would be necessary in order to classify the findings, this quantitative analysis is at most a suitable approach for a planning process, but less a scientific quantitative method. On the other hand, is the data that has been collected for this thesis perfect for detailed and significant qualitative analysis.

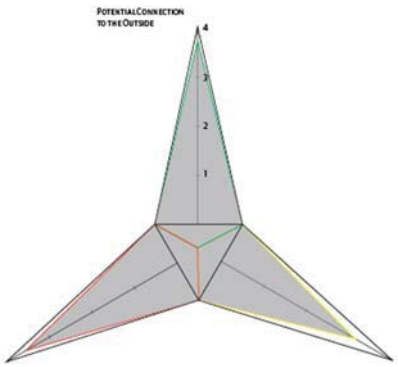

Figure 4.6 Star model example
Source: Author based on (Varna G. M., 2011)

The way of quantifying the results is a mix of Varnas (2011), and Németh's and Schmidt's (2011) methodology, discussed in chapter 4.1 *Measuring publicness* p. 51. In forms of presentation, the system of Varna seems to be more appropriate. The three dimensions are transferred into Varna's star model. In each observation area, each indicator is assigned a value between 1 and 4. The more an indicator speaks in favour of an opening, the higher the number. All indicators count equally. The numerical values are summed up within each dimension and is then divided by the number of indicators. Afterwards the resulting value is shown in the axis of the star model. The following figure shows a possible outcome.

As mentioned before, the different approaches have advantages and disadvantages. Both types of evaluation (qualitative and quantitative) aim to answer the first research questions. At this point the research of theories and approaches ends. The following part of the thesis discusses the empirical research process.

6 Case studies

This chapter marks the starting point of the thesis' empirical research. While former sections discuss the theoretical background as well as the development of an evaluation model, this chapter explains the process of selecting sites for the case study.

To evaluate the dimensions as well as the indicators, they are tested in two case studies. As chapter 2.3 *Research process and methodology* p. 9 shows, the observations influence the criteria for the evaluation in form of a feedback loop. Thereby, the final indicators are only be determined after the case studies are executed.

As displayed before, there are three typical and widespread forms of residential compounds in Shanghai (see chapter 3.3 *Shanghai's three eras of urbanization* p. 31). Anyway, only two of these types are chosen to be observed, and therefor to have a direct influence on the systematic and the evaluation. The two typologies chosen are the *Danwei* and the *Xiaoqu*. The typology *Lilong* only influences the research passively. There are multiple reasons that lead to this specific approach.

- Proportions:
  Research has shown that many of the *Lilongs* have smaller dimensions than the other two typologies (see chapter 3.4 *Shanghai's gated Super Blocks* p. 42).

- Shrinking importance:
  The *Lilong* does not seem to be the future of Shanghai's urban development but its past. More and more *Lilongs* get teared down in Shanghai to make place for Shanghai's modern development (see chapter 3.3.1 *The first era of urbanisation – Introducing the Lilong* 32).

- Limit in Observation possibilities:
  The layout of the *Lilong* with its narrow streets, the missing open free space inside and the very direct transition from semi-private to private (as it was shown before one can often look directly from semi-private space into the living rooms of residents) do not allow valid observations, since The observations are expected to disturb the field to much (see chapter 3.3.1 *The first era of urbanisation – Introducing the Lilong* p. 32).

Figure 6.1 Case Study site
Source: Google Earth

In the other two typologies, these issues sure exist too, partially. However, it is found, that those are still qualified for the observations. The number of cases per typology is limited to one each, in order to make comprehensive research possible. In each case observations take place between 6 a.m. and 10 p.m. take place. In total a range of 16 hours. Additional questionnaires are handed out to gain further knowledge from residents and users. This happens only in selected observation areas, not each one. On Site 1 in observation area 3, on Site 2 in observation area 3 too. The details regarding the methodology are discussed in the chapters 2.3 *Research process and methodology* p. 9 p. 9, 4.1 *Measuring publicness* p. 51 and 5.2 *Evaluation Model* p. 76.

Both cases are in Shanghai. The *Danwei* in *Yangpu* district, and the *Xiaoqu* in *Hongkou* District. Both can be seen as inner-city districts in Shanghai. The cases are selected by different criteria:

1. **Accessibility** is the most important criteria, since without it, there is no possibility to execute the research.

2. The **dimensions** are larger or at least as large as the compared blocks in other cities (see chapter 3.4 *Shanghai's gated Super Blocks* p. 42).

3. Both cases are in **inner city** districts of Shanghai.

4. They are **typical cases**, respectively include all elements characteristic for the particular typology (see chapter 3.3.2 *The second era of urbanisation – Introducing the Danwei* p. 36 and 40)

Both cases fulfil all four criteria, although they are as different as they can be. Both typologies are discussed before in chapter 3.3.2 *The second era of urbanisation – Introducing the Danwei* p. 36 and 3.3.3 *The third era of urbanisation – Introducing the Xiaoqu* p. 40.However, before going into detail with the observations, the following pictures illustrate the differences between both cases' built structure.

Note: Further impressions of both sites can be found in chapter 10.8 Impressions from the research area 1 – Xiaoqu p. 218 and 10.9 Impressions from the research area 2 – Danwei p. 226.

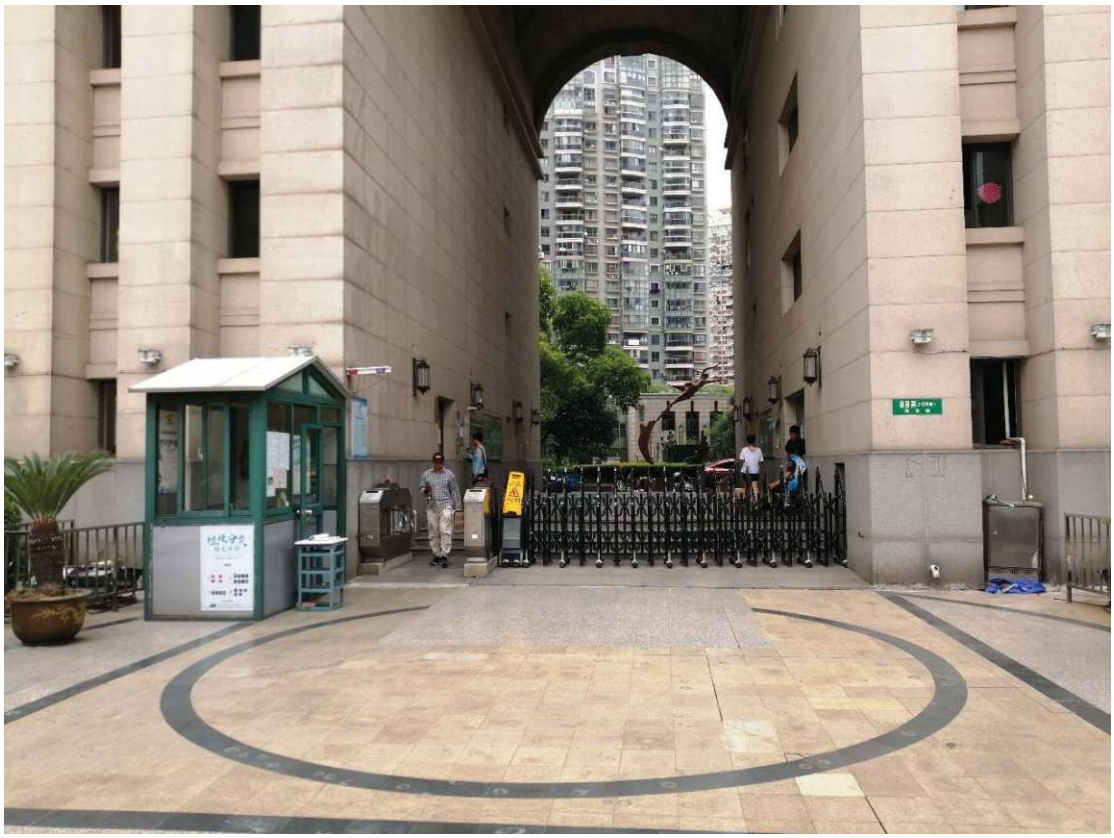

Figure 6.3 Community entrance – Xiaoqu; Source: Author

Figure 6.2 Community entrance - Danwei; Source: Author

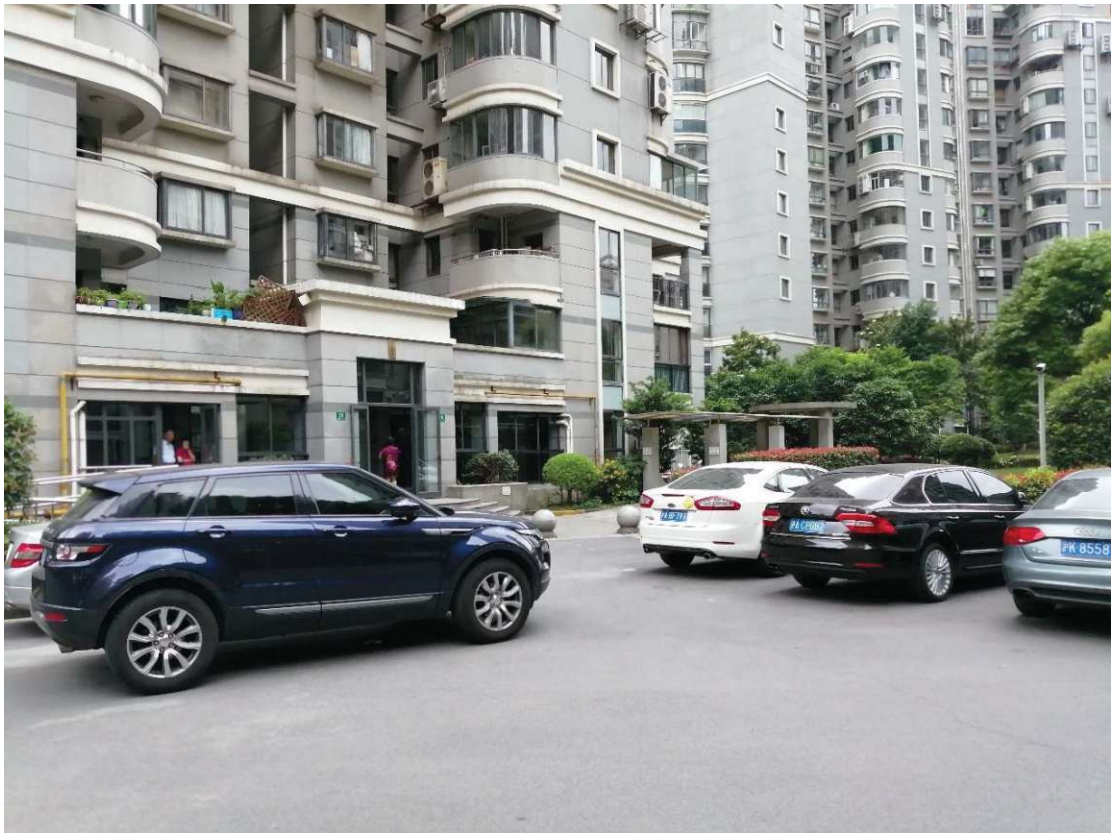

Figure 6.5 Facades - Xiaoqu; Source: Author

Figure 6.4 Facades - Danwei; Source: Author

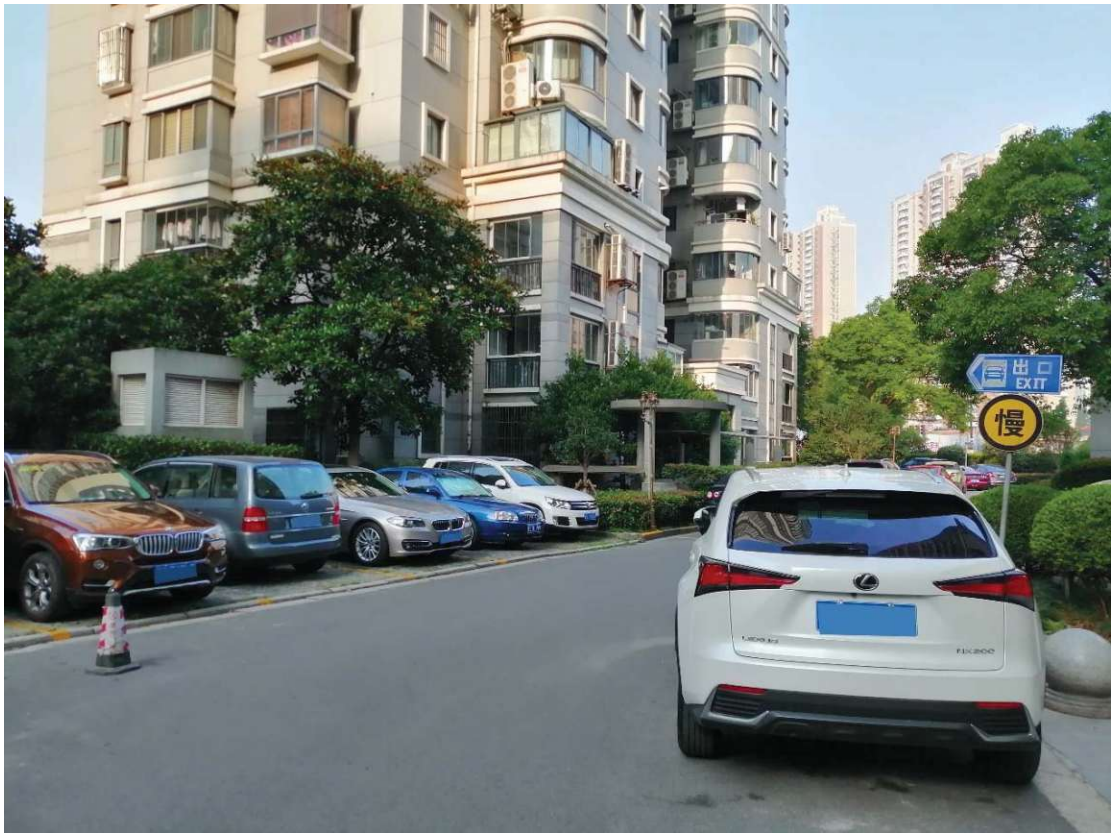

Figure 6.7 Parking - Xiaoqu; Source: Author

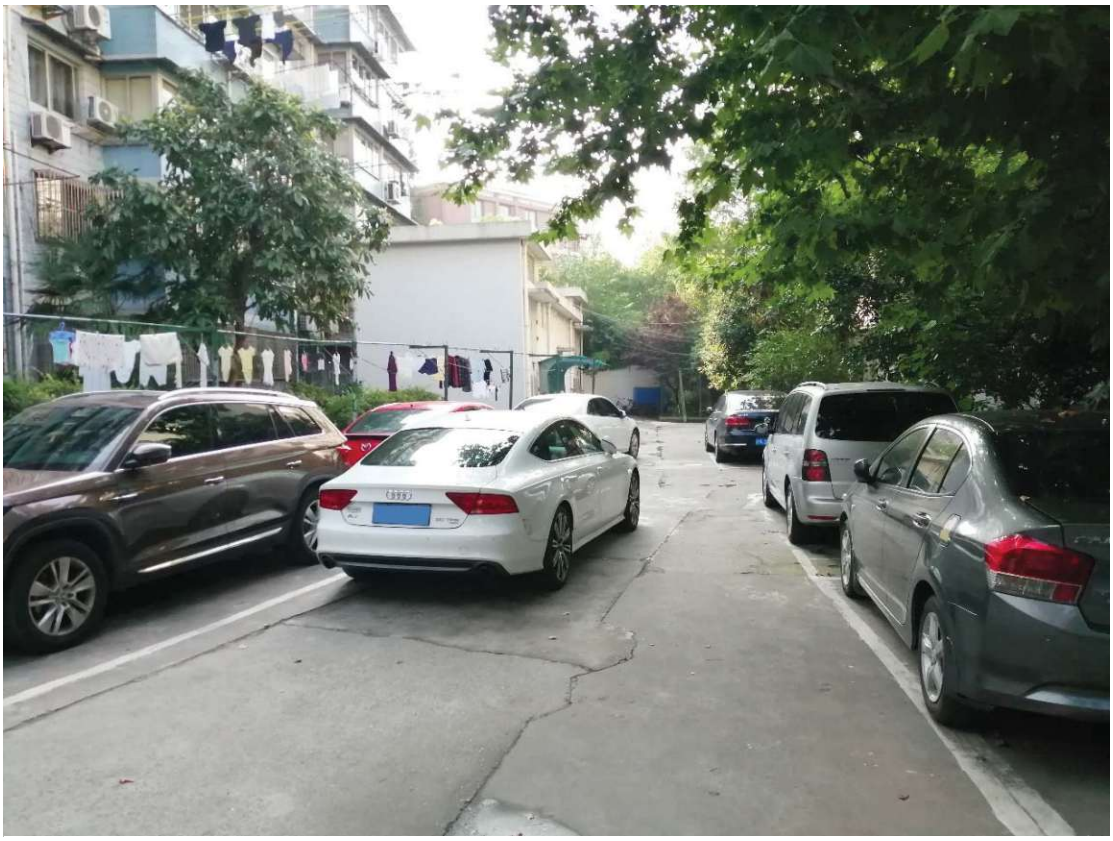

Figure 6.6 Parking Danwei; Source: Author

Figure 6.8 Sports equipment - Xiaoqu; Source: Author

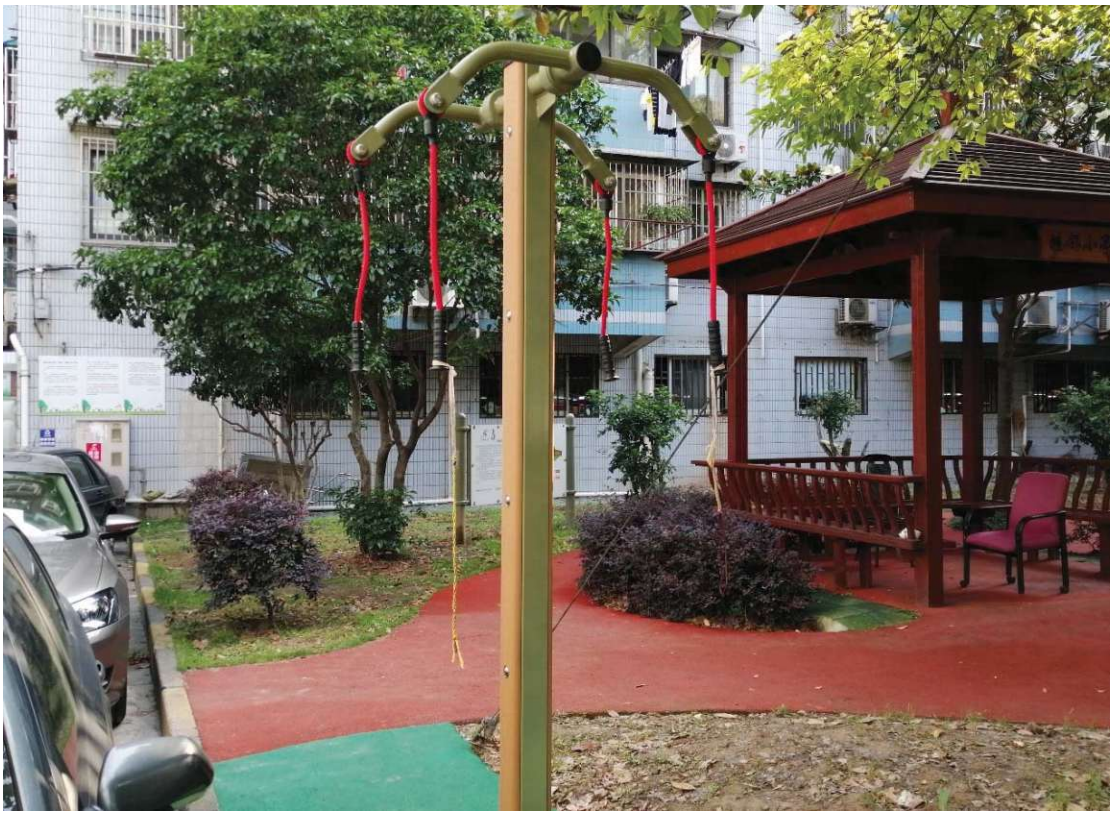

Figure 6.9 Sports equipment - Danwei; Source: Author

Figure 6.11 Facades - Xiaoqu; Source: Author

Figure 6.10 Facades - Danwei; Source: Author

6.1 The Xiaoqu – Site 1

This chapter provides first introduction to observation site 1, the *Modern Gated Compound*. Characteristics of the community itself, as well as its surroundings. This already includes first research results.

Major factor for this particular site is the accessibility of the areas. Former experience has shown that some communities are more "protected" than others. In this case, the community proves to be guarded very poorly, even though all entrances are monitored by at least one security guard.

As mentioned before the area is in Shanghai's inner districts. With the access to two metro stations, as well as bus stations within a ten-minute walking distance, the community is well connected to the whole city. Further, the area tangents to two high level streets. However, it is enclosed by walls, fences, and gates.

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To get significant observation results, the community is split into five different observation areas. Each one different and each one defined to show different designs of semi-private space within the community. As established before, each of the chosen areas was examined based on the indicators and criteria. Not the whole community is divided in observations areas. Some parts only indicate minimal use, and their design also indicates that they can hardly be used. This is especially true for streets that are away from buildings. In these cases, the expense of having an individual observation slot does not pay off. With the universal criteria, however, these areas are still included in the assessment.

As defined in chapter 5.1.2 to 5.1.2.3. Some of the criteria is the same for every observation area. Those indicators will be discussed first. The results of the more detailed observations.

Note: Impressions from the research area can be found in chapter 10.8, p. 218.

Figure 6.12 Research site 1 - Xiaoqu

Source: Author

Note: The graphic shown is not a map, just a sketch of the examination room. Due to a lack of data, no map could be made. Sizes, distances, and other things cannot be derived from this. However, the sketch serves to give an approximate idea of the area.

6.1.1 Universal criteria

Some of the criteria is universal, meaning they are the same for the whole community. These criteria will be discussed first. In a later step, the observation areas will be analysed one by one.

Although it was not possible to identify the owner of the whole estate, it became clear that each of the approximately 880 apartments may be owned by a different resident. As all of them finance the maintenance of the semi-public area, this seems to be many stakeholders.

As a second not observable indicator, it was also not possible to determine if there are any kind of programmes in order to stimulate the creation or improvement of public spaces in any kind. Therefore, the indicator is not evaluated in this case studies.

Although the area does not seem to lay in between two different points of interest directly, it is connected to a bus stop and three subway stations in a ten-minute walking distance. Both points that bring hundreds of people into the area every hour, with the hinterland consisting of mostly residential areas. But this residential area seems to lack certain qualities, as public open spaces for example.

The closest public park is *Sichuan North Road Park* in the west. The park is more than a kilometre afar, with multiple bridges and crossings of main roads in between. About the same distance from the community lays *North Bund Green Land*, a newly designed section of *Hangpu* River's coastline. To the north is *Heping Park* with almost 1.5 kilometres to the community.

Next to two of the Metro stations nearby *Hailun Road* and *Linping Road* is one plaza each. Especially the one near *Linping Road* seems to be used by many people for various reasons. It is an area for commerce but also for children to play. However, they are both not public but belong to a bureau complex respectively a shopping centre. Also, both plazas are about more than half a kilometre away. However, all of the parks are quite large and offer many possibilities for users.

Furthermore, there are also important Right in the middle of the community, is a commercial building, that is proven to be a point of interest within the community boarders, but also moreover those. The two-storey commercial building includes a hairdresser, a convenient store, a fitness centre and a swimming pool. In different observation areas, to various times, people have been seen with either directly entering

the building or with equipment like sports clothes or swimming gear. This includes people from inside the community, but also people from the outside.

Additional to the large distances to open spaces, the area also lacks certain qualities in the surrounding street layout.

The community is enclosed by four different road, of different rank. To the south east is Zhoujiazui Road. A six-lane road with high traffic frequency. The road this big road brings air, as well as noise pollution with it. Observation area one and two are strongly affected by these emissions.

To the southwest is Hailun Road. The normally very busy road has a very quiet section here. Reason for that is the Xinjian Road Tunnel, that connects the area to Pudong. It is only at the crossing Haila'er Road, that one experiences the high volume of traffic at this road. Also, the tunnel exit cuts the road in half and makes it impossible to cross the road besides the east and the south end of it.

The just mentioned Haila'er Road, north west to the community shows the value of motorised transportation, or as others might say, the expectations of future individual motorized Transportation. Although it is hardly used by cars, the road is four lanes wide.

To the north east is Tongzhou Road, a small road compared to the others. There is only little traffic as it is one of Shanghai's second tier roads, connecting the numerous communities in the area to the main roads.

Only a small part of the surrounding streets is designed for uses besides passing by. At these small passages, sidewalks are wider, and shops are facing the street. At the other passages' sidewalks are narrow and often blocked by rental bicycles or other barriers.

6.1.2 Observation Area 1 – Fore Court

Figure 6.13 Observation area oversight
Source: Author

The first observation area is not inside the community's gates. It is the community's fore curt. As such it is design to present the community's main entrance. It enfolds a main plaza – the actual fore curt – and a green area. The plaza has multiple design elements like trees as well as two unused fountains. Additionally, it is used as a bicycle parking lot for rental, as well as private bicycles. Also, e-scooters are often parked at the plaza, by delivery people but also by others.

The green area consists of various trees and bushes. More important there is a small path leading through this exact green area. This is especially important as it shows that the establishing of green areas and paths, accessible for people who do not live in the community, is already a used practice. As the observations, which will be discussed later show, this particular area is used by people who are linked to the community, but also by people who do not show a relation to the community.

Figure 6.14 Xiaoqu – Area 1 – Fore Court; Source: Author

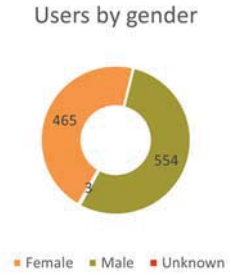

Figure 6.16 Users by gender

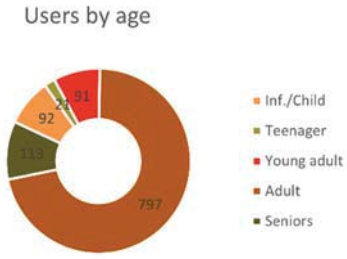

Figure 6.15 Users by age group

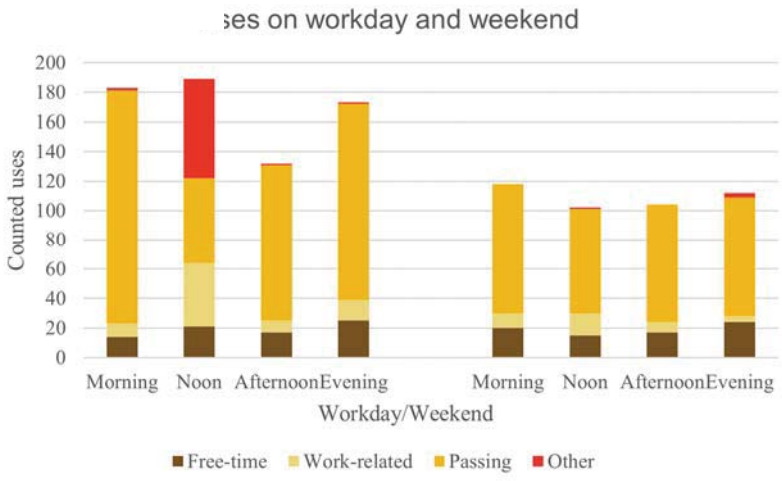

Figure 6.17 Uses in Area 1 – Fore Court

6.1.2.1 Current usability

The plaza is clearly designed to strengthen the representative function of the main-entrance-building. It is bounded by pollards to prevent cars from parking on it, as well as green areas with openings or a path to guide people through. Nevertheless, people have been observed taking short cuts though the bushes, especially at night-time when the green path is not illuminated.

Although the area is used for different functions, it is clearly not designed to spend time there, since there is little shadow most of the day and not a single bench to sit and rest.

Summed up, there have not been any uses that seem to be particular to other semi-public or public spaces.

A total of 1119 uses have been counted in the area on both observation days together. By far most of these uses were *passing* through the area. To be exact a total of 775 people passed through the area, more or less directly. This is about 69%.

Probably the most interesting fact about people passing through is, that even though the by far biggest share of people leave or enter the community, a small number of people uses the path in the green area and other exits from the area, either because it is a short-cut, or because they avoid taking the sidewalk, directly next to the busy street. Still, at the public sidewalk have always been more pedestrians than in the area. Especially at night-time, when the green path was not illuminated, almost no one used the path to the green area anymore.

These phenomena are, even though the exact numbers differ, basically the same during the week and at the weekend. Meanwhile other uses sometimes differ between weekday and weekend. Although the number of people using the area is bigger during the week, the weekend observations show a higher diversity in uses.

The most obvious spike in use is seen during the week at noon, in the category other uses. This spike can be tracked back to a group of nine children, together with sometimes three, sometimes two grown up women watching them. During the observation it first seemed like this group, coming from the community exit will just walk through the green area. But in the end, they stay at the area at least one hour and forty minutes. In the area at the exact same spot. Never doing something other than standing in a row for more than a few seconds.

So, one must understand that this peek does not come from a high number of users/people, but from the persistence of a small group staying in the area for a high number of observation-timeslots. This is also reflected in the number of users per age group.

Further the area is highly frequented by securities. But at a closer look there is only one incident, that might show controlling function by them, on both days together. For the rest of the day, securities sit in the security booth or mostly stroll in the area. In this case, the high number comes from persistence instead of a high number of people too.

The free-time related uses show a picture of a quantitively not very much used area. For the most part, people use the area for leisure, which is surprising given the fact, that there are no benches in the area and the air gets very polluted during the day, due to the highly frequented Zhoujiazui Road. The second most observed use is people walking dogs.

Besides that, other uses are only observed in small numbers. Surprisingly, this area, with very bad air quality functions as gym for some people and as a place to relax. Latter is mostly represented by a small group of Shanghai Service workers. All in all, this small group may be one of the most active groups to commandeer an area. North of the area in Tongzhou Road, a hydrant is located. It is often used to refill the water tanks of the seemingly endless number of road sweepers that roam through Shanghai all day. Some Shanghai Service workers seem to have extended their working area with a break room. A chair, hidden in the bushes of the green area is all it takes to make sometimes three workers rest in the shadow of the trees for often more than an hour.

There are multiple indicators, that a lot of extern users use the area. For example, the high number of people crossing the area, without walking in and out of the community, allows the suggestion, that the area is used by many people who are not residents. Especially when it comes to the people walking from the green area entrance to the crossroads, or the other way around, it is safe to assume, that people use the path to avoid the sidewalk, which is far more exposed to Zhoujiazui Road's emissions.

Additional to the users by foot, about 60 bicycles and 60 e-scooters in total have been counted during both observation days. Almost none of them are driven through the area, but almost everyone starts or stops at the plaza. no conflicts between vehicles and other users occurred. Neither when it comes to the use of space nor when it comes to specific uses.

6.1.2.2 Privacy for residents

With only one side of the area next to buildings, there is not much ground floor to use. However, the main entrance building's ground floor has a residential function. None of the buildings can be accessed directly from the area. The view into the buildings on the ground floor is limited by bushes and the distance provided by two non-functioning fountains. Regardless, it is still possible to see into the apartments on the ground floor. The residents use curtains to prevent people from looking into their homes.

Actual signs of a community or some other kind of social cohesion of community residents did not occur. Only the Shanghai Service workers seemed to somehow commandeer a part of the area for them.

Additionally, some people have been observed greeting each other when they walked past each other. Mostly only people entering or leaving the community together interacted with each other. But again, most of those people just passed it. There are some exceptions, for example some people walking dogs, who interact with each other. But besides that, the only other group interacting with others are the securities. Multiple times they have been seen talking to people who seemed to be community residents. However, the area seems to lack some quality for a community to emerge.

6.1.2.3 Connection to the outside

As the only researched area outside the actual community, it is not surprising that it is the most accessible. People use this opportunity as demonstrated in prior chapters.

6.1.2.4 Summary and conclusion

All in all, even though the area is exceptional due to its location outside the community borders, there are only little differences to other observation areas in the *Xiaoqu*. At least when it comes to uses and users. Except of course the very important fact, that the area seems to be actively used by many people who do not live or work in the community.

The observations also allow the assumption that people who do not live or work inside the community, use the facilities there. To be exact, the fitness centre as well as the pool which are both located in the commercial building in observation area three. People in sports clothes can be seen walking in and out of the community. As well as people who are carrying swimming gear. One conclusion that was/could be reached by

the end of the observation, is that the community is by far not as guarded as one might think. One example of this is the lack of monitoring carried out by the security guards by the entrance. Often the key card needed to enter the community can be found next to the gate, allowing any person to enter and leave as they wish.

The biggest difference to other areas inside the community might be the underrepresentation of children here. This seems to be similar to the rest of Shanghai, since children seem to be underrepresented in almost all kinds of public or semi-public spaces. This goes for streets, plazas and parks. Of course, there is the exception of the group of children standing on the green path for more than one and a half hours.

Due to the area's location outside the community borders, it is a good example for possible openings of the communities. An area maintained by a community but also accessible to a wider public. Since not many conflicts arise from the dichotomy of general publicness and privacy for residents there seems to be no reason to change this situation. Indicators regarding to the connection the outside, as well as the universal criteria for Case Study Site 1 suggest, that this area is a perfect exemplar to show that openings of the community can work.

6.1.3 Observation Area 2 – Entrance Area

Figure 6.18 Observation area oversight
Source: Author

Observation area two lies in between observation area one and three. It is chosen to observe the connection between the community entrance and residential buildings by the entrance. Further it is supposed to give an insight on the front porches of buildings and their uses, as well as the happenings on the community's street layout. Thus, they are expected to help answer questions about the privacy and the community life in an area, that does not seem to be designed as more than a transit area. Additionally, a further look on people entering and exiting the community via the main gate is possible.

The area consists of a street, some green and some art elements. It includes six different entrances to residential buildings. All of them with front porches. In one of the building's lobbies a postal packages station is located. People can pick up packages there, brought by delivery people. Four entrances do not have a front porch as others in the community. They share a space underneath the arch of the community's entrance building. As securities are present there most of the day, this might influence the behaviour compared to other front porches. The street space also holds dozens of parking spots for cars, as well as a parking lot for bicycles and e-scooters.

Figure 6.19 Xiaoqu – Area 2 – Entrance Area, Source: Author

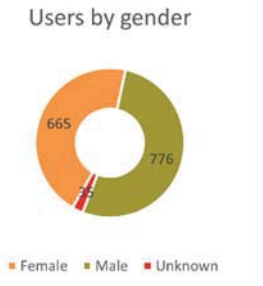

Figure 6.20 Users by gender

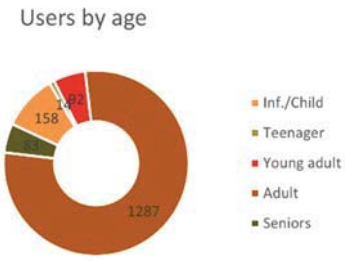

Figure 6.21 Users by age group

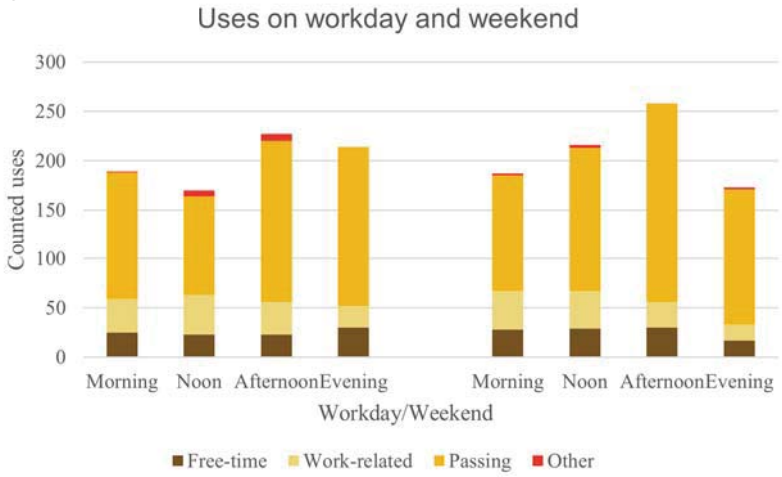

Figure 6.22 Uses in Area 2 – Entrance Area

6.1.3.1 Current usability

As other areas in the community, the area seems not to be designed to make people stay here. There are no benches, not even on the front porches. The front porches on the other hand are outlined either by green spaces or pollards, both to prevent cars from parking on them.

At first sight one can see clear similarities to every other observation slot. Like almost every area, the Entrance Area is primarily a transit place. Of the 1634 uses counted on both observation days together, 1160 people passed through the area. Like in Area 1 and Area 5 this is about 70% of all uses. Most of them walk between the residential buildings in the area and the community exit. Others mainly walk from Area 3 to the community exit or the residential buildings.

When looking at the numbers without people passing, the data shows a picture that highlights the area as transit area even more. The second most counted use in the area was delivery work. This is work not done by residents but by external workers. This shows two things, on the one hand the area is a transit area. On the other hand, it is already very open to people from the outside.

Another group of people who often use the community as a workplace are maintenance workers. From morning until the afternoon these also non-residents use the area as one of the biggest groups. When summed up, the number of work-related uses is always higher than the number of residential- related uses.

Looking at the residential-related uses, the area was most often used for leisure and meeting other people. Together with the use strolling, it shows that there is an urge to use the area as a place to relax. These uses especially focus on the residential buildings' front porches that provide shadow, as well es some design elements to take a seat and rest. Again, there is not a single bench within the observation area. But this does not hold people's needs back. They help themselves out by sitting on small walls by the green elements or even bring a chair with them. Additionally, the area is often used by people walking a dog, even though most of them pass the area with the dogs.

There are also functions as a running track for a small number of people. These runners run in circles inside the community. They run on the street even though cars often drive rather fast, the street is badly observable and during night-time insufficiently illuminated.

Additional to the many people using the area by foot more than 120 cars drove through the area on each observation day. Additional, on both days together more than 120 e-scooters and 30 bicycles crossed the area. The high number of vehicles plus the fact that it is not possible to overview the area from a car driver's perspective, sure influences the area's usability. The street space is clearly designed for cars. There is not even a sidewalk along the road. Even though there are far more people crossing the area or using it for other things, cars dominate the street space the whole day.

Like other observation slots, there have been observed far more men in the area than women. A part of this statistical overhang can be explained with a look on the uses, since there are a high number of work-related uses was detected, and by far the most of those working are men. To be more precise, about 110 of the counted uses have been work related. Not all men, but mostly. Subtracting this number from the number of male users, the sum shows a much more equal distribution.

As for the user groups by age, the numbers show the same circumstances as in other observation areas. But the high number of children compared to Area 1 and the low number of people playing (with children) shows that also for them, the area is mostly a transition room.

Like in observation-Area 1, the number of people who do not live in the area but enter it due to work is quite high. Even when counting maintenance workers and securities as part of the community, due to the high number of delivery workers and the estimated number of unobserved people who enter the community in order to go to the commercial building in Area 3, the area is certainly not as gated and private as one might think.

6.1.3.2 Privacy for residents

All ground floor areas are used for residential purposes, the only exception from that are the lobbies inside the buildings. One part of the buildings in the area is elevated about one meter. This makes it easier to block the view into apartments. The other buildings closer to area three are not elevated. Even though there is green space that provides distance from the paths through the area, one can easily see into some of the apartments. Also, the dimensions of these green spaces are not consistent. In some cases, it is not even half a meter. The situation as it is now is only providing insufficient privacy for a small number of the residents.

All residential buildings are only accessible with an electronic chip key. While lobbies are accessible for anyone who made it into the community, one cannot enter the rest of the building. The staircase is locked and is only accessible with the chip key. Also, the elevators do not function without this key. All in all, to get into an apartment a person must go through four security points, resulting in a high level of safety and privacy.

The entrance building with its big arch and the thereby special situated space underneath it, creates a special kind of front porch area. It is a space often protected by the sun during the day and also from rain. The observations have proven this area as one of the most frequented areas in the whole community. But this goes for all kinds of uses and users. On the one side it is clearly a place where people communicate. They meet in groups, children play there, and they talk to the securities in the area. One could easily argue that this place needs to be protected for the community. But it is also the most frequented space for people walking through the area. As it was mentioned before, this includes residents as well as a high estimated number of people from outside the community.

This means that there is no difference between the hot spots for residents and non-residents. Thus, if the area is an area for community residents to interact, it implies that people do not mind a high frequency of others. A circumstance that is not unique to Area 2.

6.1.3.3 Connection to the outside

Besides the residential buildings, the area can be accessed from four different points. From the street to the north and the south, from Area 3 and from Area 1 – the community's fore court. Clearly the area is accessible from inside the community without any restrictions. As it goes for the community entrance, one would assume some restrictions due to the gate, guarded by securities. But the observations have shown that there is barely any kind of control. An electronic chip key is even laying by the entrance gate for everyone to use most of the time, making the argument that walls, fences and gates are necessary for security reasons somehow abstruse.

The community's main entrance is located in the area. Therefore, it seems like the area is as near to the community's boarders as it can be. Additionally, the area is separated from the outside by fences and green fields. Both structures that can easily be demolished and re-designed.

6.1.3.4 Summary and conclusion

Transit, deliveries, and cars are probably the most fitting words to describe the Area 2. The area does what it was designed to do. Vehicles can drive through, or park at the numerous parking spots, while other uses are concentrated on the residential buildings' front porches. This shows that areas that call for a certain degree of privacy, need answers on a much smaller scale than the defined observation areas. Due to the design of the area, these spaces are already separated quite precisely. More importantly, the residents seem to accept these apportionments.

Most parts of Area 2 are very open to the community's residents, as there are very few restrictions on the use of the area. Despite this, a lot of areas, especially the street, the parking lots and some of the paths are mainly used by people to walk through the area. They seem to be barely used for other things, except what they are designed for. This is not necessarily spatially divided. For example, the front porches must fulfill different functions for different users. They must meet the demands of the numerous residents with their various needs, as well as those of the high amount of delivery workers. This lends itself to the speculation that the areas most used by residents, are also the areas most used by outsiders. Even people who stay at the front porch for a longer period of time do not seem to feel disturbed by the high frequency of bypassers. Even though there are signs for a space with special importance for the social life in the community, a high frequency of people walking through (including people who most certainly do not live in the community) do not derogate this effect.

When it comes to the matters of privacy for residents, the situation is a bit more complex. The missing control of people entering the community indicates two things. First, the feeling of safeness is based on a placebo effect. Second, residents do not seem to mind that fact. Probably this acceptance for an uncontrolled entrance into the community comes from the reassurance that there are multiple safe points, which need to be passed with a chip key, within the residential buildings.

However, there are still needs for improvement. The distance and the view blockade to some of the apartments' windows is not sufficient and would need improvement even if the community is totally locked down for visitors.

All in all, the area seems to be ideal for an open design for three reasons. First, the short distance between the community border and the entrance gate. Second due to the wide underused space the road occupies, this area could be opened to pedestrians

with only little adjustment when it comes to traffic speed and safety. Third, the fact that there are already two kinds of semi-private space in the area. One is separated from paths by structural measures, and the other one is at the same time the area, most frequently used by bypassers. Therefore, with only little structural adjustments when it comes to the residents' privacy, the area could contribute to a more walkable city by creating a system of paths, much closer to the human scale.

6.1.4 Observation Area 3 – Central Plaza

Figure 6.23 Observation area oversight
Source: Author

As the name Central Plaza suggests, Area 3 is one of the most central areas within the compound boarders. But its centrality does not only come from its position. It is also the area that is expected to show the most user and use diversity. It is chosen as an independent area because of the multi-functionality its design suggests. It is also one of two observation areas in the community that seems to be designed to provide certain qualities and functions for residents. For example, it is one of only two areas with benches in it.

The area does not only consist of one central plaza alone. It includes also a second plaza-like area, that proves to be much less used then the actual main plaza. Additionally, the area consists of a playground, an area with sports equipment (as it can be found in almost every community in Shanghai), one single residential building‘s entrance area, a water fountain and a commercial building plus its front porch. The commercial building includes a fitness centre, a pool and a small convenient store as well as a hairdresser. It also includes many vacant salesrooms. Therefore, there is much unused potential. It building also includes something that seems to be an abandoned kindergarten. From opening at about 10 am to the closing at about 10 pm, the commercial building, the people who use it, and the people working there are an integral part of the area. The area borders two other observed areas: Area 2 and 4, to the east and west. Additionally, it borders two non-observed areas: a parking lot to the south and a road to the north.

All in all, the area is definitely one of the areas hardest to observe due to the many sub-areas and the many functions it can provide. In order to determine if the area and the community as a whole is used by externs, a questionnaire was handed out. Not

representational but it still proves certain assumptions.

Figure 6.27 Xiaoqu – Area 3 – Central Plaza, Source: Author

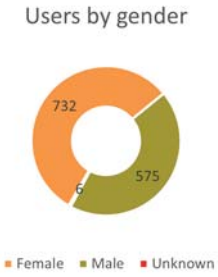

Figure 6.24 Users by gender

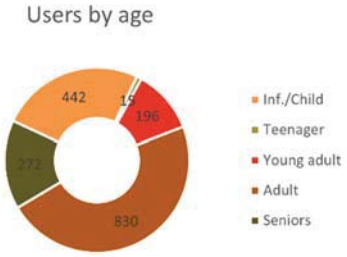

Figure 6.26 Users by age group

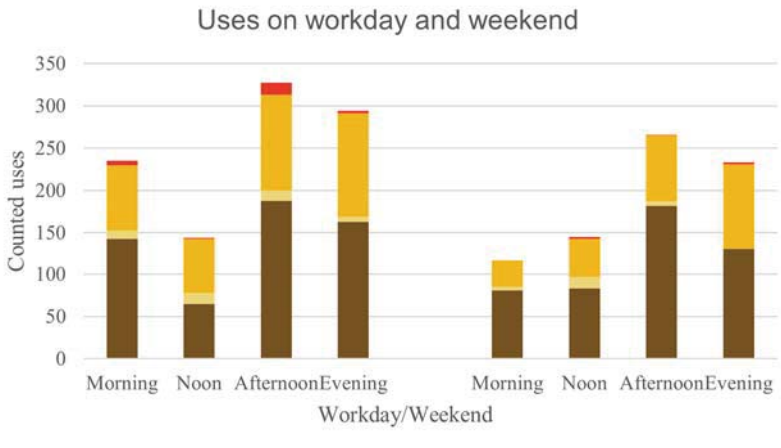

Figure 6.25 Uses in Area 3 – Central Plaza

6.1.4.1 Current usability

There seems to be no design that prohibits certain uses. However, one must say, that people do not seem to use certain parts of the area as they are intended. There is only one circumstance that prohibits a certain use. It is not clear if intended or not: The area is only accessible from one side without stairs in the way, making it, not impossible, but hard to drive through the area with a car, an e-scooter, or a bicycle.

Even the first look on the use-statistics show a significant difference to all other observation areas. People passing through the area are not the biggest user group through the day. In some cases, the number of children playing, respectively grown-ups who are with them, outnumber the people passing through the area by far. This goes for both workday, and weekend. About 36% of the people in the area use it to pass through. This is much less than in Area 1, 2 and 5. Interestingly the analysis of relations between different start- and endpoints for people walking through shows that the commercial centre is a very important point of interest inside the community. But there are more differences than that compared to other observation areas.

When looking at the time differences there is a significant drop in total uses during noon on the weekday. This might be due to the heat during the day and the little shadow in the area on its most used part: the central plaza in front of the commercial building. The only kind of uses that do not drop at this time are work-related uses. However, the total number of uses in this category is very small.

Then again, on both observation days, the number of counted uses rises during afternoon and evening. This is especially due to the high number of children playing and grownups playing with them, as well as leisure related uses. The latter is on one hand due to residents, but also due to people working in the commercial building who use the building's front porch as well as the benches on the playground for their work-brakes. In the evening, the plaza is so full of live as it was only found in one, maybe two of the nine observation areas.

Another noticeable circumstance is the high number of times sport-related uses have been observed during the morning and in the evening. Especially the high number of counted sports uses goes back to a use one might call very "Chinese". Apparently, every day a group of elderly women and men comes together at the plaza in front of the commercial building and practices Tai Chi for about an hour.

All in all, one can see that the assumptions regarding the diversity of uses have proven to be true. A very unexpected circumstance is the distribution of uses. By far

most people use the main part of the plaza for basically every use. Interestingly, the number of sports uses at the sports facilities is not much higher than the number of sports uses at the playground. Most sports-uses happen on the central plaza. On the other hand, there is almost no timeslot with more children playing at the playground than in other areas. The children playing and their accompanists spread over the whole area. The two plazas are mainly used for playing ball, running around or play with bicycles, scooters, or other vehicles. The playground is mainly used by children climbing on the climbing frame. Also, the fountain is mainly used by people playing there with water pistols and other toys. The commercial building's and the residential building's front porches are used by children playing there. It is safe to say that the whole area is a giant playground for the community's residents. Even long after sundown the area is full of live. Nobody is bothered by the insufficient illumination in the whole area.

No uses have been found that do not also happen in public or semi-public spaces. However, it is noticeable that children seem to be "concentrated" at this one point.

The area is mostly free from traffic. In total, weekend and during the week, just a single car used the plaza to turn around and drive off again. Besides that, there have been some delivery e-scooters and not even a dozen bicycles in the area. Nevertheless, especially the e-scooters where often in conflict with playing children in front of the commercial centre. There are also some bicycles and e-scooters parked beside the commercial centre, but in such small numbers that they do not seem to influence the happenings on the plaza.

As one can clearly see, there is an obvious difference between the users by gender in Area 3 compared to other areas. It is safe to say that this phenomenon, and the fact that children playing and grown-ups watching them mainly use the area, are linked to each other. This might also go for the relatively high number of elderly people and of course for the high number of children. Comparing the age groups by gender shows a very high number of elderly women compared to men.

Like in other observation areas before, the really interesting thing is the high number of people walking through, and where they are coming from. As mentioned before, the commercial centre is definitely a point of interest inside the community.

However, as the observations have indicated, not only community residents use it, but also people from outside the community. In fact, a questionnaire that has been used to validate some assumptions that occurred during the observation has shown that there are in fact people who enter the community just to enter the commercial centre. The number of people who do so is not known but can assumed to be very high. This means that the area that has the most children in it, the age group that is the least represented in semi-public and public spaces and is definitely the most vulnerable, is also the area that draws the most attention to people from outside the community, showing that these two circumstances do not exclude each other.

6.1.4.2 Privacy for residents

There are all in all four buildings bordering the area. The three residential buildings all have apartments on the ground floor. The one residential building that is accessible from the area has mostly its lobby facing the plaza. Even though the distance-green to the residential buildings has different degrees, the green areas mostly block the view into the apartments sufficiently.

The hairdresser, the convenient shop as well as the entrance to the fitness centre face the plaza in the commercial building's ground floor. Especially the convenient store could probably benefit from occasional customers walking by if the number of people doing so was higher. The people using the plaza barely enter the store.

The one residential building whose lobby is facing the Central Plaza is open most of the time. Especially children use the building's front porch to play. So, it is on the one side easily accessible, but on the other side almost permanently observed by others. Inside the building there are the usual safety precautions. So, one needs a chip key to even enter the staircase or use the building's elevator.

The high numbers of people playing with children or watching them play, as well as the children themselves suggest a high level of visible signs for an active community. But the observations draw a picture which is a little more diverse.

The most common form of communication was between children and the grown-ups who accompanied them. At this point it must be said that mostly there was at least one grown-up with each child in the area. The reverse case when there was an adult with several children occurred too, but much less. But except for very little cases,

children or even teenagers seemed to be alone in the area. In fact, this counts for the whole area.

There have been times when grown-ups talked or communicated in another way with each other, but there have been as many where they did not. Then the children and the grownups accompanying them form a group, shielded from everyone else. Also, children sometimes played together, share toys, and talk to each other. Other times again they only communicate with the grownups accompanying them. There is no clear pattern.

It must be mentioned too that exactly the area where the community seems to come together the most, at least quantitatively, is also the area that has the most attractive point of interest for externs in it. So, the interest in uses by people from outside the community and the use and needs from residents seem not to be in conflict with each other.

There is one group of people that shows definitely some kind of community living: the group of elderly people (almost exclusively women) doing Tai Chi in the morning. They are mostly the same people there every day, with some of them staying for a couple of minutes after the practice and talking to each other. Nevertheless, they are not in conflict with any other use. Probably mostly due to the time slot they use, the very early morning.

Another factor of community life is the convenient stores vendor. Especially in the evening hours he comes out of the shop from time to time, overviewing the area and talking to others.

6.1.4.3 Connection to the outside

The area is accessible from four directions. From north, coming from a not observed street, from east, coming from Area 2, from south, coming from a non-observed parking lot, and from west, coming from Area 4. Additionally, people can enter or exit from/to the residential building as well as the commercial building. The Area is not passable with a vehicle and only from the buildings and the non-observed parking lot it can be accessed because of stairs on any other entrance. There is no community entrance/exit in the area.

It is proven that the area is already used by externs, showing that the area is probably already very accessible for a gated community.

The area does only boarder other community areas. Therefore, it would not be possible to just make the area accessible alone.

6.1.4.4 Summary and conclusion

The area proves to be one of the most diverse areas from all nine observed areas. One can clearly see differences in uses at different times. Single groups differ during the day and occupy the plaza in the manner that they need it. In the morning it is a group of elderly doing Tai Chi, in the afternoon it is children playing. While during noon, there are little uses observed at all.

Most of the time, the area is a giant playground. Children and their companions use the area as intensively as no one else. They often stay for a longer period of time, but there is also a lot of fluctuation.

Besides time, there is only little that influences the area's uses. One influence is the weather. At noon, the area provides barely any shade, resulting in the area only being used a little. Even people walking through try to stay in the shade as much as possible. Besides that, there are, very few influences on its use, not even traffic stops playing from being the main use of the area.

As the main use suggests, the number of children using the area is much higher, than in other areas. While the percentage of people just passing the area is half the percent points of other areas.

The use of the ground floor is not in conflict with an opening of the area due to substantial amount of greenery and other view blocking elements. The already existing security measures, which prevent strangers from entering all the community's residential buildings, provide further privacy and security.

The commercial area might even profit from the higher number of people walking through to the area as a result of an opening. At the same time, it might also function as an incentive for people to enter the area.

The distance to the community boarder and the need to open other parts of the community if this one should be opened, seems to be the only fact contrary to an opening according to the here set indicators.

Finally, the area shows that an allegedly large number of externs and a high grade

of community life area do not exclude each other. Most of the people coming from outside the community just walk through. Nevertheless, the fact that they can do this, and people still use the central plaza in front of the commercial centre the most, shows that the level of discomfort triggered by externs is limited. Despite the fact that the area is mostly filled with child-related activities.

The answer to the question might be in the general conduct of childcare. It does not matter if inside or outside the community, children are barely seen without adult supervision. So, there is, like with the residential buildings accessibility, a multi-layer system of safety. However, it is questionable if it really needs the pseudo-safety of the community's walls and gates, and the permanent supervision. Only one might be enough to open community borders and benefit the city's goals for future walkability and supply of open (green) spaces.

So, even though the area is in the heart of the community and includes many measures that are commonly associated with safety, there are still a high number of external visitors. Additionally, it provides all of the amenities that can also be found in public or semi-public spaces.

6.1.5 Observation Area 4 – Park

Figure 6.28 Observation area oversight
Source: Author

The park is an area like no other. Due to its design, it is expected to give possibilities for a set of functions, differing from other areas. Most of the area is green space. Bushes and trees beautify the area while paths give the possibility to stroll in the park. A pavilion, also a common design object in many communities, is at the centre of the different paths. The large amount of green space also results in a quite active wildlife. Multiple times during the observation slots it was quiet enough to hear birds in the area. And of course, it is also a hot spot for local cats.

It is a very clearly defined area. Most of the park is bordering residential buildings. The two only entrances are connecting the area with Area 3 and Area 5. The park has two potentials. On the one hand it is a transit area, on the other hand it has the potential to provide room for leisure as well as some other activities. The observations show how these multiple sets of possible functions influence each other.

Figure 6.31 Xiaoqu – Area 4 – Park, Source: Author

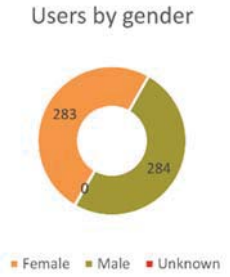

Figure 6.30 Users by gender

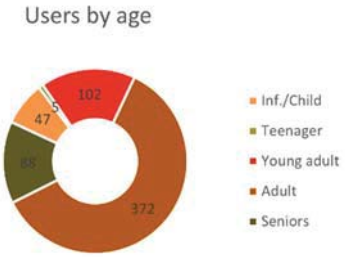

Figure 6.29 Users by age group

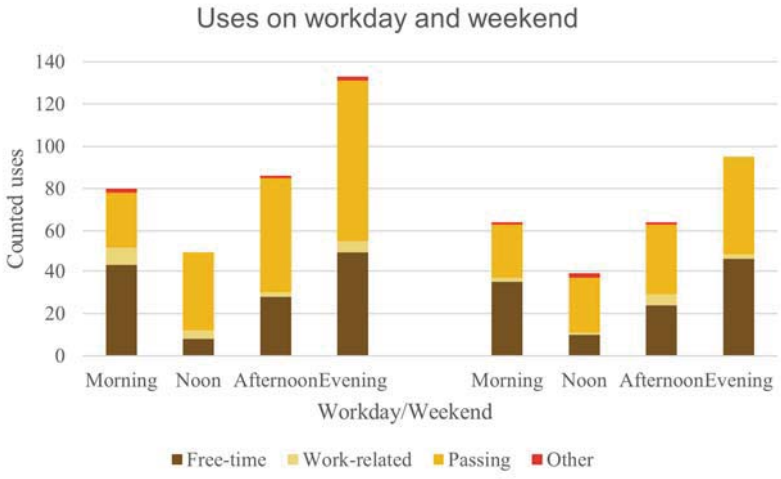

Figure 6.32 Uses in Area 4 – Park

6.1.5.1 Current usability

The park seems to be designed down to the smallest detail. Paths are framed by bushes to prevent people from walking into the grass. Some areas, like a big field of grass are not usable due to this and makes people walk detours.

Additionally, the area is clearly subdivided in areas made for strolling and areas made for lingering. Latter are equipped with benches and a pavilion. Therefore, without any regulations the area produces space which is very defined and seems to control what is happening where.

Analysing the area shows a familiar picture. The number of people passing by exceeds the number of any other use by far. And little surprising, the amount of people walking to either one of the two only possible entrance or exit points only differs by one person during the whole day.

But still there is a big difference to other areas. The number of people walking through the area, and the number of other uses, are almost the same, making the area the most balanced one, regarding this criterion. Also remarkable is the number of different uses the area is used for.

People who walk dogs are the group that communicates the most. Even though, most of the time it is not a very extended form of communication, they often greet each other and some even talk to each other, making the use the second use, besides playing with children, that seems to connect people.

But further, one can find many different uses. Some related to sports, some to leisure and some to other hobbies. People have been observed doing sports like Tai Chi, jogging, power walking, practicing boxing, gymnastics and stretching. Besides that, many of the people walking through in the direction of the Central Plaza, wore sports clothes or have had swimming utensils with them.

But people also use the park in many other ways. Some have been observed singing, dancing, and taking pictures of plants or listening to music. Another woman feeds cats in the area for about an hour. There was even a person reading a book. Additional several people strolled in the area, relaxed on one of the benches or some came together talking to each other while again children used it as a playground. Interestingly, the area is designed in a way that allows all these functions to coexist with the many people walking through, without any interference. The most direct way to cross and the more functional parts of the area are separated.

The area did not only show many different uses in form of the used categories, also within these categories, people do more different things than in any other area. And there are no big groups like in Area 3. There are mostly one or two people doing many different things.

Interestingly, the number of observed activities drops significantly at noon, even though the area provides more shadow than the plaza. There the same phenomena can be seen. Then again, the number of uses rises again in the afternoon and reaches the peak in the evening. Which is again surprising, considering, that the pavilion is the only sufficiently illuminated part of the park. Nevertheless, it proves to be the least used part of the area.

The park has a single route that leads through the area. Therefore, all traffic, no matter if vehicles or pedestrians, must use it. However, only a single time a delivery worker on an e-scooter was observed entering the area briefly, but then driving off again in the direction it came from. There is a simple reason for that: It is not possible to cross the area without taking multiple stairs. On both sides of the park one must climb stairs in order to enter it. Making it not only nearly impossible for vehicles to go through, but also making it harder for certain user groups to use the area in any way at all. Despite that, this indicator is in favour of an opening.

In no other observation area, the ratio between female and male users is so even as in Area 4. Even though the area is also used as playground from time to time, the number of children using the area is not very high compared to other areas. Other age groups show no significant differences to other areas.

As in other areas, it is hard to say if, or to what degree, externs use this area of the community. Based on previous experience the number might be not that high. Since the most attractive point of interest, the commercial centre in Area 3, has a rear entrance that allows to enter it much faster than taking the path through Area 4, one can expect that the number of externs walking through the area is smaller than in other areas.

6.1.5.2 Privacy for residents

To one side the area only borders Area 5, meaning that it primarily borders a street. To all other sides the area borders residential buildings. But only in the case of one

building, it seems as if a useable part of the area directly borders windows to a living room. In the other cases, the buildings are so far away, that the actual use oriented to the area is not recognisable. In large parts of the residential buildings, it is not possible to look into the individual apartments. This is due to a large distance and green elements. Only in one case it is possible, since the distance to a path is very small.

Even though the area borders several buildings, there are no entrance points to any residential buildings in the area.

There is only little interaction between individual users. At least between users that did not arrive together. If people arrive together is it mostly pairs who do not stay for a long time. The biggest exception is people who walk dogs. Those people often great each other and sometimes briefly talk.

There is one elderly woman who feeds the community cats, apparently every day. She also has interactions with other users. This sure can be counted as a sign of self-organisation or appropriation of open space.

Interestingly, the area is designed in a way that allows both, a high frequency of people passing the area, and a high number of different uses.

6.1.5.3 Connection to the outside

The Park sure is the least accessible of the observation areas. There are no formal restrictions, not more than in the rest of the community. But the design itself only allows limited access. Due to its location, in order to open the community for a wider public, it would be necessary to open other parts of the community too.

6.1.5.4 Summary and conclusion

The area is in fact unique compared to all the other ones, as it is designed as a park. Also, the design sets a framework for certain uses. On the one hand it allows a lot of individuality, but on the other hand the set of paths and benches as well as the limited open spaces allowing little more than just walking through, restricts the possibilities compared to other areas, like the plaza. Additionally, the fragmented division of micro spaces allows a privacy that sets the base for the many different and individual uses. However, none of the uses cannot also be found in public and semi-public spaces, excluding the factor “uses” from the arguments against an opening.

In combination with the Central Plaza, the Park forms a unit that provides classical open spaces. Together they cover many of the resident's needs. Area 1, the Fore Court, does not seem to be a part of this system.

Opposed to the plazas and the park, Area 2 and 5 provide more logistic functions. Nevertheless, Area 4 has something important in common with those two transit areas. In both areas, the parts that are used for transit, on foot or with different vehicles, are clearly separated from the areas people use for other functions. This separation can be found again in the Park. This is a design principle that might be adoptable for some kind of opening.

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The distance between residential buildings and used areas seems wide enough in most contact points. This, combined with the green elements blocking the view into apartments reduces the problem of bordering residential buildings. Therefore, concerns regarding this issue are not necessary. Another advantage is the absence of traffic, which brings additional safety.

The distance to the community borders, as well as the limitation regarding accessibility are the biggest obstacles.

The distance to the community border is a more complex issue. If opened in any way, the access to the area must be strategically planned in order to do it right. Although it is ambitious, it is not impossible, especially when considering the evaluation of the surrounding observation areas. However, it sure is a disadvantage.

In previous chapters, it is argued that Shanghai lacks public open spaces for certain daily needs, like small green spaces or plazas. The Park is proof that these spaces exist, but they are not accessible. Opening areas like this can benefit the whole city.

6.1.6 Observaion Area 5 – Residential Street

Figure 6.33 Observation area oversight
Source: Author

The area has many similarities with Area 2. Although the findings might not be that different from Area 2, it is important to see and understand both areas, since they are gate keepers for the inner parts.

Area 5 consists of a street, flanked by parking lots and residential buildings up to 32 storeys high. One of the buildings is significantly smaller than the others, just six storeys. In the building is a community-maintenance office, as well as a package-pickup station. All five high rise buildings or entrances with lobby are accessible from within the area. Plus of course the smaller building with maintenance facilities, as well as the post station on the ground floor and apartments in the upper floors.

To the area's northeast is a rear entrance to the community. Just for pedestrians – and as the observations show, also bicycles and e-scooters. Next to said entrance is a bicycle and e-scooter parking lot. South to the area lays Area 4, the Park. Some stairs connect the areas, limiting the possibility to exit the area to this side. Besides that, the area can be entered and left to the east and west on the street.

Most of the open space is reserved for cars. Street and parking spaces are dominant. Again, only the building's front porches are clearly defined as areas for pedestrians. They are basically all designed the same, with a little open space without benches, stairs, and a ramp to get into the building. Also, some green elements provide distance between walkable parts and apartment's windows in some cases, as well as other green elements provide a barrier to the street. Additional to those, bollards prevent cars from parking on the front porches.

Figure 6.36 Xiaoqu – Area 5 – Residential Area, Source: Author

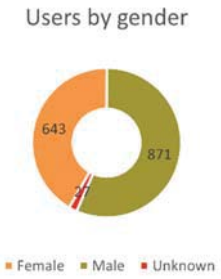

Figure 6.35 Users by gender

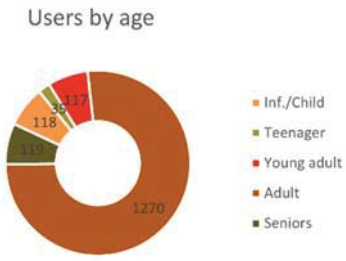

Figure 6.34 Users by age group

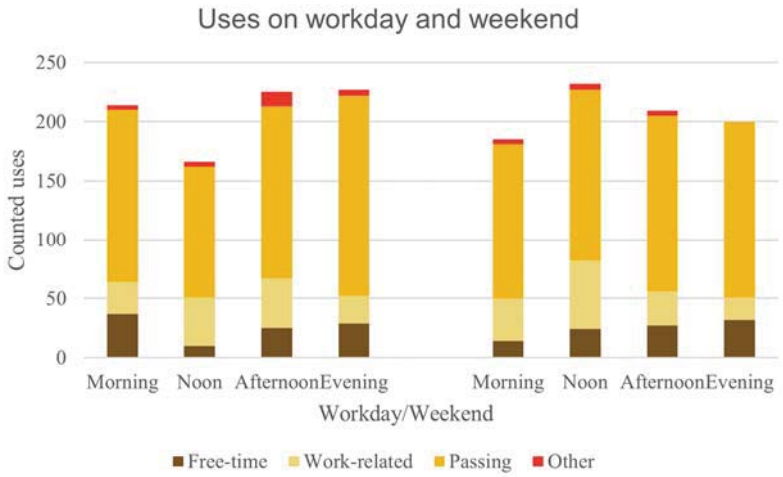

Figure 6.37 Uses in Area 5 – Residential Street

6.1.6.1 Current usability

It seems as if most of the design elements are used to control traffic. Bollards and green elements prevent cars from parking on the front porches. Principal and implementation are similar to Area 2, even though Area 5 has fewer trees. Also, here the front porches do not have benches or other elements that seem to invite people to stay there. But all in all, the design elements seem to benefit pedestrians.

With about 70% of all observed uses being *passing*, the *Residential Street* area shows well known similarities to Area 2. It sure is a transit area, not only for vehicles, but also for pedestrians. The whole day, the number of people passing is higher than all other uses combined. Most of those people go between the community entrance and the residential buildings. Making people only use the community's open space for the shortest possible period of time.

Interestingly, one can see differences between weekend and weekday regarding the time the area seems to "wake up". The higher number of people walking through the area in the morning can be explained – at least the observation data allow this assumption – that during the week more people have to go to work early and more children have to go to school early. This assumption comes from several cabs, auto-rickshaws and even a school bus, waiting in front of the community's rear entrance in the morning, but only on workdays.

The differences regarding time and free-time-related uses possibly can be explainable by the fact that during the weekend people might get up later. Even though the observations cannot validate that.

A further interesting fact regarding people passing through the area is that after sunset, women are notably often walking in pairs through the area.

Work related uses are also relatively high. This is due to the maintenance office and due to the security booth in the area. Also, the process of disposing the residential buildings' waste takes a long time, resulting in maintenance-uses in many observation slots.

The high number of delivery uses is explainable by the high number of residential buildings as well as the post-station inside one of the buildings.

As it goes for the free-time-related uses, they are comparable to Area 2. This goes for the single uses, but also for the number the uses have been counted. But there are

more similarities between Area 2 and Area 5. Both areas have a clear separation between the road as a transit-space and the front porches, with people to stay there, are multifunctional sub-spaces in the area. People use them to sit, smoke, relax, meet others, and talk to each other. Delivery-drivers park e-scooters on the front porches while maintenance workers collect garbage there until it gets picked up. Others mount luggage on their e-scooters there, or check if they have everything with them that they need. One man even repaired an e-scooter on one of the front-porches. So, using the front porches was definitely more common in Area 5 than in Area 2.

There has been another situation that is quite surprising. In a building's lobby a man, a woman and a child have been observed doing sports and/or playing. The lobby has some free space and even furniture in it. In another case, another, similar lobby was used too (not all lobbies are similar designed and equipped). But all in all, those where the only two cases these specific areas have been used.

Almost a hundred cars on each of the observation days have been counted. That's about two per time slot and therefore one every two and a half minutes. It is safe to say that cars are a dominant factor in the area. Together with the one hundred e-scooters on the weekend and the, seventy-seven e-scooters during the week, it is no wonder that the street space is only used by vehicles. This does not even include bicycles and other vehicles. As the observations show, neither street nor empty parking spots have a high variety of uses. Although, there have been two situations where children played for a few moments in the street. But the number of cases where cars and pedestrians had conflicting situations is much higher.

The traffic in the area is influencing the uses a lot. And although Area 2 had even more vehicles, the observed conflict situations in Area 5 have been more. The lesser number of cars than in the Entrance Street might be explainable by the community's traffic system. Cars must cross Area 2 in almost every way they can go. Even when going to the parking-garage. But Area 5 is not crossed when leaving the parking-garage. The higher number of e-scooters can be explained by the position at an e-scooter-accessible entrance in the area, as well as the higher number of residential buildings, resulting in more deliveries.

The number of people using the area to pass through between the entrance and the buildings, suggesting that most of the users might be, in fact, residents. However, they just pass through.

Also, other observations often indicate that the users are community-residents. Either they are seen coming out of a building or walk into it. Sometimes it is also just the use that indicates that users are residents.

However, the comparison of work-related uses and non-work-related uses shows, that (when the category "passing" is excluded) in some time slots the work-related uses are even higher than the others. This indicates that the area is in fact very often not used by residents themselves.

6.1.6.2 Privacy for residents

There is only one exception to the residential ground floor use in all bordering residential uses: the building with the maintenance office and the package pickup-station in it. Except one building, or one apartment to be exact, the view into buildings and apartments is blocked by green elements and front porches. Those elements both block the views directly and provide distance to the buildings' windows. Additionally, the buildings do not necessarily boarder the most direct paths through this transit area.

The area has multiple residential buildings in it. This also includes the residential buildings' entrances. The lobbies inside the buildings are designed and equipped differently. Same goes for the entrance into the lobbies. Sometimes they are behind doors and sometimes they are not. Nevertheless, in all cases one needs an electronic key-chip to enter the staircases or the elevators.

Although the area is transit-oriented, there are some active signs of community living in there. For one part, people have been observed greeting each other from time to time when meeting at the street. Sometimes this even resulted in short conversations. This alone does not necessarily show a sense of community, but at least it indicates that some of the people know each other. Interestingly, this was often the case with security personnel. Either people stayed by the security booth and talked to one or more securities, or the securities stayed at the front porches with others (workers and residents), talked, or smoked a cigarette with them. Also, securities occasionally helped people carry stuff (mostly furniture) from cars into buildings.

Again, the front buildings' front porches have proven themselves as important part of the community. If people stayed in the community and interacted with someone for a short or longer period, it was mostly at the front porches.

6.1.6.3 Connection to the outside

Due to the lack of security, the area is easily accessible for externs. An entrance gate and a short fence-segment makes the area easy to open, since no drastic modifications must be made, and it is not co-depending on another area's opening.

6.1.6.4 Summary and conclusion

The area sure can be described as a lot of things. For one, it is a transit-oriented area. This goes for cars, bicycles, and e-scooters, but also for pedestrians. The description as a giant parking facility is also not absurd, since parking lots are, in terms of area, one of the most dominant elements.

Nevertheless, the area is also a place for many different happenings. Again, the separation into much smaller sub-areas is necessary to give a well-rounded impression of the area's uses. Even though the whole area is a transit area, again, especially the front porches hold many other functions too. They are by far the main points for other activities and community-living.

The separation between the transit-oriented parts of the area, and those allowing other functions sure is wanted by its designers. The design of the area hardly allows any other conclusion. Besides the physical elements, a high number of maintenance personnel ensures, that the areas intended for other activities can be used as such. The high level of cleanliness and care for the green area seem to be of the utmost importance in the community.

Traffic and transit are definitely a dominant element of the area. The high amount of traffic and parking spots lowers the usability as well as the area's safeness. Especially at night-time when illumination becomes insufficient.

The uses are comparable to Area 2, the area most like the Residential Street. Only the front porches allow a wider range of leisure related uses. However, the front porches are also a place of work for security guards, delivery drivers and maintenance personnel. The high number of people entering in their for leisure activities, in addition to an

already very high number of externs (delivery drivers and other workers) makes it doubtful that the semi-private space in the area is efficiently guarded.

Almost all residential ground floor use is a disadvantage for potential opening plans. Despite this, the amount of distance, view blocking, mainly green elements, and front porches decimate this disadvantage in most of the cases.

For the security of buildings, like in all residential buildings, the electronic chip-key prevents uninvited outsiders from entering the single buildings. Those apparently do this far better than securities control the community entrance.

The front porches seem to allow for a feeling of community, even though the area is transit oriented. A further finding of the observation is, that the protection of the front porch, or any other sub areas seems to be far more important than the “security” provided by community gates and security control. The high accessibility (only limited by the set of stairs by Area 4) and the location of the security border, makes the area a good candidate for a potential community opening.

6.1.7 Site 1 – Full conclusion

The observations, as well as the analysis regarding the previous indicators (chapter 5.2 *Evaluation Model* p. 76) have proven Site 1, the researched *Xiaoqu* as a vibrant and diverse system, which is all, but closed or cut off from the rest of Shanghai.

The probably most important conclusion is that, in general, nothing happens in the community's observed semi-private spaces, which was not also observed in public and semi-public spaces. Only minor little differences in very specific uses occurred. Together with the facts that signs of community living are (locally) very limited, and that all the walls, gates and secured entrances only create a false feeling of safety, it is hard to argue, why this particular community needs to be enclosed at all. It does not have to be the giant, hardly passable structure, that is nothing more than an expression of growing inequality in China, that it is today. The *Xiaoqu* has the potential to be the exact opposite of what it is today. All observed parts of the community indicate that a secure system (more secure one than the current one) can be implemented, while also providing the much needed open (green) spaces for the whole city.

The key to the creating a more sustainable form of community in modern designed building blocks, lies in two of the observations' core-findings. To understand these, a separation into other parts, on other scales, than the ones used is necessary.

Firstly, the numerical data shows that the site can be divided into two different types of area. On the one side, there are clearly transit-oriented observation areas. In these areas, about 70% of the uses counted are *passing*. Meaning that only around 30% of observed uses are work- or leisure-related. This can be applied to Area 1,2 and 5. However, this does not provide any data about the specific uses, or how they are linked to the area.

Furthermore, before discussing them in more detail, it is important to know about the other types of areas. Area 3 and 4, the *Central Plaza* and the *Park* show huge differences to these areas. The *Central Plaza* has only about 36% of *passing* use and the *Park* is right in the middle with about 50%. This makes one thing clear: in total, the most common use is *passing*. So, the community, namely the residents, pay for nothing more than a small-scale street network, which is also a giant parking lot. However, transit-oriented areas are not just for transit. People do not spend time there for private or any other uses. Thus, it does not matter if externs come in and walk through. So, the

important areas must be the other areas, Area 3 and 4, the ones where community-life flourishes. The observations do not back this up.

When comparing the analysis of Area 3 and 4, differences between the occurrence of certain uses are obvious. However, there are not more signs of self-organisation or community life, than in Area 1,2 or 5. Occasionally people could be seen talking to one another and sometimes children were playing with each other.

It is important to note that the children, probably the most vulnerable users, played exactly in front of the commercial centre (in Area 3) the most attractive point for "outsiders". So, assuming that residents know that externs use the community centre and therefore, cross paths with their children, weakens the security argument.

In the *Park* there are also no signs of uses, differing from uses that can be found in public, or semi-public parks. Additionally, Area 4 was hardly or not used for long periods of time and clearly not to its potential. A sad circumstance, in a city that needs small-scale green spaces as much as Shanghai does.

However, the places that seem to have the most value for small scale community-living can be found in the transit-oriented areas (except Area 1). Namely, the buildings' front porches.

In both relevant areas (Area 2 and 5) the observations have proven the front porches to be multifunctional spaces, used by workers, people passing by, and not least, points for leisure activities and interaction. Delivery drivers park their e-scooters while delivering food or packages and maintenance workers collect the houses' garbage there. This is then picked up, and later gets sorted at the community's own waste-sorting station.

Simultaneously, people simply pass through other people's workspace. Some of them stop briefly in order to check if they have everything they need in their bags, or to look at their phone. Others use these spaces to take a rest, talk on the phone, smoke a cigarette, or communicate with others. Not only with other residents, but with security guards too. They do so, even though these sub-spaces do not seem to invite them to stay, since they have no benches or any other welcoming elements, just the stairs, where one can sit down. They also do not seem to be designed for any other particular use.

The front porches are clearly separated from the street by design. It seems to be the line that a person who does not live in a particular building or has business in there,

does not cross. In Area 2, they are basically cut off from other sub-spaces in the area. Trees and bushes block the view from the street, hiding, or protecting them.

In the beginning, it was assumed that due to the observation-findings, it would be possible to make a distinction between different grades of privacy and publicness in observation areas. The objective was to find the most private places, which show a very limited set of uses, or even show specific uses that can be somehow linked to a need of an enclosed community and privacy. However, these could be found. At least not, on the scale of the five pre-chosen observation areas. It could be observed on a scale of much smaller, in the sub spaces.

The, by planning officials, self-imposed objective is not only to create a more walkable city, but also to create more public (green) spaces. In the case of this particular community, all that is needed to reach both of these goals is present. When opened, the city would become more walkable and different public spaces could be implemented.

Some indicators show possible threats and weaknesses in every area. Although, these are mostly things that can be addressed with very little effort. The main concern that the opening could somehow destroy existing community life, is most likely unfounded, since there barely is any community life to begin with.

By focusing on the single buildings, their front porches and safeness, instead of enclosing an area under the false pretence of creating communities, the city could easily provide sufficient (green) space and a small-scale road network for pedestrians.

In summary, there are several key findings, as well as some proposals for already existing communities and future new developments.

Key findings:

- The community has several elements within its borders, which could benefit the goals of creating a more walkable city and providing additional public (green) space.
- Indicators that limit the usability or show possible disturbance for resident's privacy can be addressed through minor interventions.
- Signs of functioning communities have mostly been found at the buildings' front porches but not the big open spaces.

- There have been no uses found, within the community that do not exist outside of its borders or that might need enclosure.
- The community is already easily accessible for people not living in it. It is just difficult for them to walk through.

Proposals:

- Tear down walls, fences, and gates to make the community more accessible and traversable.
- Intervene at critical points, shown by the indicators, distance to buildings, view blocking, etc.
- Re-design open spaces to implement passages for pedestrians.
- Limit accessibility for cars (and other vehicles if necessary).
- Focus on single buildings or building groups and protect their privacy instead of large-scale enclosures.
- Redirect the inefficient security personnel to protect said buildings and building groups (if needed at all).
- Start programs to get people to use the new accessible paths, open spaces, and other facilities (signs, sidewalk markings, etc.).
- Implement a program, to detect new/rising conflicts and to address them.

6.1.8 Numerical evaluation

The individual indicators were evaluated numerically, using the scheme described in Chapter 5.2 *Evaluation Model* p. 76. The quantified evaluation of the single indicators can be found in the appendix (10.1 *Evaluation of single indicators* – Site 1 p. 183). result of this assessment is shown here graphically. The higher the numerical value, the more it is suitable for an opening, according to the indicators.

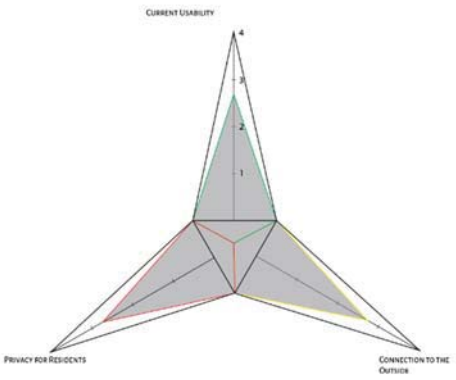

Figure 6.38 Evaluation – Site 1 – Area 1

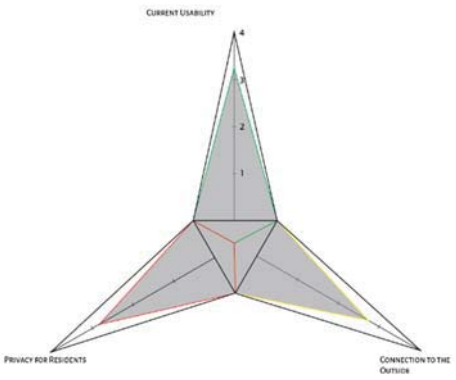

Figure 6.39 Evaluation – Site 1 – Area 2

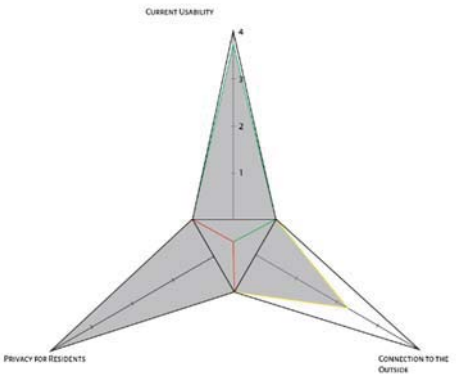

Figure 6.40 Evaluation – Site 1 – Area 3

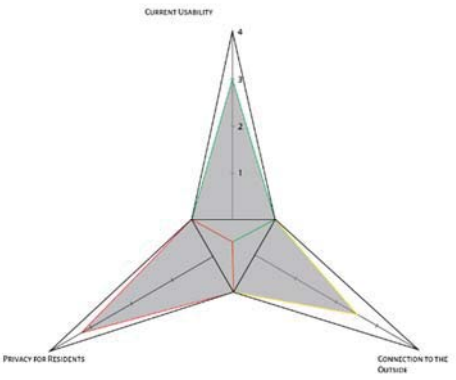

Figure 6.41 Evaluation – Site 1 – Area 4

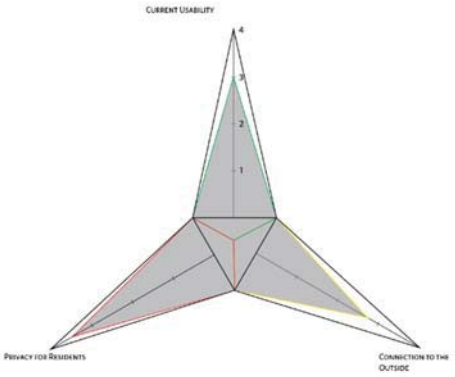

Figure 6.42 Evaluation – Site 1 – Area 5

6.2 The Danwei – Site 2

In previous chapters it is argued that the *Danwei* is one of the three most common community typologies in Shanghai. However, modern residential development does not share many structural elements with this old communist typology. Therefore, it is hard to argue that this model is the city's future of urban development. Still, due to the high number of Danweis in Shanghai, they are ideal for the case study. Additionally, it might be necessary, after several decades, to adapt these communities to new society or planning ideals. On the other hand, they might give an interesting insight of structures that were built before a rising inequality, that with no doubt, is reflected in the city's newer developments. Since society and urban environment are strongly linked, this might influence uses, users, and community living.

Knowing *Danweis*, one might argue, that the chosen site is not as representative as other examples. Nevertheless, there are multiple reasons in favour of this site. First of course, the factors accessibility and proportions (see chapter 6 *Case studies* p. 80). Regarding these two factors, the chosen *Danwei* is a good fit. However, it being a typical case, is not that clear. It is definitely on the smaller side of possible cases. Also, there is a market inside the area, which is not necessarily typical. Most critical is not the community itself, but its surroundings.

First, the *Danwei* is not the whole block. The block also includes other residential structures. Those are not necessarily classifiable to the presented typologies. Also, the site is located near *Tongji University*, and the influence by this institution is quite noticeable. Not only is there some kind of office, which has an unclear relation to the university, there are also several projects that deal with the redesign of street spaces to create more public spaces. Most important in this case is a small playground, located right across the street to the west.

However, there are multiple factors that back up the decision for the chosen community. The bureau linked to the university is oriented to the community's outside. It has no connection to the community's semi-private space. The surrounding projects can on the one hand influence the happenings inside the community. Nonetheless there is a chance to find evidence that some of them, mainly the playground (since there is no playground within the community), are used by community residents. This would show that playing, a function found to be mostly taking place inside communities, is not necessarily bound to the "own" community. Most important, the chosen *Danwei*

shows all typical elements like a main road, arterial roads (mostly dead alleys) and the uniformed six storey housing.

Finally, there is one fact that makes this particular *Danwei* even more interesting for the observations. Little differences in the building's design and small structures by the road convey the strong impression that, what is now one community, was once two, separated by a fence and gate. Thus, it shows from the beginning that opening and connecting single *Danweis* is not as absurd as some might assume.

The Compound was split into four observation areas that cover most of the community. The areas have been chosen in order to research different structural elements and how people live in them.

The community consists of different big scale elements. There is the main road that connects the whole site with the main exit. Additionally, there are several arterial streets that connect the buildings with the main road. In the community's heart there is a small park with a pavilion, which is also connected to the main road and several building-entrances. As contrast, right next to the area is a big parking lot located. The community is enclosed by walls and buildings with commercial use on the ground floor. The shops and restaurants inside them are open towards the outside of the community.

Three gates serve as entrances. But only one of them is guarded by a security guard. It is also the only one that can be accessed by vehicles.

The most frequented part is the area attached to the community entrance. It is linked to several residential buildings and a market. Most of the buildings are elevated over shops. In some cases, they also have an elevated front porch, in some they do not. The market itself has multiple entrance points. One of them in the community, the others are oriented to the sidewalk outside the community.

Not all parts of the community are in one of the observation areas. For one there is a part of the community between Area 2 and Area 3, that was not observed. On the other hand, there is a structure that would be classified as an arterial street but is only connected to the outside. There would be a point where they could be connected, but a wall blocks the way.Surrounding the community are several alleys. The observed community itself boarders three of the four streets surrounding the block. At the streets to the east and west are multiple shops located. But the east side is mostly just walls with some distance green between walls and sidewalk. Same goes for the street to the south.

Note: Impressions from the research area can be found in chapter 10.9, p. 226

Figure 6.43 Research site 2 - Danwei

Source: Author

Note: The graphic shown is not a map, just a sketch of the examination room. Due to a lack of data, no map could be made. Sizes, distances, and other things cannot be derived from this. However, the sketch serves to give an approximate idea of the area.

6.2.1 Universal criteria

Some of the criteria is universal, meaning they are the same for the whole community. These criteria are discussed first. In a later step, the observation areas will be analysed one by one.

It was not possible to determine the exact ownership of the observation area. Therefore, the indicator cannot be evaluated. It was also not possible to verify the existence or details for programs investing in public spaces. However, multiple projects to create more usable or use-diverse places near the observation site are already implemented. Best, and closest example is a playground alongside a Tongji University building's wall.

Due to its central location, there are multiple possible points of interest nearby. Northwest to the community is a metro station, several shops, and several restaurants, as well as Tongji University's main entrance. Also, there is a bus station on the east side of the community. The probably most important things that need to be connected to these points are the numerous other communities in the hinterland of the metro station. Observation Site 2 is in the way many other shortest connections to the station.

Additionally, the area is surrounded by a wide range of shops and services including a school. In an area like this, that provides the basics for a high walkability, an asset that new residential developments do not offer anymore.

The whole block is enclosed by four streets Zhangwu Road to the north, Anshan Branch Road to the east, Anshan Road to the south and Fuxin Road to the west. The community itself only boards to the street network in the east, west and south. All the roads are part of the city's second level road network. With Zhangwu Road and Anshan Branch Road being busier than the others. This goes for motorised traffic as well as for pedestrians.

Surrounding the whole block are several shops, restaurants, and markets. Wherever the community or block is not cut off from the outside by buildings, but by walls. There are also green elements that provide, for some reason, distance to these walls. This makes the ally-wise street layout appear even greener.

Entrances are located on all three sides, the community is bordering streets.

The most attractive point of interest inside the community proves to be the market in Area 3. Several people come from inside and outside the community to visit this

point. Inside the observation site itself is the park, a big attraction point for community residents.

About 300 meters to the north west is Tongji University. The campus is designed like a park and is often used by residents nearby. On the way there, lays the closest thing that comes closest to a plaza. It is a vibrant place with restaurants and people dancing in the evening, and also students.

The closest actual park is about 450 meters east to the area. Unfortunately, other structures, *Danweis* too, block the most direct path, extending it by about 200 meters.

6.2.2 Observation Area 1 – Side Streets

Figure 6.44 Observation area oversight
Source: Author

Area 1 is the most southern of the community's observation areas. It consists of several defining structural elements.

First, there is the end of the community's main road. It is therefore a dead end for cars, e-scooters and other vehicles. For pedestrians on the other hand, there is the possibility to enter the community via a gate. The gate is not guarded, resulting in "free" access for residents and others. However, the gate is – probably to prevent e-scooters from getting in, a metal revolving door that is not passable for people with disabilities, or people carrying suitcases, strollers etc.

To each side, stretches an arterial street connecting two building-complexes per side, with two entrances each. The entrances to the buildings are at the buildings' north side. On the other side do the small roads are other buildings. These building's backsides are oriented to the building, so they have no entrance points to the area. Except for single apartments in the western of the two small streets. It seems as if there are rear entrances to some of the apartments. Not only that, also, there are sinks that are used by the residents.

Besides this there is some green space, most of it for decoration. In the eastern side street is a bicycle parking area and some clothes rails, used for hanging laundry to dry there.

Figure 6.45 Danwei – Area 1 – Side Streets, Source: Author

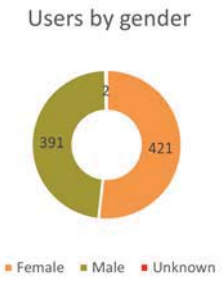

Figure 6.47 Users by gender

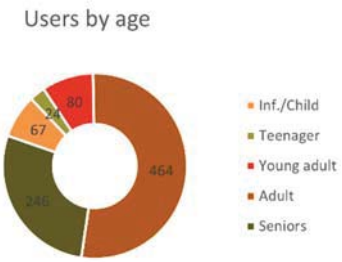

Figure 6.46 Users by age group

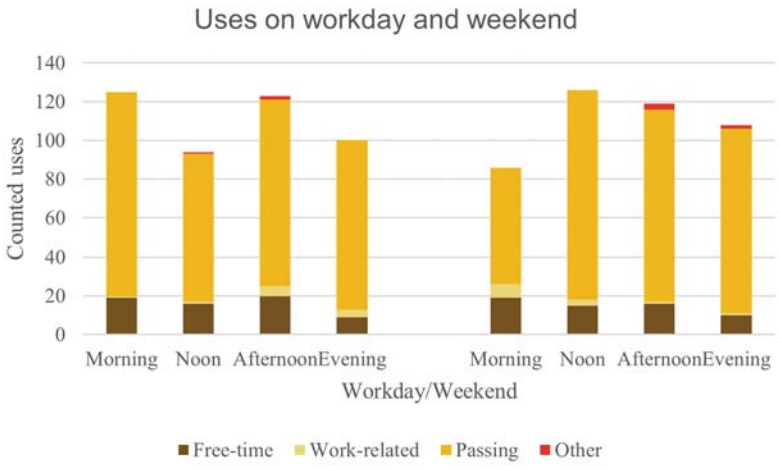

Figure 6.48 Uses in Area 1 – Side Streets

6.2.2.1 Current usability

There are no structural elements in the area that seem to limit certain uses. Making the area multifunctional and open for a variety of uses. However, the entrance gate clearly is designed to prevent vehicles from entering. The side effect is limited accessibility for different other user groups.

Since most of the areas open space is consisting of roads, mostly parked cars influencing the usability of the area. The area is a dead and for cars, making it impossible for cars to cross it. Some of the parking lots are abandoned during the day but fill again in the evening. When free, those lots are used. The biggest effect is, that people can walk more direct to the buildings or leave the area since they do not need to detour around parked cars.

Simultaneously bicycles and e-scooters are parked right next to the building's entrances, while some at least one person even gets its e-scooter up the stairs into the building. Even though the area has a clearly marked and covered bicycle parking lot.

With more than 80% of uses being *passing* it is clearly a transit area. The time with the most counted transits differs between weekday and weekend. The delayed peak on the weekend might be due to less people going to work in the morning. As far as the observations show, this is at least valid for pupils (identified by school uniforms) who have been observed leaving the community in the morning. Interestingly, children as well as teenagers have been observed walking without supervision. When walking through Shanghai one will only see a few children and teenagers at all, but even less without adult company.

Housekeeping is clearly the second most common use. Especially on the weekends the observed cases of housekeeping-actions are dominant in every time slot. Other differences between weekend and weekday are insignificant.

The high number of observed housekeeping actions can be traced back to the high number of clothes rails. During the whole day several people come and hang their laundry there or collect it. From bed linen to underwear everything dries in the open. Due to the heat, it dries rather quickly. Some clothes rails even seem to be used overnight. At least some dry clothes have already been found in the first observation slots at 6 a.m.

A second source of many of the counted housekeeping uses are two sinks placed

outside by two doors that seem to be rear entrances to buildings, that have their regular entrance in Area 2. Women have been observed washing clothes and cutting vegetables there. These activities often took more time than one observation slot.

Several people have also used the area for leisure and/or talking to others. Some talked in groups, others smoked alone on a front porch. Most of the people talking only talked for less than a whole observation slot. Most of the people meet at the street, talk for a short time and then walk separate ways.

Two more rather unique uses take place in the area too. A woman was gardening in one of the green strips that normally function as distance green. But in contrast to the other green elements, the one she used, is full of herbs. Another man used one of the buildings front porches to work on an electric tricycle. Apparently, he repaired something.

The area itself is neither maintained a lot, nor are there securities who control happenings in the area. The most common work-related use are deliveries.

The high number of elderly people is clearly noticeable. Especially those of elderly women. A correlation could exist between the high number of elderly women and high proportion of the use *housekeeping*.

There are important indicators for a high number of externs in the area. A suspiciously high amount of people crossing Area 1 from Area 2 to the community exit, had plastic bags with groceries in it. A high amount of these people might visit the market in Area 3 and then leave it through the community, especially when living southwards, since it is the shortest way. If this assumption is correct is not proven, but the market sure is an attraction point for non-residents.

6.2.2.2 Privacy for residents

All ground floor uses are residential with only little distance to streets and paths. However, most of the windows and all entrances are not in the areas in which people pass through the area. Still, view blockage is not sufficient in many cases. In at least one case, one can directly look into an apartment directly from the main road, used by all people walking through the area between entrance/exit and Area 2. Also, green elements that are designed to block the view and provide distance are not sufficient. In two cases, functions that most apartments provide inside, like cooking and doing laundry are set outside, in the open to see for everyone. Additional, one can often hear people taking inside buildings.

There are two different kinds of access points to buildings can be found. First there is the typical entrance, a green mental entrance gate. At least in theory. Most of the time one can enter the staircase through open doors. Making it harder for certain user groups. In one case a man was observed carrying a woman sitting in a wheelchair into the building since she cannot enter otherwise.

Second, there are two entrances directly from the street into apartments. The distance bringing staircase is or other almost to increase privacy and safety are not at hand here.

The area is clearly used by its residents. The little green element with herbs growing in it, the use of the sinks outside, the use of entrance-stairs for leisure as well as the extensive use of clothes rails to dry laundry are clear indicators for an – not always optional – appropriation of the community's open space. In plenty cases, communication with others, either walking by, doing the same task or others, went along with the use itself. These often seemingly spontaneous interactions are undoubtedly an expression of a certain sense of community.

Besides that, people meeting at the street often greet each other and stop for brief interactions. Mostly elderly people, no matter of gender, and children too, often took part in these interactions. Even more surprising was that children and teenagers left the community alone (almost all in school uniform).

The spread of these interactions inside the area is again interesting. While those people who mostly communicated did so on the main road, the people having their interactions linked to a task where mostly in the arterial street. Sure, only little surprising when looking at the distribution of most use-linked-spaces inside the area.

6.2.2.3 Connection to the outside

The metal revolving door makes it incredibly hard for some, and impossible for others, to enter the community via the south entrance/exit. Even a suitcase or just a high number of bags full of groceries can be tough to get through. But not for externs, since the gate is not guarded. From the other side (Area 2) the area is easily accessible for everyone. However, the detour to make is quite long.

The area is right at the community border, making it not necessary to open another area to access it. With only the gate as barrier the area would be easy to open.

6.2.2.4 Summary and conclusion

The Arterial Streets as a whole, is clearly a transit-oriented area, with most of the people walking between buildings and Area 2. Those people (besides delivery workers) are the only people entering the side streets. The high number of people going from Area 2 to the community entrance/exit or vice versa, barely interfere with the activities in the side streets, like washing/drying clothes. Despite not being able to determine who actually lives in the community, it still shows that a high fluctuation does not necessarily prohibit private use. The question if people just do not care or if they simply have no other possibility, cannot be determined by the conducted observations. Nevertheless, no conflicts were observed. As a result, the area shows many signs of a sense of community, which is worth keeping. However, it also shows that with spatial segregation of uses, a coexistence of a very public place (the main road) and very private spaces (the arterial streets) is possible. Making the existence of small-scale communities not necessarily a reason to prevent an opening. The impression has arisen that parking cars in the narrow side streets prevent much more use than anyone walking through. If it were not for parked cars, the area would have a lot of potential to satisfy several needs of residents.

The uses observed may have not shown much variation, but in detail the observed interactions in the area have shown the image of a lively community. People meeting at the street as well as people doing other things like housekeeping often communicate with others.

There are no structural restrictions for most of the observed uses and besides the – easily removeable – entrance gate, there are no limits of entering it. But since the area does not hold any spaces with opportunities for public (green) areas, an opening of only this area would be with no use.

The most concerns considering a potential opening regard the privacy for residents. This might be an issue even now. Privacy seems to be a rare commodity. One can easily view into some of the apartments. But more concerning, some of the residents have (necessarily) moved some housekeeping-activities to the community's open space. Without a change in the buildings' fabric this issue is hard to tackle.

Key here is the subdivision into main street and arterial streets. If this already existing informal separation between a transit area and a non-transit area can be sustained and strengthened, an opening for the purpose of transit is imaginable.

6.2.3 Observation Area 2 – Park

Figure 6.49 Observation area oversight
Source: Author

Although the area's main point of attraction, is the park within, it consists of way more than just the park. As if one wanted to build the largest possible opposite as a contrast, a parking lot is opposite the park, with the community's main street in between. This separates the area in an eastern and a western part.

In both parts several buildings are located. Bordering the parking lot is a shed that functions as a bicycle and e-scooter garage. Additional there are two blocks of residential buildings. Both with the main entrances oriented to the north. Resulting in only two of the buildings having direct access to the area. Other buildings on this side have the main entrances outside the area. But, as in Area 1, there are a few apartments directly accessible from the street. During the observation it was not always clear if they actually are apartments, or storage rooms. They might function as both.

In the eastern part, bordering the park are two residential buildings. Those are a-typical since they have two entrance levels. There are, in total, six entrances, three on the ground floor (plus a door that leads into e cellar) and three elevated on the first floor. Besides that, the park also borders a commercial building that has its rear entrance in the community (but is oriented to the outside) and the back of the market located in area three.

The park itself is equipped with a pavilion as well as some sports-equipment and a few benches.

Figure 6.50 Danwei – Area 2 – Park, Source: Author

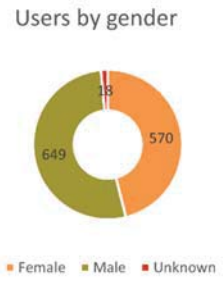

Figure 6.52 Users by gender

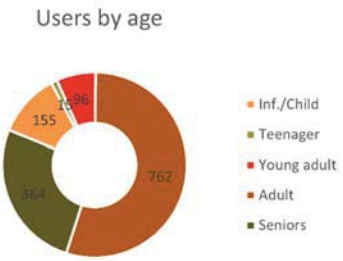

Figure 6.51 Users by age group

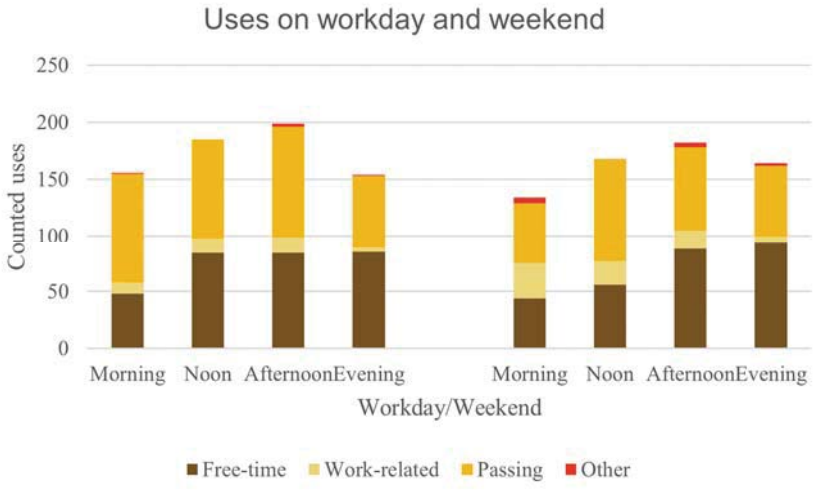

Figure 6.53 Uses in Area 2 – Park

6.2.3.1 Current usability

The single sub areas (park, street, and parking lot) are clearly designed in a way to include different functions. However, this planned separation does not work as one can easily recognise when seeing children and grownups play at the sports facilities, the street, or the parking lot. Or when seeing cars parked directly by the park.

Traffic sure is an important factor in the area. But as in others it is more about stationary traffic. The parking spot occupies much of the open space. Additional there are more parking lots surrounding the park. When the cars leave the area during the day, the place sure gets used. People used the parking lot to play badminton for example, since it is not possible to do this in the park. So, this section can work as an extension for a green space with already many functions to fulfil.

Cars driving in the area, drive mostly slowly. Only one conflict between a pedestrian and a car was observed. E-scooters on the other hand often drive reckless. Even in the dark.

Passing is by far the single most counted use in the area, as it is in all the *Danwei's* areas. But in contrast to the other areas, the share is much lower. Taking a closer look, the area has a high variety of uses. Interestingly, especially in the morning and in the noon, the numbers of different types of uses varies. Also, there are big differences in how the area is used on workdays and the weekend.

The high number of counted uses is not only linked to a high number of different users, but often to the same users in different time slots. There are some examples that clearly illustrate this fact.

Regarding *Meeting/Talking/Leisure*, the pavilion is an important point of attraction, especially for elders. Often several people sit at the pavilion for more than one time slot, some for several hours. Interestingly there is not much interaction between them in many cases. Even though the physical closeness between them does suggest, that they are not completely strangers to each other. Such groups are an integral part, especially in the afternoon and evening. Highlight of these observed meetings is undoubtful one evening when a man-made music on a non-identifiable music instrument.

Another example for this is the relatively high number of *other work.* This is due to only a hand full of people working by the restaurant's back door. There they wash and cut vegetables or wash the dishes. Especially in the late morning hours they use the open space and the sink outside the restaurant's rear entrance.

Best example for single people being counted often using the area during the day, is a single maintenance worker. As the data shows, he was in the area during the whole day. Only at some points another maintenance worker was in the area too. Most of the worktime is used to sort garbage by the waste containers, located in the area. Contrary to the *Xiaoqu*, where garbage gets collected once a day by maintenance workers, the *Danwei's* residents bring their garbage to one of the community's two collection areas. Although most residents do this when they leave the area anyway, some of the counted "housekeeping actions can be traced back to this. Due to its high presence, the worker is an integral part of the community.

Another use for which the area is very important is *playing (with) children*. The park is by far the most important place for children within the community. But when a high number of children is in the area, one can see that the park is used to its limits. Sports equipment is often used compensatory for the missing playground. Since it offers only little space to run around, some children spread out and run at the street. Others play badminton at the parking lot, since due to the trees, it is not possible in the park. The pavilion as a place used for leisure and the rest of the park, used for playing and sports is in no way separated. Still, the pavilion is used extensively during these hours. Some of the children's overseers use the pavilion for leisure while children play. This also contributes to the fact that the ratio of children and adults who are with them and play with them is very different from the *Xiaoqu*. Some of the teenagers seem to be alone there even after it gets dark, although the area is insufficient illuminated. The entrances in front of the buildings and the street are illuminated the most. The park and parking lot barely.

The given examples and description are just a small overview of a vibrant and diverse area. Leisure, playing, working, vending, housekeeping and many other things happen in a very limited space. It is difficult to make a statement about privacy and the publicness. There are sure parts with very private uses. Especially the apartments, accessible directly from the street. Here, people extend their very private space into the semi-private, prepare food or wash laundry or even themselves.

The street, as the main element for transit from Area 1 to Area 2, is mostly separated from park and parking lot, the places with partially very private uses. But this division is only mental, not physical. Making it possible for people walking by, to even see inside an apartment.

The two arguments for an opening, on the one hand, there are no uses that cannot be found in public or semi-public spaces, and that the lack of privacy seems not to be an issue by now, so there is no reason to assume it would be an issue later, are very unsatisfactory (personal hygiene, cooking and even getting the hairs cut are have actually been observed in public spaces. But not documented since it was not in the context of the thesis).

The share of elderly and young women, the percentage of observed actions is much higher than then their male counter parts. One explanation for this could be the high numbers of people playing with children as well as those who prepare food in the area. But this is nothing more than a vague assumption.

As far as it goes, for the question about externs using the area, there is no clear proof. The only clue is the confirmation of people from the outside using especially the community's market in combination with the high amount of people walking through with plastic bags full of groceries.

6.2.3.2 Privacy for residents

All buildings accessible from the area are residential buildings. Privacy is no matter in most of the cases since the buildings are located and designed in a way that provides privacy for people living on the ground floor. Also, most of them are elevated up to a meter. Therefore, looking into apartments is not possible in most cases. But there are some apartments directly accessible from the parking lot right next to community's main street. While some only have parked cars in the parking lot as protection from strangers looks, one of the apartments has none.

Other buildings are oriented with the backside to the area. This includes the marked and a restaurant. Both buildings enclose the area and the community. Their uses and their orientation only influence the area only marginally.

All residential buildings can be entered through a green metal gate/door with an

intercom. To be fair, most of these doors are open the whole day. Usually one must get up a few stairs to enter a building. Exceptions to this are the entrances to three staircases in one of the buildings. The entrances are on the first floor and only accessible via a narrow balcony with two sets of stairs to get onto. This not only drastically limits the accessibility for people with certain disabilities, elderly or just people with a stroller (just to name a few) but also for strangers

.

The various ways the area is used already gives an impression of a vibrant area. Multiple signs for small scale communities in the area strengthen this impression.

Uncountable small interactions between people who seemingly live in the area are only one small sign. But in no other area during all observations was a single person an expression for a community as the maintenance worker here. He is in the area spread over the whole day. During the week as well as on weekends. His interactions with others are countless. Some of them are just brief, others are longer interactions. The longer interactions with many of those people, staying in the area, and the fact that he, apparently, also lives in the area, show a strong connection to this Area 2 in particular. While he is sorting garbage most of the time, he also cleans the park or helps other workers and residents. He is clearly a person who takes care of the area and the people in it. At the same time, he also provides a kind of social control over the area, making securities obsolete.

Other signs of community are mostly bound to two locations. For one the park, especially the pavilion, as well as a bench by the street right at the border to Area 1.

As for the park it is mostly the elderly people (mostly women) sitting at the pavilion. Especially in the evening it is a place full of live with people interacting with each other. Grownups using the pavilion often spread into the rest of the park to use the sports facilities. Sharing the small green space with several children who use them as a compensation for a missing playground or other areas for them. Strongest expression of this communal life is surely making music together, as it was observed at one evening.

The bench by near Area 1 on the other hand is situated totally different. It is a bench right next to the street, with a small table (seemingly provided by one of the residents). During the day it is mostly used for leisure, by one or two people. But at certain times it also functions as kitchen. At these times mostly elderly women prepare

food in the open. The importance of this place was most strongly expressed during the afternoon and early evening at the weekend. During several consecutive timeslots, a group of elderly people prepared food by the bench, while talking. Not all of them attending permanently. At one point the people suddenly have far more than a hundred eggs and prepare them. Eventually more people join them and all of them disappear to Area 1.

Interestingly this place that, seems to be so important for the community exist right at the street, a place that provides no privacy.

The sense of community, or how people extend their homes to the open space shows also in certain actions. At one point a man was washing himself in the open by one of the apartments, accessible directly from the street. And not only once, but twice it was observed that a person cuts someone's hair in the open, by the park.

6.2.3.3 Connection to the outside

The area is accessible from two other areas, as well as a few residential buildings. Neither the entrance from Area 1 nor the entrance from Area 3 is limited in any way. No parts of the area are closed at any time of the day.

To the north and the south are two other observation areas. Opening it via the already existing access points would make it necessary to open another area (Area 1 or Area 3) too. To the east and west the community borders public streets. Since buildings function as barrier in the east the only possible new opening is in the west.

6.2.3.4 Summary and conclusion

It is without any doubt that Area 2 is the most diverse part of the community. It is by far also the one with the most signs of small-scale communities. The majority of happenings focus on the eastern part of the community, in the park and its close vicinity. Nevertheless, the parking lot is used for other uses than parking too in some cases during the day, when less cars park there. The street on the other hand is clearly a transit zone for pedestrians. By far the most people use the area to walk from Area 1 to Area 3 or the other way around. Therefore, it is a very important space for the community, an area that is most likely used by people not living in Area 2, or even in the community. Consequently, it is an area that already lacks of privacy, with no physical separation except a kerbstone. With all the risks this presents, it also contributes to the use of all

areas aside the intended uses.

Due to the maintenance workers constant presence, the area is clean and under some kind of social control. Contributing to this are also the multiple groups of mostly elderly people who often sit on the pavilion or benches and seem to watch the happenings in the area, as well as interacting with each other. Without doubt, Area 2 shows extensive forms of community-living. Most of it focused on the park, but also extending into other areas. It is expressed in the interactions between people, but also through specific uses.

Ground floor use, access to buildings and the view into buildings are the indicators that are most critical when it comes to the possibility of an opening. Although it is just a handful of apartments (all situated by the parking lot), the way they are exposed limits a lot of the possibilities (without structural changes). Additionally, static traffic constricts usability a lot. A change in this would benefit the community, even if the area is not opened. When considering the history of the *Danwei*, it is only a little surprising that cars limit the usability so much, and empty parking spaces are used for other causes, at least from time to time. When most of the *Danweis* were built, Shanghai's percentage of individual motorization was far lower. They were probably planned for a different ratio of residents and usable open space.

The necessity of opening additional parts of the community, or extensive structural changes are a big disadvantage for a potential opening.

The small-scale community living in combination with the extensive use of the park has two major impacts on the area. On the one hand, potentially destroying this system is one of the biggest risks related to a potential opening. On the other hand, it is a big advantage. The residents have a constant, firm grip on the area, especially the park. This creates a form of social control. It is questionable if anyone from outside the community would use the green space without an invitation. So, if opened, the already overloaded park would not necessarily be used more, or less. Still making it possible to walk through.

There are several conclusions that can be drawn from the collected information. For one, it is a very important area since it provides small-scale open space for daily

use. Further, it is an area for transit, that is interesting for community residents as well as for externs. Lastly, the spatial proximity of social priorities and places that do not offer privacy is not mutually exclusive.

All in all, the extensive use and social control of the park, the lack of attraction points in the parking lot and the expected result – that externs would mostly use the area for transit – makes an opening not totally inadvisable or impossible. However, measures should be taken, in order to provide privacy for all residents. Ultimately, the area only has the potential to contribute to the city's small-scale network of streets, not contribute as a source for additional open space.

6.2.4 Observation Area 3 – Entrance Street

Figure 6.54 Observation area oversight
Source: Author

Area 3 is by far the area with the most counted uses. As the area with the main entrance in it, and the area's main attraction point, the area is very important for the observations.

It consists of the main road and one side road. Along the road are parking lots to both sides. On the side with the market is a covered bicycle parking lot. With the main entrance in it, it is also the only access and exit point for vehicles. By the entrance and exit is a security booth with a security worker inside most of the day. The entrance is blocked by a barrier for cars, but access for pedestrians is not controlled at all. However, there are multiple cameras in the area.

The entrance/exit to the marked is the most frequented point in the area. The market itself is underneath a residential building. Meaning that the typical 6 story residential building is built on top of the market. Also elevated is a front porch area to these buildings that has even plants and clothes rails on it. It is accessible by two sets of stairs.

The other residential building is classical and accessible from the side street. In the side street are also clothes rails and parking spots located. As well as some plants in pots.

South to Area 3 is Area 2, connected via a small part of the community, that is not observed. To the north lays Area 4. Last but not least, to the north the area faces a super marked with no entrance point. Just the rear entrance is in the area.

In order to determine if the area and the community as a whole is used by externs, a questionnaire was handed out. Not representational but is still proves certain assumptions.

Figure 6.55 Danwei – Area 3 – Entrance Street, Source: Author

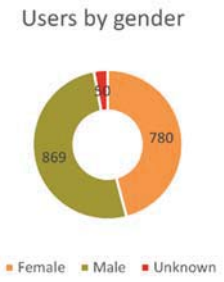

Figure 6.57 Users by

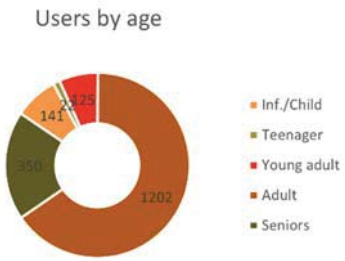

Figure 6.56 Users by age group

Figure 6.58 Uses in Area 3 – Entrance Street

6.2.4.1 Current usability

The area is basically one road with parking lots on it. There are obvious design elements that prohibits certain uses. The area's parking lots are almost all used during the day. However, traffic sure is an issue in the area. Although it is mostly stationary traffic that prohibits other uses, driving cars and e-scooters are use the same space as almost all other users. Although the number of pedestrians as well as drivers share the street, there are surprisingly little conflicts.

About 86% of people passing through the area, it is clearly transit oriented. Most of the people walked in or out the market on their way. Other uses are just a side notice to the real happenings in the area.

Regarding the free-time-related areas there are only a view people using the area for leisure. These people mostly use the elevated front porches above the market. Some people walk dogs at the street, and surprisingly there are even a few children playing on the street. In a few cases without supervision.

But the most interesting share of uses is the quite high number (only in relation to the other free-time-uses, in total numbers still little) *other* uses, both on weekday and weekend. Most of these uses are car related. Mostly people working on them. One person just parked in the community and then left it again. And the most unusual, a man sharpening scissors on the street.

Compared to the other uses, except *passing*, work related uses are quite high. People in the category *other worker* mostly worked for the market or the supermarket. Mostly it has to do with waste disposal. Especially empty cardboard boxes were collected by people on tricycles.

The security is often present, but he does not seem to control anyone entering the area. He only opens the barrier for cars or helps them park.

As in all areas the share of elderly and young women stands out. The high number of children in the area is also quite surprising since only a few of them play in the area. Therefore, most of them apparently just walk through. The high number of unknown cases regarding gender is due to the insufficient illumination in the area.

The incredible high amount of people entering the market, as well as those who leave it with one or more plastic bags filled with groceries suggest that not all people crossing the area are community residents. The surveys with questionnaires confirm this suspicion. People who then left to Area 2 as well as Area 4, stated, that they do not live in the community. Although this says nothing about the extend, it confirms the suspicion that people who do not live in here will still go through all areas.

6.2.4.2 Privacy for residents

Only one of the building's ground floor use is residential. It is the building in the side street. The other buildings are mostly commercial. The building to the north is a supermarket, which is not accessible from inside the community. The building with the market in also has two apartments accessible from the street in it. Although there are two apartments, which are accessible directly from the street.

As far as it goes for the residential buildings, the one in the side street has no view blocking elements in front of ground floor windows. However, since it is a dead end, only people who park there or enter the building go into the street. This limits the number.

The elevated residential buildings are blocked from any views from the street. But when one goes at the platform in front of the entrances, it is easy to see into the buildings. There are neither elements providing a distance to the windows nor anything blocking the view. Although, again, only people who enter the residential building or work up there get on the platform.

As far as it goes for the two apartments directly accessible from the street, there are only cars parked in front of the entrances that block the view into them.

All residential buildings can be entered through a door equipped with an intercom. Not a single entrance is barrier free. One cannot even get onto the platform above the market without using stairs. One example was observed with a man carrying a child down the stairs and then grabbing a stroller hidden under the stairs.

The apartments on the ground floor of the building complex are accessible directly from the street. Making them the only barrier free apartments, but it is also a disadvantage regarding an opening of the community.

The signs of community living are very limited. Besides people greeting each other in the street, there is not much interaction between users. Only a few times people who seem to spend time in the area together.

However, there are two areas that attest for the need of semi-private spaces. For one the elevated front porch, used by different people to smoke, call others, or overview the area. For another, the side streets with a couple of plants in pots, which are taken care of by one of the residents.

The actual community, in a sense of people, can be found directly in front of the community's main entrance. Most of the day one can find a group of mostly elderly men, sitting on chairs they brought and playing games. The security guard often joins them.

6.2.4.3 Connection to the outside

There is no control who is entering the entire day there is no limitation of accessibility at any time. Only the market, accessible from the area, is closing around 9 p.m. and therefore shop visitors cannot enter via this entrance.

The area has the community's main entrance in it and therefore directly at the border to public space. Therefore, the opening of another part is not necessary to open this one. The area is bordering public space in the west to. But access is not possible due to a wall. To the north and south, the area is enclosed by two other observation areas.

6.2.4.4 Summary and conclusion

Although the area is the one with the most counted uses, there is only a small variety of uses. This is not surprising. as the area functions mainly as a road and parking lot. It is an area for transit and work, far more than for anything else.

Spaces that potentially contribute to a community in a social sense are either structurally separated or not interesting for most of the people walking through. People only actually used the open space on the street for free-time-related uses in a few cases. The area is clearly not designed for people to stay there for longer periods of time. This results in only a few people spending time there and even fewer interact one another. In most of the area the distribution of planned uses is clearly observable and seems to work. Surprisingly, there is only little conflict between pedestrians and traffic. After all, most

pedestrians and cars share the same space.

Most of the area's residential use is protected from the view of passersby, either structural or by mental barriers. Additionally, a gate with an intercom prevents strangers from entering the buildings themselves. Only a small percent of apartments are problematic regarding these issues. Even a redesign to improve the situation is a challenge due to the location. This is a setback for opening-plans. As far as it goes for an opening in favour of the expansion of the small-scale road network, the locations of the residential buildings (except the two apartments accessible directly from the road) compensate the sometimes-missing view blockage. So, opening it on this site would need structural changes and a new privacy-concept for the side street.

The location, the fact that the area is already used by externs and the evidence that what is now one Danwei was once two separate communities, all speak in favour of opening plans. Additionally, the unusually high level of privacy for most of the residents and the lack of an active social community, which could be badly influenced make it an almost perfect candidate for an opening. This would strengthen the city's small-scale road network for pedestrians, but not to provide additional public space. At least not with the current emphasis on motorized-individual-traffic.

6.2.5 Observation Area 4 – Back Street

Figure 6.59 Observation area oversight
Source: Author

The area gets its name from the lack of design and functionality. Although the data of uses suggests something different, the design is clearly not more than a road and not meant to provide anything besides that. It consists of a street just wide enough for a car, a few parking spots, some entrances to a complex of buildings as well as a bicycle garage and an area to collect waste in waste containers. But the most important structures in the area is a small building, not bigger than a hut as well as an additional one room apartment attached to the bicycle garage. Much of the activities taking place emanate from this building and the people who live in it. At the same time, they are the biggest argument against an opening.

The basically purely residential street is connected to Area 3 to the south and to a public road in the west. As gate into the area functions a metal gate with a revolving door.

Its characteristic and design is different to the arterial streets in Area 1. The very limited space does not allow a spatial segregation of activities considered public and those considered private. However, it is also the only area with such a strong social control, that the observation point had to be changes from inside the community, to the outside. The simple design allowed an almost clear overview of the whole area.

Figure 6.60 Danwei – Area 4 – Back Street, Source: Author

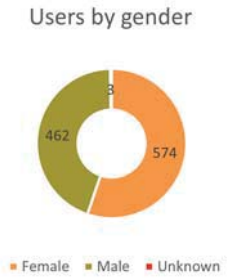

Figure 6.62 Users by

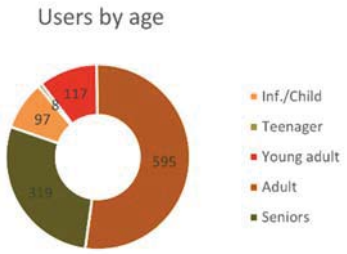

Figure 6.61 Users by age group

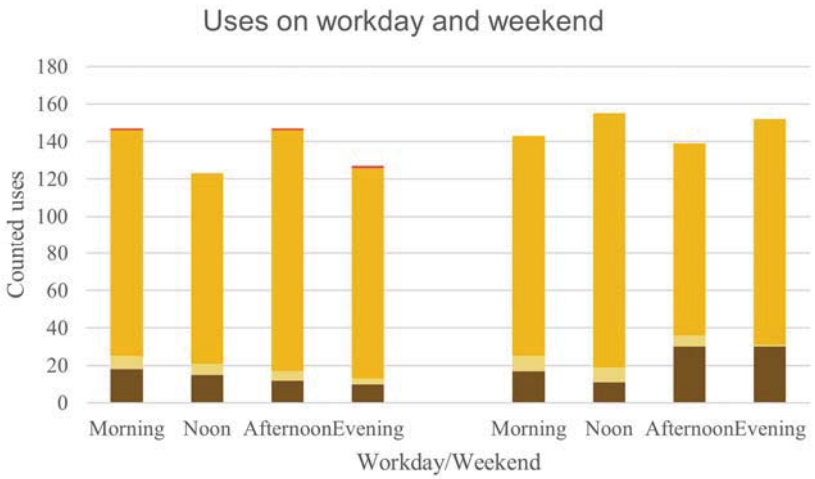

Figure 6.63 Uses in Area 3 – Back Street

6.2.5.1 Current usability

Since there are almost non design elements in the area, there is not a lot that can influence behaviour. Although one could argue that the design as it is now, contributes to the area's main use. But even though the area is mostly just a plain street, other uses spread there, creating a multi-functional open space.

The gate as a controlling instrument has the most observable effect. But instead of limiting the access for externs it makes it hard to entrance for people with a disability, a stroller, or almost anything else, even with an umbrella.

Car traffic is only an issue in the area's eastern part, right by the connection to Area 3. Since the area is a dead end for cars and offers no possibility to turn around by the gate, cars do not drive further into the area. Since it is a dead end for e-scooters too, none of them cross the area. Only people who enter buildings, deliver goods, or enter the bicycle garage (the entrance point is on the far east side too) come into the area. As a result, the number is low compared to Area 2 and 3. Last but not least, the only parking spots are in the east too.

With a share of about 83% uses being passing through the area's open space it can without any doubt be categorized as a transit-zone. As it goes for other uses, the variety of different uses is limited to a view and, besides housekeeping and playing, also just found in little numbers.

Also, noticeable are the differences of use-distribution over the day between weekday and weekend. Even though there are less different uses during the week in the morning, the absolute number of counted users is higher. Then, spread over the day, free-time-uses as well as work-uses decline .

In the weekend, the total number of uses starts a little lower in the morning, declines at noon. In the afternoon and evening uses in the area reach the peak. This is only due to free-time uses, isolated, the work-uses show a different picture.

As mentioned before, there is a small group, of four people, who are using the area the most. They are mostly responsible for uses in leisure, maintenance, playing, strolling and housekeeping. Reason for this are these people's living conditions. Limited indoor space results in a spread of personal space into the semi-private room as it is not found in any other case. Additional, one of these people seems to work as maintenance personal in the area. This level of appropriation of semi-private space also

results in children playing in the open space without supervision.

More important regarding playing children is the observation, that, mostly pairs of adults and children, leave the community and then head to a small playground across the street, located in public, or at least semi-public space.

There are multiple indicators, that only a small share of users are residents of the area or even the community. The number of pedestrians walking between the Area3 and the entrance/exit gate, is tremendously higher as the number of people entering or leaving a building. Second, a majority of those who walk from Area 3 to the community exit, carry one or more plastic bags with groceries in them. Also, a noticeable amount of people entering the community, and walking to Area 3, carry a wallet. Although this does not prove anything (the fact that externs use the community to go to the market is proven by the questionnaire) it allows an educated guess.

6.2.5.2 Privacy for residents

Besides the bicycle garage, all other building's ground floor use ins residential. This is especially problematic due to the limited space to provide distance, and therefore privacy for the residents. Neither the apartment accessible from the street, nor the apartments on the ground floor have any protection from people looking into their private space.

The access to the residential buildings is prevented to a door equipped with an intercom, leading to the staircase. As such, these are the same measures to accomplish safeness as in other areas.

Again, an exception to this is the apartment, accessible directly from the street. As the notation indicates, it is accessible without any other security than its own door. So, without structural changes regarding this specific apartment, this indicator is not in favour of for an opening.

The small group of users in the apartment, directly accessible from the street and their necessary/forced spread into the semi-private space, shows a clear form of appropriation. The benefits although are not limited to this small group. Especially the elderly women who is working as a maintenance worker in the area provides very strict social control. Due to her, the observation point had to be moved outside the community,

since, due her attention it was impossible to observe natural conditions from the inside.

Besides that, little talks between pedestrians and occasional greetings, there have been no other signs of a small-scale community.

6.2.5.3 Connection to the outside

The area is easily accessible for every resident and externs form Area 3 and from the outside. There is no control over who is entering. The gate only makes life harder for people with certain disability, or people carrying equipment like a stroller, a suitcase or even an umbrella. It also functions as a bottle neck, resulting in people needing to wait as only one person can walk through at a time.

The observations have shown that the community consists of another area, similar to Area 4, which is structurally separated. As an example, residents who want to throw out garbage, have to walk through a gate to the public street, and then re-enter the community through the west-entrance at Area 4. For some reason. The direct connection between the two areas (although bordering each other directly) is not possible due to a wall that cuts additional area off.

The area is bordering a public street in the west making is easy to open the area in general. Although an opening of this area alone would not provide any benefit

6.2.5.4 Summary and conclusion

This area differs from other mobility-oriented ones by one very distinct feature. Due to the limited space, it is not possible to divide the area into different subspaces. There is no separation of transit areas and areas for other, more private uses. In no other area is the difference between the three defined dimensions with indicators so clearly visible as in this one. While the indicators regarding *Current usability* and *Connection to the outside* speak for an opening for pedestrians, the indicators considering *Privacy for residents* paint the contrary picture.

Most concerns are about a small group of users, but even without considering these, there are major shortcomings in providing a certain level of privacy for those living on the ground floor. Above all it is about the question, how drastic changes in a community's physical space can be? Another question is, if the relocation of residents, in order to improve the situation for many others and to reach planning goals, is an

option?

If the number of externs is as high as it is assumed to be, arguing against an opening to contribute to Shanghai's small-scale road network, is not based on the actual situation. The high number suggests that the area's residents are used to strangers walking through and that they are already accustomed to this. However, the exposed situation of a small group's personal space is a draw-back for such plans because even now the situation calls for a drastic change of these peoples living situations. Even though there are many arguments against it, it seems to be the best of the three given options. The first other option would be to leave everything as it is now. Without any improvements for anyone. The second one would be to close the western entrance to the community to provide more privacy. This way, everyone would lose.

With no doubt, one of the observation's most important results is regarding a totally different topic. A woman and a child have been observed walking out of the community and heading to a nearby playground. It is located in public or semi-public space. Showing that a function mostly found inside communities (or big parks) can also take place in smaller, more public places. This may be one of the key results of the whole observation process.

6.2.6 Site 2 – Full conclusion

The observations and the analysis of the case study Site 2, the *Danwei*, illustrate a vibrant and multifunctional community. The research in the four predetermined observation areas, reflect the different structural elements, typical for this type of residential area. Here privacy and publicity are often closer to another, than one might believe.

When analysing the community, especially its uses, one result becomes clear quite soon. By Most people pass through the areas. In numbers this means that in Area 1,3 and 4 the share of people of the category *passing* is more than 80%. In Area 2 it is about 46%. Of these people, the most cross the area, meaning they walk from one entrance/exit point to another one, but not into buildings. This indicates that most of the areas' user not live in them. Due to a questionnaire and certain observed behaviour patterns, the assumption that a high number of them does not even live in the community is, substantiated. Although this only applies to shopping and the linked transits.

The high number of people *passing* is also reflected in the possibilities that single open spaces give regarding usage. The whole area only has one highly frequented multifunctional space which is obviously planned as such: the park in Area 2.

These two conditions already provide an outlook on what is then confirmed through the detailed analysis of individual sub-spaces. Namely, that the observed *Danwei* can only benefit the official objective to create a more walkable city by being actively implemented into the city's small-scale road network for pedestrians. The possibilities to create more public (green) spaces is limited. At least within the community's walls.

While most issues concerning privacy can be addressed by minor structural and design changes (although due to the local dimensions the room for adjustments is limited), it shows that it is less a question of which uses are also found outside the communities. It is much more about the question, for which uses a certain degree of privacy should be provided. This mainly concerns very private uses, which mostly fall into the category *housekeeping*, but also personal hygiene, and others. Precisely, because certain uses have already been seen in public space, the question arises whether this really meets the city's social and planning standards for privacy.

Interestingly, most of the people's routes are on the community's main street. As

shown before, a main street goes all the way through the areas *Side Streets*, *Park* and *Entrance Street*. Most people, traveling by car, e-scooter, bicycle, or foot, transit each area on this street, form one of the areas' entrance points, to another area, but not to the buildings located there. Other uses are located in other sub-spaces, resulting in a very different distribution of these, and users. In Area 1 this applies to the side streets. In Area 2 to the park and the parking lot. Of these three areas, only Area 3 is an exception. Due to the absence of quality and the limited accessibility of sub-spaces, there is only a small number of people who do not just pass through. They mostly share the street space with those who pass by, as well as cars, bicycles and vehicles.

When observing Area 1 and 2, the separation of uses is clearly visible. In Area 1, almost all usage besides *passing*, takes place in the two side streets expanding from the main street. On one hand, they consume more of the areas total space. On the other hand, these two dead end streets seem to offer the necessary conditions for a higher variety of uses. For most people, those who walk from the community's south entrance to Area 2 or the other way around, these side streets have no attraction at all. Those who cross, walk straight and barely take any detours. A space that does not give them the possibility to transit, has apparently no value for them. The position of the buildings, perpendicular to the street, creates free spaces between them, away from the main traffic route. Due to these narrow spaces that can be clearly assigned to the buildings, a demarcation is possible without any walls. Nevertheless, the radical demolition of walls brings the danger of destroying these spaces, in particular, their value for residents. Careful use of this circumstance can lead to spaces being preserved and upgraded especially for residents. Due to this, an opening can also bring benefits for those who need improvement, even if the status quo remains intact.

Even though the determination of transit- and non-transit-oriented subspaces is as easily possible in Area 1 and 2, the situation appears to be more complex in Area 2. The buildings orientation to the community's main street is equal to Area 1. Due to the bigger distances between the buildings, the open space in between enables completely different uses, like the park and the parking lot. Most activities besides *passing* take place by the park or at the parking lot. Especially the park's usage spreads out to the small path, leading to the buildings next to it, and to the street. Some people passing through the area to enter the buildings cross each of the locations too. Like in Area 1 the separation is clear, not total.

The parking lot includes several uses, considered to be private, especially due to

the small number of apartments, accessible directly from the streets. Those residents use the semi-private open space to compensate for a lack of space inside. Even if the status quo remains intact, one should consider an improvement regarding this issue. Besides that, the parking lot seems to be uninteresting for externs without tearing down walls to the public space and the thereby newly generated passages.

The park itself is a vibrant and busy sub-space. It is already occupied by multiple user groups during the whole day. Together with the maintenance worker's all-day presence, one can assume that the existing social structures are strong. Since it is the only space designed as a multi-functional open space, it is already overloaded with uses and users. Making it questionable if an opening would bring new potential users into the area and have negative effects.

Both areas' potential is mainly to contribute to Shanghai's public small-scale-rode network for pedestrians. The contribution to the city's infrastructure of public plazas or parks would jeopardise important functions – mainly housekeeping and other private uses – for residents. In the case of the park as well as the single bench and table next to the street close to Area 1, it seemed as if the happenings on the street are attractions for the residents. At least most benches are facing toward the street.

Due to the spatial distribution within, Area 3 is a special case. For one, the area consists of a side street, similar to the ones in Area 1. For this part, the conclusion is the same as for its equivalents. Since most of the area is occupied by the main street, the conclusion is that it can probably be opened very easily. Due to the clear transit- and car-orientation and the insignificant diversity and nature of other uses, there are only little arguments against an opening in order to contribute to the small-scale road network for pedestrians. By now the area has more of a public street's character, than of a gated residential community already.

Area 4 is again different. The area only consists of a street with similarities to a side street as in Area 1. Due to an entrance/exit gate at the west side (the community's only exit to the west) highly frequented by pedestrians. Unlike other areas, there is no separated space for other (more private) functions. There is not even enough room to provide privacy for residents inside buildings. Unexpected is the case of a small user group that relies so much on semi-private space as no one else noticed during the investigations. Washing clothes, washing dishes, playing, basically everything you do

outside the bed moves into the semi-private room.

This brings up a question, that has already emerged in other parts of the community, but not as urgently. Namely, if drastic structural changes or even the resettlement of small groups is a valid option to achieve planning objectives. Research and planning cannot answer this question, calling for an ethical or at least political answer. However, it can help find alternative solutions.

No matter what, to argue for the further opening of Area 4 is difficult. However, compared to remaining the status quo, or limiting the access to the area (both unsatisfactory solutions, with no advantages for anyone) it still seems to be one of the better options.

Before coming to the final conclusion, it is necessary to take a brief look into two of the observations' core findings, which are important for the whole research's cause. First, a playground by a public street westward of the area has proven to be used plenty. Besides others, by the observed community's residents. Demonstrating that also a use that was thought to be mostly limited to semi-private space or big public parks, can take place if the possibility is given and the demand exists. Considering the community's limited open space one can clearly see why.

Second, as argued multiple times, public space, especially one that is usable for multiple functions is limited. This is partly due to the poor handling of the stationary traffic. Since the level of motorization rose drastically in the past decades, and parking lots in public space are rare, it seems like almost all open space not already obstructed has been converted into a parking lot.

Summed up, there are several key findings, as well as some proposals for aiding Danweis and Shanghai's future development.

Key Findings:

- The community's open space, namely its street network can contribute to Shanghai's small-scale road network for pedestrians and thereby contribute to an increase of walkability.
- The contribution to the goal of creating more public plazas or parks is very limited since the existing ones are already overused and there is no space for new ones.

- In several cases residents carry out even very private uses into semi-public space.
- It is less about, if uses can or cannot be found in public spaces, but rather if the planning objective should be, to provide a certain level of privacy for some uses.
- The community shows many signs of a living and vibrant community. Close to building entrances as well as the park.
- The community is already easily accessible and traversable for people not living in it.
- An opening with minimal intervention and changes seems more reasonable than maintaining the status quo

Proposals:

- Small scale interventions to increase traversability for pedestrians.
- Demolish gates to increase traversability for pedestrians and increase accessibility.
- Implement changes to increase privacy for residents based on the indicators examined.
- Re-evaluate existing passages for pedestrians and consider the implementation of new passages in order to provide sufficient semi-private spaces. Contribute to a small-scale road network for pedestrians.
- Adapt the parking-concept to create more usable open space and improve flexibility for structural changes.
- Prohibit traversability for vehicles in order not to undermine effects on walkability.
- Focus on creating semi-private rooms on areas close to buildings (such as arterial/side streets) and convert other semi-private spaces (such as the main street and the park) into semi-public and public spaces.
- Redesign and reuse small green spaces outside the community walls.
- Start programs to get people to use the new accessible paths, open spaces and other facilities (signs, sidewalk markings, etc.).
- Implement a program to detect new/rising conflicts and to address them.

6.2.7 Numerical evaluation

The individual indicators were evaluated numerically, using the scheme described in Chapter 5.2 *Evaluation Model* p. 76. The quantified evaluation of the single indicators can be found in the appendix (

Evaluation of single indicators – Site 2 p. 195). result of this assessment is shown here graphically. The higher the numerical value, the more it is suitable for an opening, according to the indicators.

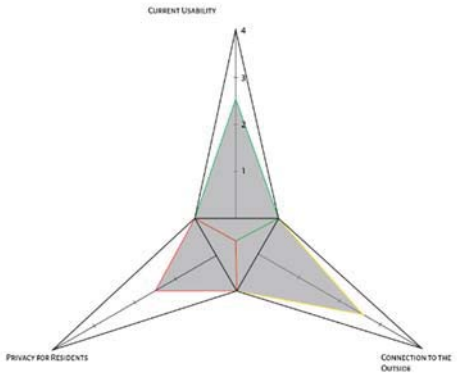

Figure 6.64 Evaluation – Site 2 – Area 1

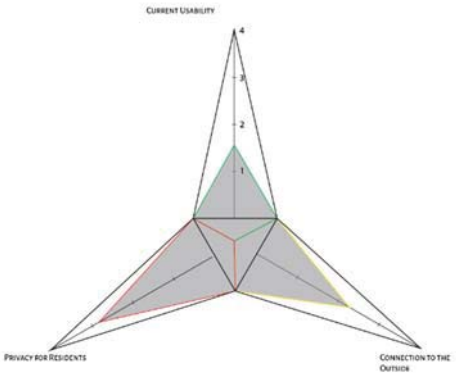

Figure 6.65 Evaluation – Site 2 – Area 2

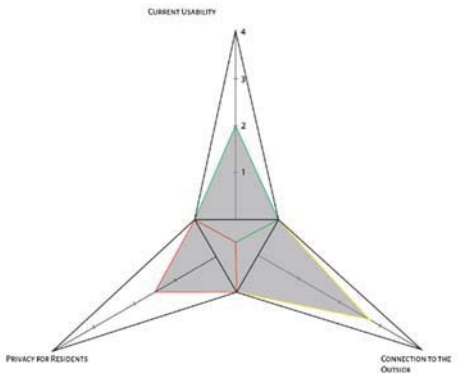

Figure 6.66 Evaluation – Site 2 – Area 13

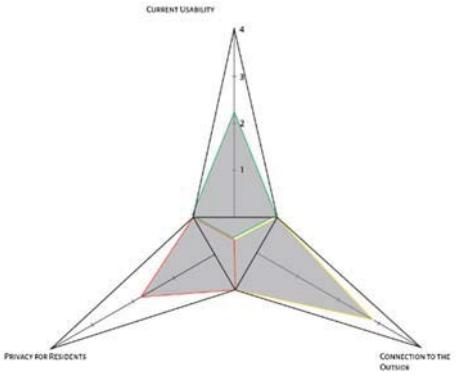

Figure 6.67 Evaluation – Site 2 – Area 4

7 Conclusion

The 72 observation hours inside the communities, plus the several hours of research regarding their surroundings, provide very detailed insights in two structurally as well as socially different communities.

To answer all research questions, the following conclusion covers both of the thesis' aspects. The evaluation of the methodology, as well as the research's findings.

- *How can the potential to open semi-private space in Shanghai's gated residential areas be evaluated in order to be comparable?*
    - *Based on which indicators can the potential for opening Shanghai's gated residential communities be evaluated?*
    - *What are the advantages and disadvantages of quantitative and qualitative approaches in this context?*

The found dimensions to evaluate the potential for a possible opening of communities' *Current usability*, *Privacy for residents* and *Connection to the outside* seem to be suiting for this thesis' cause. At this point, it should be remembered, that the research results, and recommendations, only refer to an opening for pedestrians. Anyway, even though the indicators have certain flaws (which will be discussed later) and had to be adjusted multiple times – some during the observation phase – they have proven themselves worthy, and have provided an excellent outline for the on-field observations.

In general, the methodological approach was appropriate for the research question and yielded a lot of useful data. Carrying out further complementing methods, such as surveys, questionnaires, mental maps and others, the information could be more detailed. However, from the conception at the beginning, to the research design, the continuous refining of the methodology, through to the execution, one of the thesis' objectives was to create a process, as unaffected by the existing language barriers as possible. Besides some factors not being quantified (e.g. the share of externs using an area) the observations collected all insights, necessary to evaluate all observation areas, since individual assumptions have been verified by provisional questionnaires.

The predetermined observation areas have proven to be sufficient to collect necessary data. Even though some of them turned out to be a little too big or difficult to overview. Nevertheless, in many cases, the analysis can not only show the positive and negative conditions, but also approaches to solutions for already challenging situations, and to reduce any negative effects caused by interventions.

So, the indicators can help to give an overall insight, and show potential intervention points early on. Therefore, it is recommended to integrate the here developed methodology into the very first steps on the planning process. In the further course, the detailed planning can and should be prepared and carried out with the support of additional methods.

The discourse regarding advantages and disadvantages of both, qualitative and quantitative methods, discussed in chapter 5 *The potential of gated residential areas* p. 61. Here, the focus is on the created evaluation model, its dimensions, its indicators, and its feasibility.

If a quantitative evaluation makes sense, it is, besides other factors, depending on the accessible data. In this thesis' case, a lack of data was a serious issue, beginning with missing data about ownership, statistics about residents, up to missing vector- and geo-data. The more data and statistics are missing, the harder the operationalisation of single indicators. Even if the data were accessible, it would still be incomplete, as would lack comparable data and references.

The use of soft indicators is a questionable approach too. Especially if evaluated by only one person. Especially if they have such a different cultural and planning background. A further issue, linked to this, is the ranking of individual indicators. A system with equally weighted indicators, has many advantages. However, some factors are simpler to observe, evaluate and it is easy to compensate for negative effects. Others, e.g. *small-scale communities* are more complex and may be more relevant.

All in all, the idea of a comparable classification and methodology is, appealing. But a strict corset of numerical values does not do justice to the complexity and diversity of the individual observation areas. Strengths and weaknesses, as well as approaches to dealing with existing or future issues would stay undetected or unaddressed. However, it is advisable to address or verify certain upcoming issues or evidence with quantitative methods (e.g. share of externs using certain areas in a community).

A detailed explanation of the numerical evaluation is the key to generate a comprehensible process. However, it seems as if the systematic is more suitable for a planning process, but only little scientifically usable.

A conclusion, what to prefer is difficult, since this is also depending on the local cultural and planning context. In the Austrian context, where the question itself does not arise due to the lack of relevance, a quantitative approach to similar questions (e.g. the accessibility of municipal buildings or the opening of inner courtyards) probably makes little sense. In the Chinese context however, in which planning is faster and carried out on a different scale, numerical comparability for quick assessment is certainly appealing.

Regarding the first research question and its sub-questions, the following suggestions:

- Use of the developed and tested dimensions and indicators for evaluations.
- Complementing the methodology with further (feasible) methods.
- Adaptation to local cultural, social, and planning conditions.
- The inclusion in an early phase in the planning process.
- Detailed qualitative elaboration of the indicators.
- Addressing individual questions that arise from the investigations and examination with fitting methodology.
- Numerical comparison of soft indicators only if the assessment is carried out by a large number of people in order to increase the informative value.
- General caution when handling quantitative comparability.

Which prior determined indicators are in favour of the researched communities being opened?

- *What are the differences between the two researched communities regarding the researched indicators?*
- *To which of Shanghai's planning objectives, shown in chapter 2.2 Approach and research question p. 4p, can each case contribute?*

The observation results as well as conclusions regarding the single dimensions are discussed in detail, in chapter 6.1.7 p. 126 and chapter 6.2.7 p. 169. The observations show that the researched semi-private spaces do hold less functions than comparable public and semi-public spaces. Instead of comparing these spaces, it seems to be more meaningful to concentrate on the privacy of certain uses. The analysis has shown that indicators related to privacy are the biggest setback for opening plans. Indicators regarding publicness, uses, or connections to the outside on the other hand, often speak in favour of a potential opening. These uses often take place in very close distance to residential buildings (front porches and side streets). For this reason, in both cases one of the proposals is to focus on these subspaces and guarantee privacy where it is necessary and open other less private sub-spaces.

Furthermore, the recommendations differ depending on the typology. Biggest issue is space, and the often linked possibility to improve privacy where it is needed. Especially in the *Danwei*. Besides that, the changes are mostly in the number of users, not in the kind of uses. In both cases some factors such as ownership or a feeling of security (this is subjective anyway) are deliberately disregarded. As there is insufficient insight into ownership structures. Also, in both cases, it was very surprising to discover that despite the gates, walls, and other obstacles, both communities are by no means physically closed. This does not diminish the fact that they are large barriers.

In the case of this thesis, the *Xiaoqu's* semi-public space could contribute to Shanghai's supply with adequate open (green) spaces, as well as the increase of walkability contributing to an attractive small-scale road network for pedestrians (see chapter:6.1.7 *Site 1 – Full conclusion* p. 126). The *Danwei* on the other hand, due to the limited space, can only contribute to the increase of walkability, also by providing a pedestrian friendly small-scale road network (see chapter 6.2.6 Site 2 – Full conclusion p. 164).

Assuming that the results, especially those that relate to spatial conditions, can at

least in their basic features be transferred to other communities of the same type, the thesis offers not only an outlook on possible changes in the residential structure of Shanghai, but also on Chinese cities in general. The reason for this is the similar structure of residential construction in very large parts of China, which has often been mentioned before. In any case, the methodology with its dimensions and indicators can be transferred to other cities.

Based on the research's results, some general recommendations for planning can be made. These are as follows:

- Determine which planning goals the respective case can contribute to.
- Definition of the connections and paths to be implemented including further entrances.
- Definition of parks and plazas which are usable when the community is opened.
- Preserve and improve privacy.
- Focus on small scale semi-private sub-spaces by buildings (front porches).
- Separation of semi-private spaces with measures that influence behaviour. Structural separation only when necessary.
- Strengthening the mix of uses on the ground floor to improve privacy and as points of interest to promote the implementation of changes.
- Small scale interventions in *Danweis.*
- Large scale interventions in *Xiaoqus*.
- Start programs to get people to use the new accessible paths, open spaces and other facilities (signs, sidewalk markings, etc.).
- Cooperation with residents.
- Implement a program to detect new/rising conflicts and to address them.

8 Research reflection

The present thesis is the final part in order to complete the Double-Degree-Program from Vienna Technical University and Tongji University in Shanghai. Most parts of the research took place during a one-year exchange program in Shanghai.

Literature, pictures, even documentaries can only partially prepare one for the totally different way cities are built, and function compared to typical European cities. However, living in Shanghai, aside from the university campus in an apartment helped to get a deeper understanding of the planning issues the city faces. Additionally, the daily life, living in one of Shanghai's gated residential compounds, increased the desire to gain further knowledge of these communities, the way they function, how people live there and what issues they face.

The search for a research topic and eventually a research question was in a first step mainly influenced by daily observations and the impressions they brought. However, to only use approaches from a European perspective, professional or private, was at no time an option. For this reason, the search for a Chinese problem definition started. When studying Shanghainese planning documents, several issues occurred that brought interesting promising research approaches. But eventually the focus on Shanghai's gated residential compounds was set, as this coincide the most with personal experiences and impressions.

From the first days in Shanghai on, the desire to find out what is going on behind the endless walls of Shanghai and why the people hide behind them was incredibly strong. Coupled with the problems that arose from the first literature research, it was clear that the spaces within these communities should be the subject of the investigation.

A comprehensive literature research on the topic was the start of it. But from the beginning on, the research was strongly influenced not only by language and cultural barriers, but by technical ones as well. Difficulties with the internet connection and access to library catalogues brought multiple setbacks. For this reason, certain chapters have been adapted after the one year abroad, back in Vienna. Nevertheless, it was possible to gain all necessary information for the further research process.

Language barriers have also been the driving force when designing the methodology for the field research. Many of the normally appropriate and possible

methods were not realizable. This included most forms of interview, as well as most forms of questionnaires. Even though my supervisor at Tongji University was willing to help me get some assistance from a native speaker, the process would have taken lots of time that I could not "repay" in any kind of form. Even though this might not be necessary, it is against personal believes to claim resources of third parties, without being able to compensate them. So, interviews have not been an option. Further, only quantitative questionnaires were feasible. However, the process of designing the survey would have been strongly influenced by the European planning background and there would have been no data to compare the findings too.

For this reason, it was necessary to find a method that was independent of language barriers and could be carried out alone. Eventually, the choice fell on observations as the method. These observations have been oriented on different activities and actions of the areas' users. The design of the observation process was on one hand based on the findings of the literature research before. But it was also influenced by the many encounters with people on streets, parks plazas and such. Thousands of observations of daily life helped to build the framework for the observations and provided a frame of reference for the findings. The focus on the uses of the people surely helped to simplify the observations as well as the analysis later on.

Next step was the selection of case areas for the research. In an attempt to keep the quality of the research-results high, it was decided to only observe a *Danwei* and a *Xiaoqu*. An observation of a Lilong community would not have been constructive, since the narrow open spaces within them allow now field observations without totally influencing said field.

The two cases have been chosen due to their design as well as their location and their accessibility. As one can imagine, latest was quite a challenge, since the research objects are gated housing compounds. However, after selecting the research sites, they have been subdivided into multiple research areas. Each area then was observed over a time period of 16 hours between 6 a.m. and 10 p.m. Once on a workday and an additional time on the weekend. To be precise, within each of these 16 hours one area has been observed exactly 15 minutes, in three five minutes time slots, spread over the whole hour. So, each observation area was actively observed for eight hours. Most of the days the observation time was limited to four to eight hours. For one reason to diversify the research results more. For the other reason to be able to concentrate and being able to process the observed circumstances, since the field provided an incredible

amount of intense impressions from people's daily lives. In total this makes 72 hours' worth of protocolled observations. All of the observations were done in May and June in the year 2019. The protocols have been recorded on tape and have been transcribed later on.

In retrospective the transcription and analysation of the collected data was the most time-consuming task. Especially since not all the data that has been collected is used in the final thesis. Filtering out the data for the assessment and the previously defined dimensions and indicators was a major challenge. It required multiple revisions of the data and at the end an interpretation of the collected data in order to get the final results.

As it was indicated before, the sheer amount of data that was collected, made it very hard to only extract those parts that are finally used. With a better concept of analysis this part of the research sure would have been done faster, at least to a little extend. This sure is an important realisation for future research processes.

In summary, it can be said that the choice of methods fulfilled the goal of getting a deep insight into Chinese housing communities, without being affected by language and cultural barriers too much. However, I am aware that an actual evaluation (let alone an actual implementation) requires a more in-depth process with a large number of different methods. Nevertheless, the chosen method was a good opportunity to answer the research questions and to gain an incredibly deep insight into a society that could not be more different from the usual Central European.

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10 Appendix

10.1 Evaluation of single indicators – Site 1

The following chapters show the short (numerical) evaluation of each area's single indicators.

10.1.1 Evaluation – Universal criteria

Connections	Connection to the outside
4 Points	direct connection between public transport close by (< 500 m) and other points of interest close by (<500 m) or far away (500 - 1000 m) and the connection of a cluster of residential or mixed-use buildings to public transport
3 Points	either direct connection between public transport close by (< 500 m) and other points of interest close by (< 500 m) or far away (500 - 1000 m), or the connection of a cluster of residential or mixed-use buildings to public transport
2 Points	direct connection between public transport in a distance of 500 to 1000 meters and other points of interest close by (<500 m) or far away (500 - 1000 m) and the connection of a cluster of residential or mixed-use buildings to public transport
1 Point	Position of compound in/by a cluster of mixed use or residential buildings/compounds but no clearly defined points of interest or public transport within the distance of 1000 meters.

Distance to parks and plazas	Connection to the outside
4 Points	no park or plaza within a distance of 1000 meters
3 Points	next parks and plazas in a distance of 500 to 1000 meters
2 Points	next park or plaza within a distance of 500 meters
1 Point	community is bordering a park or plaza

Surrounding street layout	Connection to the outside
Pro opening	blocking elements; high rank streets; air pollution; walls and gates or residential use as "facades"; sidewalk surface is not handicapped accessible
Contra opening	paths are wide enough for frequency of pedestrians, high grade of cleanness
4 Points	Only pro opening
3 Points	Preponderant pro opening
2 Points	Preponderant contra opening
1 Point	Only contra opening

Accessibility	Privacy for residents
4 Points	community is accessible for externs with no barriers or guards
3 Points	community is accessible for externs although the access is limited by walls and gates that are traversable without guards actively controlling the entrance
2 Points	community is accessible for externs although access is limited by walls and gates with guards occasionally controlling the entrance
1 Point	all community entrances are permanently controlled by guards or technical systems

10.1.2 Evaluation – Area 1 – Fore Court

Design	Current usability
Pro opening	paths that provide short connections; definition of sub-areas; design increases safety; design protects from traffic; design allows high variety of uses
Contra opening	
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening
1 Point	only contra opening

Traffic	Current usability
Pro opening	no or only little observed influence on usability by traffic (non-stationary); no stationary traffic
Contra opening	
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening
1 Point	only contra opening

Uses	Current usability
4 Points	no uses that have not been found in public and no signs of uses that need (further) privacy
3 Points	no uses that have not been found in public or no signs of uses that need (further) privacy
2 Points	single use that has not been found in public, but no uses do indicate a need for (further) privacy
1 Point	single or multiple uses that have not been found in public and they indicate a need for (further) privacy

Users	Current usability
4 Points	users who walk through or workers are more than all others together on weekdays and the weekend
3 Points	users who walk through and workers together are more than all others together on weekdays and the weekend
2 Points	users who walk through and workers together are more than all others together on weekdays or the weekend
1 Point	users who use the area for free-time related uses are more than people who walk through and/or work in the area on weekdays and weekend.

Privacy for apartments	Privacy for residents
4 Points	sufficient view blockage into all (ground floor) apartments from high traffic (pedestrian) areas by distance or view blocking elements
3 Points	sufficient view blockage into most (ground floor) apartments from high traffic (pedestrian) areas by distance or view blocking elements
2 Points	insufficient view blockage for multiple (ground floor) apartments
1 Point	insufficient view blockage for all (ground floor) apartments

Ground floor use	Privacy for residents
4 Points	no residential ground floor use (directly in the area)
3 Points	little residential ground floor use (directly in the area)
2 Points	mostly residential ground floor use (directly in the area)
1 Point	only residential ground floor use (directly in the area)

Access to residential buildings	Privacy for residents
4 Points	multiple barriers to reach all apartments
3 Points	at least one barrier to reach all apartments
2 Points	barriers (single or multiple) to reach some apartments, but not all
1 Point	no barriers to reach all apartments

Small-scale community	Privacy for residents
Pro opening	no signs of small-scale community life; no signs of appropriation of space; no uses that indicate a need of privacy
Contra opening	
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening

Distance to community border	Privacy for residents
4 Points	area is at the community border and has an entrance/exit gate or is outside the community
3 Points	area is directly at the community border
2 Points	area is separated by one other area (or a similar distance) to the community border
1 Point	area is separated by multiple areas (or a similar distance) to the community border

Inside points of interest	Privacy for residents
4 Points	multiple points of interest in the area, only accessible from the inside the community
3 Points	single point of interest in the area, only accessible from the inside the community
2 Points	multiple or single points of interest in the area, accessible from the inside and/or the outside the community
1 Point	no points of interest inside the area

10.1.3 Evaluation – Area 2 – Entrance Area

Design	Current usability
Pro opening	design defines entrance areas in front of buildings in a manner that produces privacy; paths that provide short connections; design that contributes to the assumptive intended use; definition of sub-areas; design protects from traffic
Contra opening	design produces conflicts between single uses; design decreases safety; design does not allow a high variety of uses
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening
1 Point	only contra opening

Traffic	Current usability
Pro opening	no stationary traffic; little stationary traffic compared to the whole area size; low driving speed; considerate driving behaviour of drivers
Contra opening	high influence on safety and usability by traffic (non-stationary); large proportion of (stationary) traffic compared to the total size of the area; inconsiderate behaviour of drivers; high driving speed
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening
1 Point	only contra opening

Uses	Current usability

4 Points	no uses that have not been found in public and no signs of uses that need (further) privacy
3 Points	no uses that have not been found in public or no signs of uses that need (further) privacy
2 Points	single use that has not been found in public, but no uses do indicate a need for (further) privacy
1 Point	single or multiple uses that have not been found in public and they indicate a need for (further) privacy

Users	Current usability
4 Points	users who walk through or workers are more than all others together on weekdays and the weekend
3 Points	users who walk through and workers together are more than all others together on weekdays and the weekend
2 Points	users who walk through and workers together are more than all others together on weekdays or the weekend
1 Point	users who use the area for free-time related uses are more than people who walk through and/or work in the area on weekdays and weekend.

Privacy for apartments	Privacy for residents
4 Points	sufficient view blockage into all (ground floor) apartments from high traffic (pedestrian) areas by distance or view blocking elements
3 Points	sufficient view blockage into most (ground floor) apartments from high traffic (pedestrian) areas by distance or view blocking elements
2 Points	insufficient view blockage for multiple (ground floor) apartments
1 Point	insufficient view blockage for all (ground floor) apartments

Ground floor use	Privacy for residents
4 Points	no residential ground floor use (directly in the area)
3 Points	little residential ground floor use (directly in the area)
2 Points	mostly residential ground floor use (directly in the area)
1 Point	only residential ground floor use (directly in the area)

Access to residential buildings	Privacy for residents
4 Points	multiple barriers to reach all apartments
3 Points	at least one barrier to reach all apartments
2 Points	barriers (single or multiple) to reach some apartments, but not all
1 Point	no barriers to reach all apartments

Small-scale community	Privacy for residents
Pro opening	no signs of small-scale community life; no signs of appropriation of space; no uses that indicate a need of privacy
Contra opening	
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening
1 Point	only contra opening

Distance to community border	Privacy for residents
4 Points	area is at the community border and has an entrance/exit gate or is outside the community
3 Points	area is directly at the community border
2 Points	area is separated by one other area (or a similar distance) to the community border
1 Point	area is separated by multiple areas (or a similar distance) to the community border

Inside points of interest	Privacy for residents
4 Points	multiple points of interest in the area, only accessible from the inside the community
3 Points	single point of interest in the area, only accessible from the inside the community
2 Points	multiple or single points of interest in the area, accessible from the inside and/or the outside the community
1 Point	no points of interest inside the area

10.1.4 Evaluation – Area 3 – Central Plaza

Design	Current usability
Pro opening	design defines entrance areas in front of buildings in a manner that produces privacy; paths that provide short connections; design that contributes to the assumptive intended use; definition of sub-areas; design increases safety; design protects from traffic; design allows high variety of uses
Contra opening	design produces conflicts between single uses
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening
1 Point	only contra opening

Traffic	Current usability
Pro opening	no or only little observed influence on usability by traffic (non-stationary); no stationary traffic
Contra opening	
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening
1 Point	only contra opening

Uses	Current usability
4 Points	no uses that have not been found in public and no signs of uses that need (further) privacy
3 Points	no uses that have not been found in public or no signs of uses that need (further) privacy
2 Points	single use that has not been found in public, but no uses do indicate a need for (further) privacy
1 Point	single or multiple uses that have not been found in public and they indicate a need for (further) privacy

Users	Current usability
4 Points	users who walk through or workers are more than all others together on weekdays and the weekend
3 Points	users who walk through and workers together are more than all others together on weekdays and the weekend
2 Points	users who walk through and workers together are more than all others together on weekdays or the weekend
1 Point	users who use the area for free-time related uses are more than people who walk through and/or work in the area on weekdays and weekend.

Privacy for apartments	Privacy for residents
4 Points	sufficient view blockage into all (ground floor) apartments from high traffic (pedestrian) areas by distance or view blocking elements
3 Points	sufficient view blockage into most (ground floor) apartments from high traffic (pedestrian) areas by distance or view blocking elements
2 Points	insufficient view blockage for multiple (ground floor) apartments
1 Point	insufficient view blockage for all (ground floor) apartments

Ground floor use	Privacy for residents
4 Points	no residential ground floor use (directly in the area)
3 Points	little residential ground floor use (directly in the area)
2 Points	mostly residential ground floor use (directly in the area)
1 Point	only residential ground floor use (directly in the area)

Access to residential buildings	Privacy for residents
4 Points	multiple barriers to reach all apartments
3 Points	at least one barrier to reach all apartments
2 Points	barriers (single or multiple) to reach some apartments, but not all
1 Point	no barriers to reach all apartments

Small-scale community	Privacy for residents
Pro opening	no signs of appropriation of space; no uses that indicate a need of privacy
Contra opening	signs of small-scale community
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening
1 Point	only contra opening

Distance to community border	Privacy for residents
4 Points	area is at the community border and has an entrance/exit gate or is outside the community
3 Points	area is directly at the community border
2 Points	area is separated by one other area (or a similar distance) to the community border
1 Point	area is separated by multiple areas (or a similar distance) to the community border

Inside points of interest	Privacy for residents
4 Points	multiple points of interest in the area, only accessible from the inside the community
3 Points	single point of interest in the area, only accessible from the inside the community
2 Points	multiple or single points of interest in the area, accessible from the inside and/or the outside the community
1 Point	no points of interest inside the area

10.1.5 Evaluation – Area 4 – Park

Design	Current usability
Pro opening	design that contributes to the assumptive intended use; definition of sub-areas; design protects from traffic; design allows high variety of uses
Contra opening	design does not provide appropriate paths for connections through the area
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening
1 Point	only contra opening

Traffic	Current usability
Pro opening	no or only little observed influence on usability by traffic (non-stationary); no transit through the area
Contra opening	
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening
1 Point	only contra opening

Uses	Current usability
4 Points	no uses that have not been found in public and no signs of uses that need (further) privacy
3 Points	no uses that have not been found in public or no signs of uses that need (further) privacy
2 Points	single use that has not been found in public, but no uses do indicate a need for (further) privacy
1 Point	single or multiple uses that have not been found in public and they indicate a need for (further) privacy

Users	Current usability
4 Points	users who walk through or workers are more than all others together on weekdays and the weekend
3 Points	users who walk through and workers together are more than all others together on weekdays and the weekend
2 Points	users who walk through and workers together are more than all others together on weekdays or the weekend
1 Point	users who use the area for free-time related uses are more than people who walk through and/or work in the area on weekdays and weekend.

Privacy for apartments	Privacy for residents
4 Points	sufficient view blockage into all (ground floor) apartments from high traffic (pedestrian) areas by distance or view blocking elements
3 Points	sufficient view blockage into most (ground floor) apartments from high traffic (pedestrian) areas by distance or view blocking elements
2 Points	insufficient view blockage for multiple (ground floor) apartments
1 Point	insufficient view blockage for all (ground floor) apartments

Ground floor use	Privacy for residents
4 Points	no residential ground floor use (directly in the area)
3 Points	little residential ground floor use (directly in the area)
2 Points	mostly residential ground floor use (directly in the area)
1 Point	only residential ground floor use (directly in the area)

Access to residential buildings	Privacy for residents
4 Points	no entrances in the area and therefore not evaluated
3 Points	no entrances in the area and therefore not evaluated
2 Points	no entrances in the area and therefore not evaluated
1 Point	no entrances in the area and therefore not evaluated

Small-scale community	Privacy for residents
Pro opening	no or little signs of small-scale community life
Contra opening	
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening
1 Point	only contra opening

Distance to community border	Privacy for residents
4 Points	area is at the community border and has an entrance/exit gate or is outside the community
3 Points	area is directly at the community border
2 Points	area is separated by one other area (or a similar distance) to the community border
1 Point	area is separated by multiple areas (or a similar distance) to the community border

Inside points of interest	Privacy for residents
4 Points	multiple points of interest in the area, only accessible from the inside the community
3 Points	single point of interest in the area, only accessible from the inside the community
2 Points	multiple or single points of interest in the area, accessible from the inside and/or the outside the community
1 Point	no points of interest inside the area

10.1.6 Evaluation – Area 5 – Residential Street

Design	Current usability
Pro opening	design defines entrance areas in front of buildings in a manner that produces privacy; paths that provide short connections; definition of sub-areas; design increases safety; design protects from traffic
Contra opening	design produces conflicts between single uses; design does not protect areas from traffic
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening
1 Point	only contra opening

Traffic	Current usability
Pro opening	
Contra opening	high influence on safety and usability by traffic (non-stationary); large proportion of (stationary) traffic compared to the total size of the area; inconsiderate behaviour of drivers; high driving speed
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening
1 Point	only contra opening

Uses	Current usability
4 Points	no uses that have not been found in public and no signs of uses that need (further) privacy
3 Points	no uses that have not been found in public or no signs of uses that need (further) privacy
2 Points	single use that has not been found in public, but no uses do indicate a need for (further) privacy
1 Point	single or multiple uses that have not been found in public and they indicate a need for (further) privacy

Users	Current usability
4 Points	users who walk through or workers are more than all others together on weekdays and the weekend
3 Points	users who walk through and workers together are more than all others together on weekdays and the weekend
2 Points	users who walk through and workers together are more than all others together on weekdays or the weekend
1 Point	users who use the area for free-time related uses are more than people who walk through and/or work in the area on weekdays and weekend.

Privacy for apartments	Privacy for residents
4 Points	sufficient view blockage into all (ground floor) apartments from high traffic (pedestrian) areas by distance or view blocking elements
3 Points	sufficient view blockage into most (ground floor) apartments from high traffic (pedestrian) areas by distance or view blocking elements
2 Points	insufficient view blockage for multiple (ground floor) apartments
1 Point	insufficient view blockage for all (ground floor) apartments

Ground floor use	Privacy for residents
4 Points	no residential ground floor use (directly in the area)
3 Points	little residential ground floor use (directly in the area)
2 Points	mostly residential ground floor use (directly in the area)
1 Point	only residential ground floor use (directly in the area)

Access to residential buildings	Privacy for residents
4 Points	multiple barriers to reach all apartments
3 Points	at least one barrier to reach all apartments
2 Points	barriers (single or multiple) to reach some apartments, but not all
1 Point	no barriers to reach all apartments

Small-scale community	Privacy for residents
Pro opening	no signs of small-scale community life; no signs of appropriation of space; no uses that indicate a need of privacy
Contra opening	
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening
1 Point	only contra opening

Distance to community border	Privacy for residents
4 Points	area is at the community border and has an entrance/exit gate or is outside the community
3 Points	area is directly at the community border
2 Points	area is separated by one other area (or a similar distance) to the community border
1 Point	area is separated by multiple areas (or a similar distance) to the community border

Inside points of interest	Privacy for residents
4 Points	multiple points of interest in the area, only accessible from the inside the community
3 Points	single point of interest in the area, only accessible from the inside the community
2 Points	multiple or single points of interest in the area, accessible from the inside and/or the outside the community
1 Point	no points of interest inside the area

10.2 Evaluation of single indicators – Site 2

The following chapters show the short (numerical) evaluation of each area's single indicators.

10.2.1 Evaluation – Universal criteria

Connections	Connection to the outside
4 Points	direct connection between public transport close by (< 500 m) and other points of interest close by (<500 m) or far away (500 - 1000 m) and the connection of a cluster of residential or mixed-use buildings to public transport
3 Points	either direct connection between public transport close by (< 500 m) and other points of interest close by (< 500 m) or far away (500 - 1000 m), or the connection of a cluster of residential or mixed-use buildings to public transport
2 Points	direct connection between public transport in a distance of 500 to 1000 meters and other points of interest close by (<500 m) or far away (500 - 1000 m) and the connection of a cluster of residential or mixed-use buildings to public transport
1 Point	Position of compound in/by a cluster of mixed use or residential buildings/compounds but no clearly defined points of interest or public transport within the distance of 1000 meters.

Distance to parks and plazas	Connection to the outside
4 Points	no park or plaza within a distance of 1000 meters
3 Points	next parks and plazas in a distance of 500 to 1000 meters
2 Points	next park or plaza within a distance of 500 meters
1 Point	community is bordering a park or plaza

Surrounding street layout	Connection to the outside
Pro opening	blocking elements; high traffic volume
Contra opening	paths are wide enough for frequency of pedestrians; diversified facades (green space, commercial use, etc.); low traffic volume; low air pollution
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening
1 Point	only contra opening

Accessibility	Privacy for residents
4 Points	community is accessible for externs with no barriers or guards
3 Points	community is accessible for externs although the access is limited by walls and gates that are traversable without guards actively controlling the entrance
2 Points	community is accessible for externs although access is limited by walls and gates with guards occasionally controlling the entrance
1 Point	all community entrances are permanently controlled by guards or technical systems

10.2.2 Evaluation – Area 1 – Side Streets

Design	Current usability
Pro opening	paths that provide short connections; definition of sub-areas
Contra opening	design does not provide appropriate paths for connections through the area; design produces conflicts between single uses; design does not protect areas from traffic
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening
1 Point	only contra opening

Traffic	Current usability
Pro opening	no or only little observed influence on usability by traffic (non-stationary); no transit through the area; low driving speed; considerate driving behaviour of drivers
Contra opening	large proportion of (stationary) traffic compared to the total size of the area
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening
1 Point	only contra opening

Uses	Current usability
4 Points	no uses that have not been found in public and no signs of uses that need (further) privacy
3 Points	no uses that have not been found in public or no signs of uses that need (further) privacy
2 Points	single use that has not been found in public, but no uses do indicate a need for (further) privacy
1 Point	single or multiple uses that have not been found in public and they indicate a need for (further) privacy

Users	Current usability
4 Points	users who walk through or workers are more than all others together on weekdays and the weekend
3 Points	users who walk through and workers together are more than all others together on weekdays and the weekend
2 Points	users who walk through and workers together are more than all others together on weekdays or the weekend
1 Point	users who use the area for free-time related uses are more than people who walk through and/or work in the area on weekdays and weekend.

Privacy for apartments	Privacy for residents
4 Points	sufficient view blockage into all (ground floor) apartments from high traffic (pedestrian) areas by distance or view blocking elements
3 Points	sufficient view blockage into most (ground floor) apartments from high traffic (pedestrian) areas by distance or view blocking elements
2 Points	insufficient view blockage for multiple (ground floor) apartments
1 Point	insufficient view blockage for all (ground floor) apartments

Ground floor use	Privacy for residents
4 Points	no residential ground floor use (directly in the area)
3 Points	little residential ground floor use (directly in the area)
2 Points	mostly residential ground floor use (directly in the area)
1 Point	only residential ground floor use (directly in the area)

Access to residential buildings	Privacy for residents
4 Points	multiple barriers to reach all apartments
3 Points	at least one barrier to reach all apartments
2 Points	barriers (single or multiple) to reach some apartments, but not all
1 Point	no barriers to reach all apartments

Small-scale community	Privacy for residents
Pro opening	
Contra opening	signs of small-scale community, signs of appropriation of open space; uses that indicate a need of privacy
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening
1 Point	only contra opening

Distance to community border	Privacy for residents
4 Points	area is at the community border and has an entrance/exit gate or is outside the community
3 Points	area is directly at the community border
2 Points	area is separated by one other area (or a similar distance) to the community border
1 Point	area is separated by multiple areas (or a similar distance) to the community border

Inside points of interest	Privacy for residents
4 Points	multiple points of interest in the area, only accessible from the inside the community
3 Points	single point of interest in the area, only accessible from the inside the community
2 Points	multiple or single points of interest in the area, accessible from the inside and/or the outside the community
1 Point	no points of interest inside the area

10.2.3 Evaluation – Area 2 – Park

Design	Current usability
Pro opening	paths that provide short connections; design that contributes to the assumptive intended use; definition of sub-areas; design protects from traffic; design allows high variety of uses
Contra opening	design does not define sub-areas; produces conflicts between single uses; design decreases safety
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening
1 Point	only contra opening

Traffic	Current usability
Pro opening	low driving speed; considerate driving behaviour of drivers
Contra opening	moderate or high influence on safety and usability by traffic (non-stationary); large proportion of (stationary) traffic compared to the total size of the area
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening
1 Point	only contra opening

Uses	Current usability
4 Points	no uses that have not been found in public and no signs of uses that need (further) privacy
3 Points	no uses that have not been found in public or no signs of uses that need (further) privacy
2 Points	single use that has not been found in public, but no uses do indicate a need for (further) privacy
1 Point	single or multiple uses that have not been found in public and they indicate a need for (further) privacy

Users	Current usability
4 Points	users who walk through or workers are more than all others together on weekdays and the weekend
3 Points	users who walk through and workers together are more than all others together on weekdays and the weekend
2 Points	users who walk through and workers together are more than all others together on weekdays or the weekend
1 Point	users who use the area for free-time related uses are more than people who walk through and/or work in the area on weekdays and weekend.

Privacy for apartments	Privacy for residents
4 Points	sufficient view blockage into all (ground floor) apartments from high traffic (pedestrian) areas by distance or view blocking elements
3 Points	sufficient view blockage into most (ground floor) apartments from high traffic (pedestrian) areas by distance or view blocking elements
2 Points	insufficient view blockage for multiple (ground floor) apartments
1 Point	insufficient view blockage for all (ground floor) apartments

Ground floor use	Privacy for residents
4 Points	no residential ground floor use (directly in the area)
3 Points	little residential ground floor use (directly in the area)
2 Points	mostly residential ground floor use (directly in the area)
1 Point	only residential ground floor use (directly in the area)

Access to residential buildings	Privacy for residents
4 Points	multiple barriers to reach all apartments
3 Points	at least one barrier to reach all apartments
2 Points	barriers (single or multiple) to reach some apartments, but not all
1 Point	no barriers to reach all apartments

Small-scale community	Privacy for residents
Pro opening	
Contra opening	signs of small-scale community, signs of appropriation of open space; uses that indicate a need of privacy
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening
1 Point	only contra opening

Distance to community border	Privacy for residents
4 Points	area is at the community border and has an entrance/exit gate or is outside the community
3 Points	area is directly at the community border
2 Points	area is separated by one other area (or a similar distance) to the community border
1 Point	area is separated by multiple areas (or a similar distance) to the community border

Inside points of interest	Privacy for residents
4 Points	multiple points of interest in the area, only accessible from the inside the community
3 Points	single point of interest in the area, only accessible from the inside the community
2 Points	multiple or single points of interest in the area, accessible from the inside and/or the outside the community
1 Point	no points of interest inside the area

10.2.4 Evaluation – Area 3 – Entrance Street

Design	Current usability
Pro opening	design defines entrance areas in front of buildings in a manner that produces privacy; paths that provide short connections; definition of sub-areas
Contra opening	design produces conflicts between single uses; design decreases safety; design does not protect areas from traffic
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening
1 Point	only contra opening

Traffic	Current usability
Pro opening	considerate driving behaviour of drivers
Contra opening	high influence on safety and usability by traffic (non-stationary); large proportion of (stationary) traffic compared to the total size of the area
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening
1 Point	only contra opening

Uses	Current usability
4 Points	no uses that have not been found in public and no signs of uses that need (further) privacy
3 Points	no uses that have not been found in public or no signs of uses that need (further) privacy
2 Points	single use that has not been found in public, but no uses do indicate a need for (further) privacy
1 Point	single or multiple uses that have not been found in public and they indicate a need for (further) privacy

Users	Current usability
4 Points	users who walk through or workers are more than all others together on weekdays and the weekend
3 Points	users who walk through and workers together are more than all others together on weekdays and the weekend
2 Points	users who walk through and workers together are more than all others together on weekdays or the weekend
1 Point	users who use the area for free-time related uses are more than people who walk through and/or work in the area on weekdays and weekend.

Privacy for apartments	Privacy for residents
4 Points	sufficient view blockage into all (ground floor) apartments from high traffic (pedestrian) areas by distance or view blocking elements
3 Points	sufficient view blockage into most (ground floor) apartments from high traffic (pedestrian) areas by distance or view blocking elements
2 Points	insufficient view blockage for multiple (ground floor) apartments
1 Point	insufficient view blockage for all (ground floor) apartments

Ground floor use	Privacy for residents
4 Points	no residential ground floor use (directly in the area)
3 Points	little residential ground floor use (directly in the area)
2 Points	mostly residential ground floor use (directly in the area)
1 Point	only residential ground floor use (directly in the area)

Access to residential buildings	Privacy for residents
4 Points	multiple barriers to reach all apartments
3 Points	at least one barrier to reach all apartments
2 Points	barriers (single or multiple) to reach some apartments, but not all
1 Point	no barriers to reach all apartments

Small-scale community	Privacy for residents
Pro opening	
Contra opening	signs of small-scale community, signs of appropriation of open space; uses that indicate a need of privacy
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening
1 Point	only contra opening

Distance to community border	Privacy for residents
4 Points	area is at the community border and has an entrance/exit gate or is outside the community
3 Points	area is directly at the community border
2 Points	area is separated by one other area (or a similar distance) to the community border
1 Point	area is separated by multiple areas (or a similar distance) to the community border

Inside points of interest	Privacy for residents
4 Points	multiple points of interest in the area, only accessible from the inside the community
3 Points	single point of interest in the area, only accessible from the inside the community
2 Points	multiple or single points of interest in the area, accessible from the inside and/or the outside the community
1 Point	no points of interest inside the area

10.2.5 Evaluation – Area 4 – Back Street

Design	Current usability
Pro opening	paths that provide short connections
Contra opening	design does not define sub-areas; design produces conflicts between single uses; design does not protect areas from traffic; design does not allow a high variety of uses
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening
1 Point	only contra opening

Traffic	Current usability
Pro opening	no or only little observed influence on usability by traffic (non-stationary); little stationary traffic compared to the whole area size traffic compared to the whole area size; small proportion of traffic area compared to the total size of the area; no transit through the area; low driving speed; considerate driving behaviour of drivers
Contra opening	
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening
1 Point	only contra opening

Uses	Current usability
4 Points	no uses that have not been found in public and no signs of uses that need (further) privacy
3 Points	no uses that have not been found in public or no signs of uses that need (further) privacy
2 Points	single use that has not been found in public, but no uses do indicate a need for (further) privacy
1 Point	single or multiple uses that have not been found in public and they indicate a need for (further) privacy

Users	Current usability
4 Points	users who walk through or workers are more than all others together on weekdays and the weekend
3 Points	users who walk through and workers together are more than all others together on weekdays and the weekend
2 Points	users who walk through and workers together are more than all others together on weekdays or the weekend
1 Point	users who use the area for free-time related uses are more than people who walk through and/or work in the area on weekdays and weekend.

Privacy for apartments	Privacy for residents
4 Points	sufficient view blockage into all (ground floor) apartments from high traffic (pedestrian) areas by distance or view blocking elements
3 Points	sufficient view blockage into most (ground floor) apartments from high traffic (pedestrian) areas by distance or view blocking elements
2 Points	insufficient view blockage for multiple (ground floor) apartments
1 Point	insufficient view blockage for all (ground floor) apartments

Ground floor use	Privacy for residents
4 Points	no residential ground floor use (directly in the area)
3 Points	little residential ground floor use (directly in the area)
2 Points	mostly residential ground floor use (directly in the area)
1 Point	only residential ground floor use (directly in the area)

Access to residential buildings	Privacy for residents
4 Points	multiple barriers to reach all apartments
3 Points	at least one barrier to reach all apartments
2 Points	barriers (single or multiple) to reach some apartments, but not all
1 Point	no barriers to reach all apartments

Small-scale community	Privacy for residents
Pro opening	no or little signs of small-scale community life
Contra opening	signs of appropriation of open space; uses that indicate a need of privacy
4 Points	only pro opening
3 Points	preponderant pro opening
2 Points	preponderant contra opening
1 Point	only contra opening

Distance to community border	Privacy for residents
4 Points	area is at the community border and has an entrance/exit gate or is outside the community
3 Points	area is directly at the community border
2 Points	area is separated by one other area (or a similar distance) to the community border
1 Point	area is separated by multiple areas (or a similar distance) to the community border

Inside points of interest	Privacy for residents
4 Points	multiple points of interest in the area, only accessible from the inside the community
3 Points	single point of interest in the area, only accessible from the inside the community
2 Points	multiple or single points of interest in the area, accessible from the inside and/or the outside the community
1 Point	no points of interest inside the area

10.3 Statistical evaluation Site 1

Area 1 Weekday

Traffic	Car		E-Scooter		Bicycle		Other
	0		43		30		0
Users	Female						
	Inf./Child	Teenager	Young adult		Adult		Seniors
	4	3	24		217		32
	Male						
	Inf./Child	Teenager	Young adult		Adult		Seniors
	1	10	15		263		35
	Unspecific						
	Inf./Child	Teenager	Young adult		Adult		Seniors
	75	0	0		0		0
Uses	Playing w. Children	Playing cards/games	Meeting / Talking/ Leisure	Strolling	Walking a dog	Sport	Music	Passing
	0	0	35	4	32	5	0	455
	Housekeeping	Security	Delivery worker	Maintenance worker	Other worker	Other use		
	1	52	10	6	6	71	0	0
Connections	From / To	0	1	2	3	4	5	6
	0	0	2	3	0	3	0	0
	1	0	1	40	17	138	4	0
	2	0	48	1	0	33	6	0
	3	0	5	0	0	0	5	0
	4	0	116	21	0	1	1	0
	5	0	6	6	2	0	0	0
	6	0	0	0	0	0	0	0

Area 1 Weekend

Traffic	Car		E-Scooter		Bicycle		Other
	0		18		31		0
Users	Female						
	Inf./Child	Teenager	Young adult		Adult		Seniors
	9	1	28		132		28
	Male						
	Inf./Child	Teenager	Young adult		Adult		Seniors
	3	7	24		182		18
	Unspecific						
	Inf./Child	Teenager	Young adult		Adult		Seniors
	5	0	0		3		0
Uses	Playing w. Children	Playing cards/games	Meeting / Talking/ Leisure	Strolling	Walking a dog	Sport	Music	Passing
	0	0	27	9	28	12	0	320
	Housekeeping	Security	Delivery worker	Maintenance worker	Other worker	Other use		
	0	24	6	4	2	4	0	0
Connections	From / To	0	1	2	3	4	5	6
	0	0	9	3	0	0	0	0
	1	0	1	46	12	87	5	0
	2	1	30	0	0	20	4	0
	3	0	6	0	0	0	6	0
	4	0	72	6	0	0	0	0
	5	0	3	5	7	0	0	0
	6	0	0	0	0	0	0	0

Legend

1 = Community entrance (Area 2) 2 = Green Path 3 = Sidewalk up north 4 = Crossroad 5 = Hailun Road

Area 2 Weekday

Traffic	Car	E-Scooter	Bicycle	Other
	123	51	15	3

Users	Female				
	Inf./Child	Teenager	Young adult	Adult	Seniors
	8	4	21	285	18
	Male				
	Inf./Child	Teenager	Young adult	Adult	Seniors
	4	5	18	346	18
	Unspecific				
	Inf./Child	Teenager	Young adult	Adult	Seniors
	61	0	0	13	0

Uses	Playing w. Children	Playing cards/games	Meeting / Talking/ Leisure	Strolling	Walking a dog	Sport	Music	Passing
	17	0	40	6	22	16	0	556
	Housekeeping	Security	Delivery worker	Maintenance worker	Other worker	Other use		
	0	44	44	33	8	14	0	0

Connections	From / To	0	1	2	3	4	5	6
	0	0	0	12	1	0	9	0
	1	1	1	0	23	0	56	0
	2	1	4	0	9	8	12	0
	3	0	46	1	1	5	90	0
	4	0	3	15	13	0	32	0
	5	1	54	18	109	30	1	0
	6	0	0	0	0	0	0	0

Area 2 Weekend

Traffic	Car	E-Scooter	Bicycle	Other
	127	75	22	0

Users	Female				
	Inf./Child	Teenager	Young adult	Adult	Seniors
	7	4	33	266	34
	Male				
	Inf./Child	Teenager	Young adult	Adult	Seniors
	4	1	20	355	13
	Unspecific				
	Inf./Child	Teenager	Young adult	Adult	Seniors
	74	0	0	22	0

Uses	Playing w. Children	Playing cards/games	Meeting / Talking/ Leisure	Strolling	Walking a dog	Sport	Music	Passing
	7	0	66	10	20	1	0	604
	Housekeeping	Security	Delivery worker	Maintenance worker	Other worker	Other use		
	0	32	58	24	5	7	0	0

Connections	From / To	0	1	2	3	4	5	6
	0	0	0	4	3	0	8	0
	1	1	0	0	18	0	82	0
	2	0	0	0	3	15	23	0
	3	0	48	1	0	1	85	0
	4	2	4	19	6	0	53	0
	5	3	81	24	87	32	1	0
	6	0	0	0	0	0	0	0

Legend

1 = Central Plaza (Area 3) 2 = Street up North 3 = Community exit (Area 1)

4 = Road down south 5 = Buildings

Area 3 Weekday

Traffic	Car	E-Scooter	Bicycle	Other
	0	25	6	0

Users					
	Female				
	Inf./Child	Teenager	Young adult	Adult	Seniors
	94	1	76	206	128
	Male				
	Inf./Child	Teenager	Young adult	Adult	Seniors
	65	7	66	186	72
	Unspecific				
	Inf./Child	Teenager	Young adult	Adult	Seniors
	88	0	2	0	0

Uses								
	Playing w. Children	Playing cards/games	Meeting / Talking/ Leisure	Strolling	Walking a dog	Sport	Music	Passing
	378	0	105	13	22	41	0	377
	Housekeeping	Security	Delivery worker	Maintenance worker	Other worker	Other use		
	0	6	21	14	0	23	0	0

Connections	From / To	0	1	2	3	4	5	6
	0	0	0	0	0	0	0	1
	1	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0

Area 3 Weekend

Traffic	Car	E-Scooter	Bicycle	Other
	1	8	4	0

Users					
	Female				
	Inf./Child	Teenager	Young adult	Adult	Seniors
	16	4	31	237	49
	Male				
	Inf./Child	Teenager	Young adult	Adult	Seniors
	24	3	21	199	21
	Unspecific				
	Inf./Child	Teenager	Young adult	Adult	Seniors
	155	0	0	2	2

Uses								
	Playing w. Children	Playing cards/games	Meeting / Talking/ Leisure	Strolling	Walking a dog	Sport	Music	Passing
	326	0	97	9	22	22	0	256
	Housekeeping	Security	Delivery worker	Maintenance worker	Other worker	Other use		
	0	3	6	12	2	5	0	0

Connections	From / To	0	1	2	3	4	5	6
	0	0	8	0	2	2	8	0
	1	1	0	0	3	10	9	0
	2	0	0	0	2	18	6	0
	3	0	8	4	0	18	17	0
	4	0	16	16	16	0	19	7
	5	0	11	7	26	5	1	4
	6	0	0	0	0	2	12	0

Legend

1 = Park (Area 4) 2 = Path up north 3 = Commercial building

4 = Entrance area (Area 2) 5 = Parking lot

Area 4 Weekday

Traffic	Car	E-Scooter	Bicycle	Other
	0	0	0	0

Users					
	Female				
	Inf./Child	Teenager	Young adult	Adult	Seniors
	9	0	35	92	34
	Male				
	Inf./Child	Teenager	Young adult	Adult	Seniors
	6	1	41	92	26
	Unspecific				
	Inf./Child	Teenager	Young adult	Adult	Seniors
	13	0	0	0	0

Uses								
	Playing w. Children	Playing cards/games	Meeting / Talking/ Leisure	Strolling	Walking a dog	Sport	Music	Passing
	13	0	38	28	32	17	0	195
	Housekeeping	Security	Delivery worker	Maintenance worker	Other worker	Other use		
	0	9	0	11	0	5	0	0

Connections	From / To	0	1	2	3	4	5	6
	0	0	0	0	0	0	0	0
	1	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0

Area 4 Weekend

Traffic	Car	E-Scooter	Bicycle	Other
	0	0	0	0

Users					
	Female				
	Inf./Child	Teenager	Young adult	Adult	Seniors
	2	1	15	88	18
	Male				
	Inf./Child	Teenager	Young adult	Adult	Seniors
	3	3	11	100	10
	Unspecific				
	Inf./Child	Teenager	Young adult	Adult	Seniors
	14	0	0	0	0

Uses								
	Playing w. Children	Playing cards/games	Meeting / Talking/ Leisure	Strolling	Walking a dog	Sport	Music	Passing
	10	0	26	21	35	23	0	133
	Housekeeping	Security	Delivery worker	Maintenance worker	Other worker	Other use		
	0	2	1	7	0	4	0	0

Connections	From / To	0	1	2	3	4	5	6
	0	0	0	0	0	0	0	0
	1	0	0	68	0	0	0	0
	2	0	67	0	0	0	0	0
	3	0	0	0	0	0	0	0
	4	0	0	0	0	0	0	0
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0

Legend

1 = Residential Street (Area 5) 2 = Central Plaza (Area 3)

Area 5 Weekday

Traffic	Car	E-Scooter	Bicycle	Other
	86	77	19	4

Users	Female				
	Inf./Child	Teenager	Young adult	Adult	Seniors
	14	4	28	271	34
	Male				
	Inf./Child	Teenager	Young adult	Adult	Seniors
	15	10	9	378	20
	Unspecific				
	Inf./Child	Teenager	Young adult	Adult	Seniors
	34	0	0	15	0

Uses	Playing w. Children	Playing cards/games	Meeting / Talking / Leisure	Strolling	Walking a dog	Sport	Music	Passing
	1	0	38	8	33	21	0	573
	Housekeeping	Security	Delivery worker	Maintenance worker	Other worker	Other use		
	0	39	55	34	5	25	0	0

Connections	From / To	0	1	2	3	4	5	6
	0	0	10	0	6	0	1	0
	1	2	0	24	164	6	12	0
	2	1	18	0	13	0	6	0
	3	2	149	7	21	44	20	0
	4	0	8	0	44	0	0	0
	5	0	4	3	8	0	0	0
	6	0	0	0	0	0	0	0

Area 5 Weekend

Traffic	Car	E-Scooter	Bicycle	Other
	99	100	22	7

Users	Female				
	Inf./Child	Teenager	Young adult	Adult	Seniors
	20	8	48	214	36
	Male				
	Inf./Child	Teenager	Young adult	Adult	Seniors
	7	13	32	380	29
	Unspecific				
	Inf./Child	Teenager	Young adult	Adult	Seniors
	28	0	0	12	0

Uses	Playing w. Children	Playing cards/games	Meeting / Talking / Leisure	Strolling	Walking a dog	Sport	Music	Passing
	3	0	52	6	30	6	0	574
	Housekeeping	Security	Delivery worker	Maintenance worker	Other worker	Other use		
	0	48	62	26	6	13	0	0

Connections	From / To	0	1	2	3	4	5	6
	0	0	21	0	18	1	5	0
	1	16	0	14	113	10	8	0
	2	0	14	0	24	0	18	0
	3	3	139	5	6	42	45	0
	4	0	16	0	26	0	0	0
	5	0	15	4	11	0	0	0
	6	0	0	0	0	0	0	0

Legend

1 = Community exit 2 = Street up north 3 = Buildings 4 = Park (Area 4)

5 = Street down north

10.4 statistical evaluation Site 2

Area 1 Weekday

Traffic	Car		E-Scooter		Bicycle		Other
	12		25		10		2
Users	Female						
	Inf./Child	Teenager	Young adult		Adult		Seniors
	4	7	25		116		81
	Male						
	Inf./Child	Teenager	Young adult		Adult		Seniors
	10	4	14		129		31
	Unspecific						
	Inf./Child	Teenager	Young adult		Adult		Seniors
	19	0	0		0		2
Uses	Playing w. Children	Playing cards/games	Meeting / Talking/ Leisure	Strolling	Walking a dog	Sport	Music	Passing
	6	0	17	1	10	0	0	364
	Housekeeping	Security	Delivery worker	Maintenance worker	Other worker	Other use		
	30	0	10	0	1	3	0	0

Connections	From / To	0	1	2	3	4	5	6
	0	0	0	1	2	0	0	0
	1	1	0	55	38	0	0	0
	2	0	77	3	75	1	0	0
	3	2	34	73	1	0	0	0
	4	0	0	1	0	0	0	0
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0

Area 1 Weekend

Traffic	Car		E-Scooter		Bicycle		Other
	6		14		10		3
Users	Female						
	Inf./Child	Teenager	Young adult		Adult		Seniors
	1	3	20		89		80
	Male						
	Inf./Child	Teenager	Young adult		Adult		Seniors
	11	10	21		130		52
	Unspecific						
	Inf./Child	Teenager	Young adult		Adult		Seniors
	22	0	0		0		0
Uses	Playing w. Children	Playing cards/games	Meeting / Talking/ Leisure	Strolling	Walking a dog	Sport	Music	Passing
	1	0	10	0	11	0	0	362
	Housekeeping	Security	Delivery worker	Maintenance worker	Other worker	Other use		
	38	0	8	1	3	5	0	0

Connections	From / To	0	1	2	3	4	5	6
	0	0	2	1	2	0	0	0
	1	0	0	60	50	0	0	0
	2	0	58	3	73	2	0	0
	3	0	35	74	0	0	0	0
	4	0	0	1	0	1	0	0
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0

Legend

1 = Community exit 2 = Park (Area 2) 3 = Buildings

Area 2 Weekday

Traffic	Car		E-Scooter		Bicycle		Other	
	11		53		19		7	
Users	Female							
	Inf./Child	Teenager	Young adult		Adult		Seniors	
	11	1	37		168		124	
	Male							
	Inf./Child	Teenager	Young adult		Adult		Seniors	
	10	2	19		238		70	
	Unspecific							
	Inf./Child	Teenager	Young adult		Adult		Seniors	
	60	0	0		2		2	
Uses	Playing w. Children	Playing cards/games	Meeting / Talking/ Leisure	Strolling	Walking a dog	Sport	Music	Passing
	64	0	158	8	19	22	1	372
	Housekeeping	Security	Delivery worker	Maintenance worker	Other worker	Other use		
	50	2	20	16	7	5	0	0

Connections	From / To	0	1	2	3	4	5	6
	0	0	1	3	5	3	0	1
	1	0	0	23	79	15	0	2
	2	0	8	0	25	1	0	0
	3	1	75	38	7	36	0	0
	4	0	11	1	35	0	0	0
	5	0	0	0	3	0	0	0
	6	0	0	0	0	0	0	0

Area 2 Weekend

Traffic	Car		E-Scooter		Bicycle		Other	
	13		50		9		1	
Users	Female							
	Inf./Child	Teenager	Young adult		Adult		Seniors	
	21	6	24		109		101	
	Male							
	Inf./Child	Teenager	Young adult		Adult		Seniors	
	14	5	16		235		64	
	Unspecific							
	Inf./Child	Teenager	Young adult		Adult		Seniors	
	39	1	0		10		3	
Uses	Playing w. Children	Playing cards/games	Meeting / Talking/ Leisure	Strolling	Walking a dog	Sport	Music	Passing
	72	0	133	11	11	17	0	280
	Housekeeping	Security	Delivery worker	Maintenance worker	Other worker	Other use		
	37	6	20	23	27	11	0	0

Connections	From / To	0	1	2	3	4	5	6
	0	0	11	2	10	3	0	0
	1	2	0	8	49	12	0	0
	2	0	8	0	24	0	0	0
	3	1	61	21	3	31	0	0
	4	0	6	0	25	1	0	0
	5	0	0	0	0	0	0	0
	6	0	0	0	2	0	0	0

Legend

1 = Side Streets (Area 1) 2 = Buildings by park 3 = Entrance Street (Area 3)

4 = Buildings by parking lot 5 = Rice Storage

6 = Apartments accessible directly from street

Area 3 Weekday

Traffic	Car	E-Scooter	Bicycle	Other
	35	97	33	26
Users	Female			
	Inf./Child	Teenager	Young adult	Adult	Seniors
	10	1	49	241	119
	Male			
	Inf./Child	Teenager	Young adult	Adult	Seniors
	6	6	13	315	82
	Unspecific			
	Inf./Child	Teenager	Young adult	Adult	Seniors
	47	0	0	32	1

Uses	Playing w. Children	Playing cards/games	Meeting / Talking/ Leisure	Strolling	Walking a dog	Sport	Music	Passing
	6	0	24	5	12	4	5	803
	Housekeeping	Security	Delivery worker	Maintenance worker	Other worker	Other use		
	4	14	24	0	28	7	0	0

Connections	From / To	0	1	2	3	4	5	6
	0	0	6	3	1	2	4	0
	1	0	0	20	5	16	39	0
	2	0	13	1	30	38	80	3
	3	0	14	35	0	73	11	7
	4	0	13	41	41	0	52	0
	5	0	48	84	13	74	1	15
	6	0	0	1	5	6	9	0

Area 3 Weekend

Traffic	Car	E-Scooter	Bicycle	Other
	28	109	19	22
Users	Female			
	Inf./Child	Teenager	Young adult	Adult	Seniors
	16	5	36	229	100
	Male			
	Inf./Child	Teenager	Young adult	Adult	Seniors
	13	10	25	372	46
	Unspecific			
	Inf./Child	Teenager	Young adult	Adult	Seniors
	49	0	2	13	2

Uses	Playing w. Children	Playing cards/games	Meeting / Talking/ Leisure	Strolling	Walking a dog	Sport	Music	Passing
	2	0	24	6	14	1	0	786
	Housekeeping	Security	Delivery worker	Maintenance worker	Other worker	Other use		
	5	11	45	0	15	8	0	0

Connections	From / To	0	1	2	3	4	5	6
	0	0	0	7	0	2	8	0
	1	0	0	11	4	25	51	0
	2	0	14	0	15	66	80	2
	3	0	23	47	0	59	9	10
	4	0	23	30	32	1	41	3
	5	0	44	71	3	64	1	14
	6	0	1	3	5	5	11	0

Legend

1 = Elevated buildings 2 = Park (Area 2) 3 = Market 4 = Back Street (Area 4)

5 = Community exit 6 = Unelevated buildings

Area 4 Weekday

Traffic	Car		E-Scooter		Bicycle		Other
	5		28		2		0
Users	Female						
	Inf./Child	Teenager	Young adult		Adult		Seniors
	3	2	36		149		108
	Male						
	Inf./Child	Teenager	Young adult		Adult		Seniors
	2	2	15		152		39
	Unspecific						
	Inf./Child	Teenager	Young adult		Adult		Seniors
	35	0	0		2		0
Uses	Playing w. Children	Playing cards/games	Meeting / Talking/ Leisure	Strolling	Walking a dog	Sport	Music	Passing
	12	0	17	5	4	0	0	465
	Housekeeping	Security	Delivery worker	Maintenance worker	Other worker	Other use		
	17	0	11	10	0	3	0	0

Connections	From / To	0	1	2	3	4	5	6
	0	0	1	2	2	0	0	0
	1	0	0	24	151	0	0	0
	2	0	24	0	31	0	0	0
	3	7	161	61	1	0	0	0
	4	0	0	0	0	0	0	0
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0

Area 4 Weekend

Traffic	Car		E-Scooter		Bicycle		Other
	6		20		3		3
Users	Female						
	Inf./Child	Teenager	Young adult		Adult		Seniors
	8	2	39		122		116
	Male						
	Inf./Child	Teenager	Young adult		Adult		Seniors
	4	2	27		169		56
	Unspecific						
	Inf./Child	Teenager	Young adult		Adult		Seniors
	45	0	0		1		0
Uses	Playing w. Children	Playing cards/games	Meeting / Talking/ Leisure	Strolling	Walking a dog	Sport	Music	Passing
	28	0	24	1	10	0	0	478
	Housekeeping	Security	Delivery worker	Maintenance worker	Other worker	Other use		
	25	0	11	8	4	0	0	0

Connections	From / To	0	1	2	3	4	5	6
	0	0	4	1	6	0	0	0
	1	0	0	28	130	0	0	0
	2	0	28	0	36	0	0	0
	3	3	198	45	0	0	0	0
	4	0	0	0	0	0	0	0
	5	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0

Legend

1 = Community exit 2 = Buildings 3 = Entrance Street (Area 3)

10.5 Questionnaire in English

QUESTIONNAIRE

Hello, I'm a student from Tongji University. Can you help me for my study and fill out this questionnaire for me?

Age:

- o 0-17
- o 18 - 25
- o 26-35
- o 36-45
- o 46 - 55
- o 56-56
- o + 65

Gender:

- o Male
- o Female

How often do you come here per week?

- o More than once a day
- o Once a day
- o More than once a week
- o Once a week
- o More than once a month
- o Once a month
- o Less than once a month
- o less

Do you live in this community?

- o Yes
- o No (How many minutes away?)

What are you doing in this community? (multiple choice)

- o Playing with Children
- o Playing Cards / Majong
- o Meeting and talking to others
- o Strolling
- o Walking a dog
- o Exercise (fitness centre)
- o Sport (tai chi)
- o Dancing
- o Making Music /Singing
- o Swimming
- o Taking Photos
- o Mostly walking through
- o Shopping
- o Other

How often do you use public parks?

- ○ More than once every day
- ○ Once a day
- ○ More than once a week
- ○ Once a week
- ○ More than once a week
- ○ Once a Month
- ○ Less than once a month
- ○ Never

What are you doing in the parks? (multiple choice)

- ○ Playing with Children
- ○ Playing Cards / Majong
- ○ Talking
- ○ Strolling
- ○ Walking a dog
- ○ Exercise (sports equipment)
- ○ Tai Chi (Sport)
- ○ Dancing
- ○ Making Music /Singing
- ○ Taking Photos
- ○ Mostly walking threw
- ○ Other

Would you mind if people who not live here come for some of the before named activities?

- ○ Yes
- ○ No

Do you sometimes go to other communities for one of the before named activities?

- ○ Yes
- ○ No

Do you want to?

- ○ Yes
- ○ No

Would you mind if people from outside you community walk through?

- ○ Yes
- ○ No

Do you feel safe inside of your community?

- ○ Yes
- ○ No

Do you feel safe outside your community?

- ○ Yes
- ○ No

10.6 Questionnaire summary – Site 1

No empirical conclusions can be drawn from the data regarding frequencies or proportions of users or activities or other characteristics. They are not statistically representative since the questionnaire was specifically given to people to validate certain assumptions. The here shown evaluation of the questionnaires only shows the data relevant for the thesis.

Living in the community (23 people):

Playing with Children	18	Playing Cards / Majong	
Meeting and talking to others	7	Strolling	
Walking a dog	3	Exercise (fitness centre)	4
Sport (tai chi)	2	Swimming	4
Dancing		Making Music /Singing	
Photographie		Mostly walking through	5
Shopping	3	Other	

Not living in the community (7 people):

Playing with Children		Playing Cards / Majong	
Meeting and talking to others		Strolling	
Walking a dog		Exercise (fitness centre)	8
Sport (tai chi)		Swimming	3
Dancing		Making Music /Singing	
Photographie		Mostly walking through	
Shopping		Other	

10.7 Questionnaire summary – Site 2

No empirical conclusions can be drawn from the data regarding frequencies or proportions of users or activities or other characteristics. They are not statistically representative since the questionnaire was specifically given to people to validate certain assumptions. The here shown evaluation of the questionnaires only shows the data relevant for the thesis.

Living in the community (17 people):

Playing with Children	5	Playing Cards / Majong	
Meeting and talking to others	8	Strolling	
Walking a dog	3		
Sport	3		
Dancing		Making Music /Singing	
Photographie		Mostly walking through	3
Shopping	15	Other	

Not living in the community (13 people):

Playing with Children		Playing Cards / Majong	
Meeting and talking to others		Strolling	
Walking a dog			
Sport		Swimming	
Dancing		Making Music /Singing	
Photographie		Mostly walking through	3
Shopping	10	Other	

10.8 Impressions from the research area 1 – Xiaoqu

Figure 10.1 Man doing Tai Chi in front of the community (Area 1)

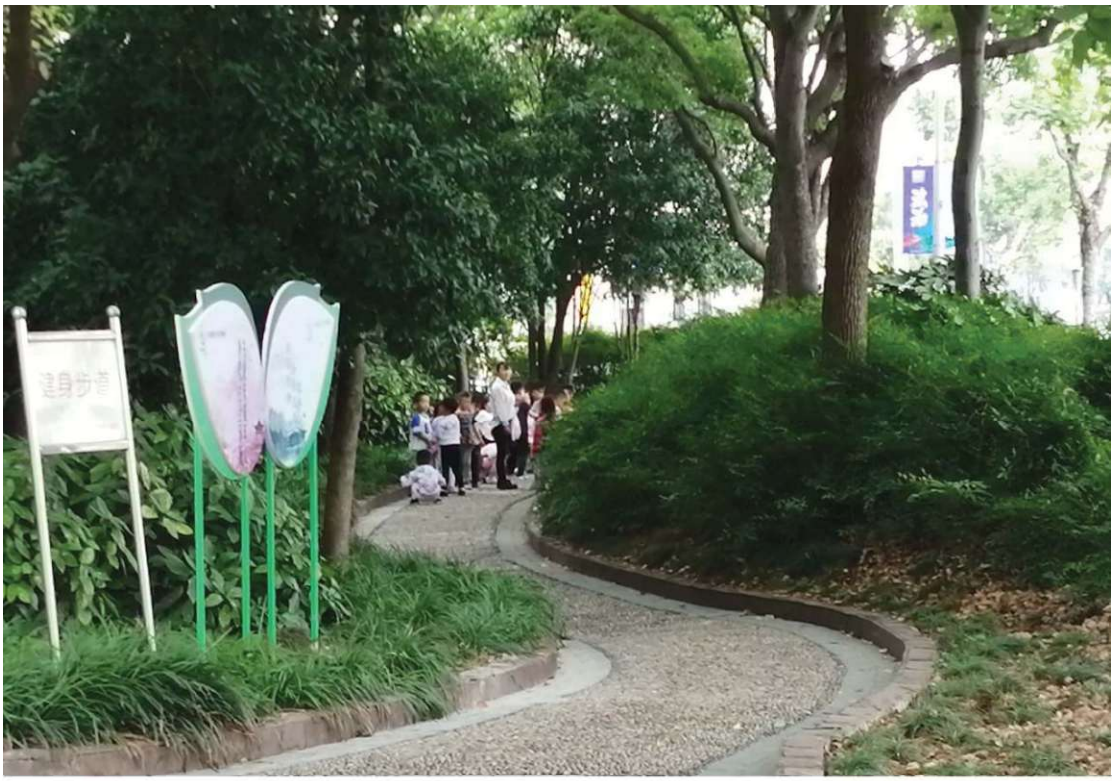

Figure 10.2 Group of children standing on the green path for more than an hour (Area 1)

Figure 10.4 Fore Court at night (Area 1)

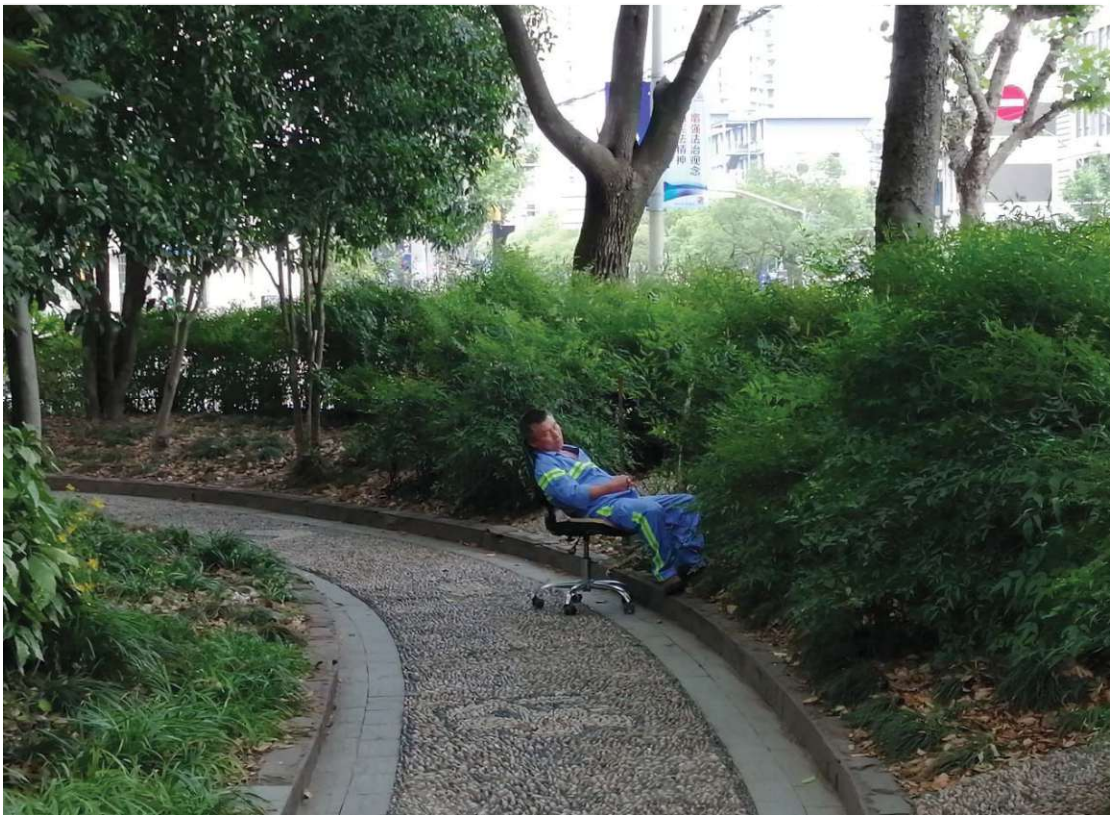

Figure 10.3 Shanghai-Service worker taking a rest at the green path (Area 1)

Figure 10.5 People sitting in front of building (Area 2)

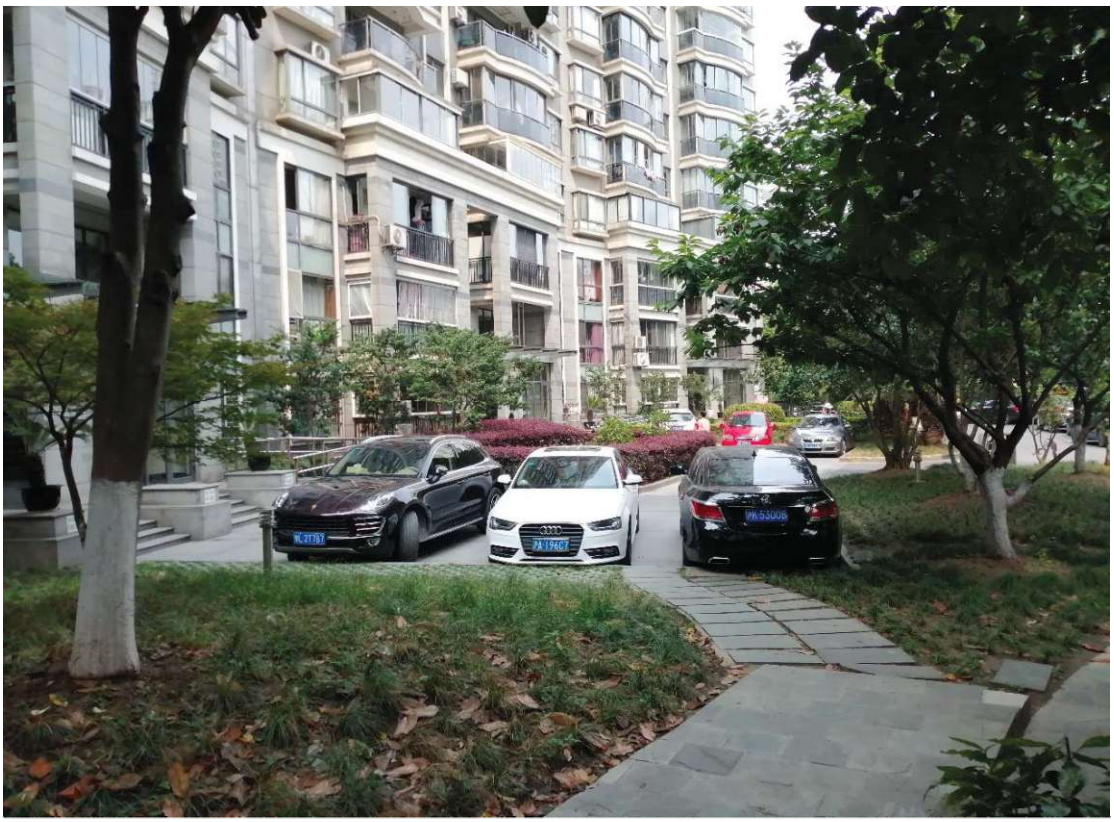

Figure 10.6 Cars parking in front of building entrance by the entrance street (Area 2)

Figure 10.8 Garbage gets collected and carried away by personal on a carriage (Area 2)

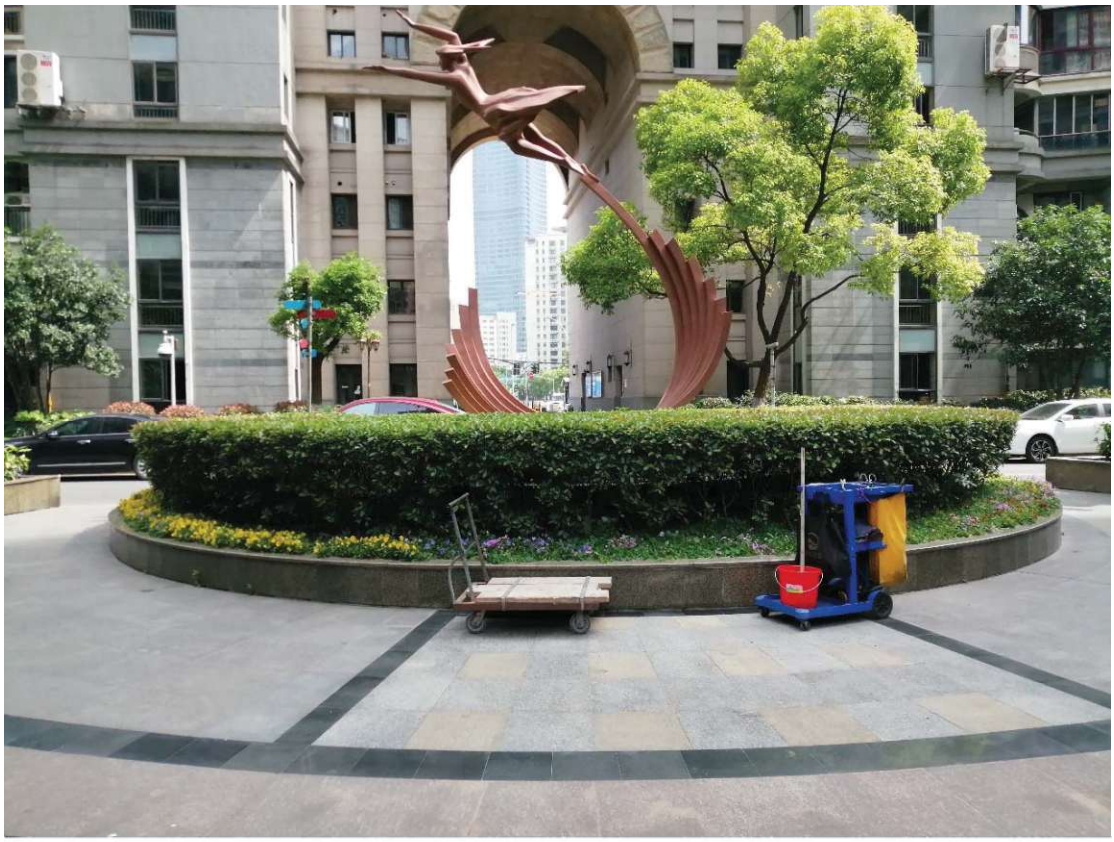

Figure 10.7 Sculpture (Area 2)

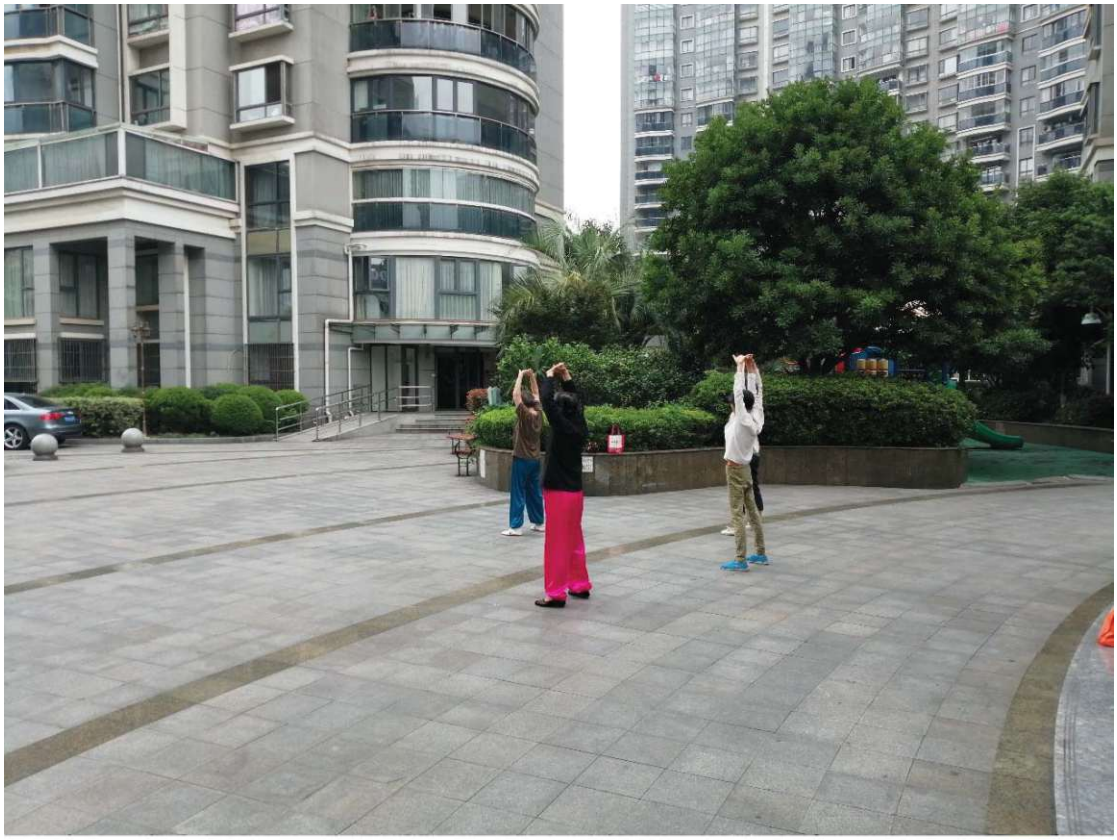

Figure 10.9 People practicing Tai Chi (Area 3)

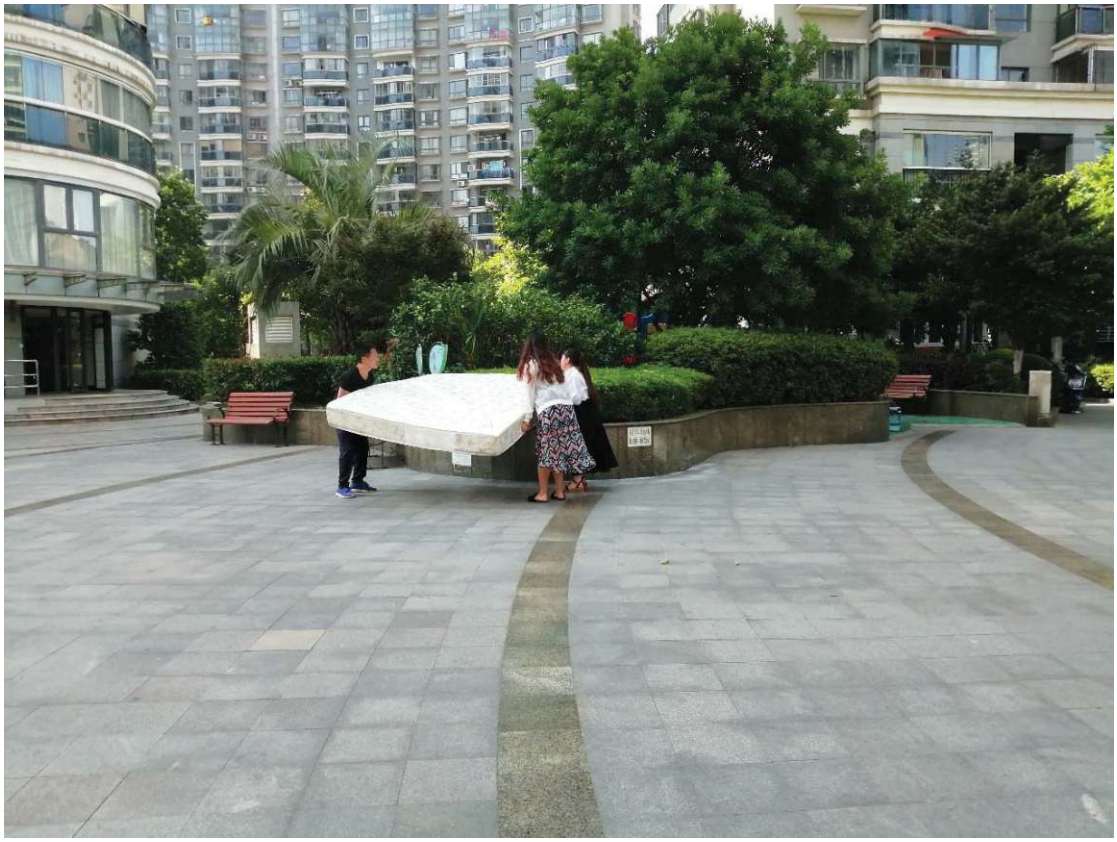

Figure 10.10 People carrying a mattress (Area 3)

Figure 10.11 Cage with a mouse placed on the main plaza for the whole day (Area 3)

Figure 10.12 Grown-ups and children playing at the main plaza (Area 3)

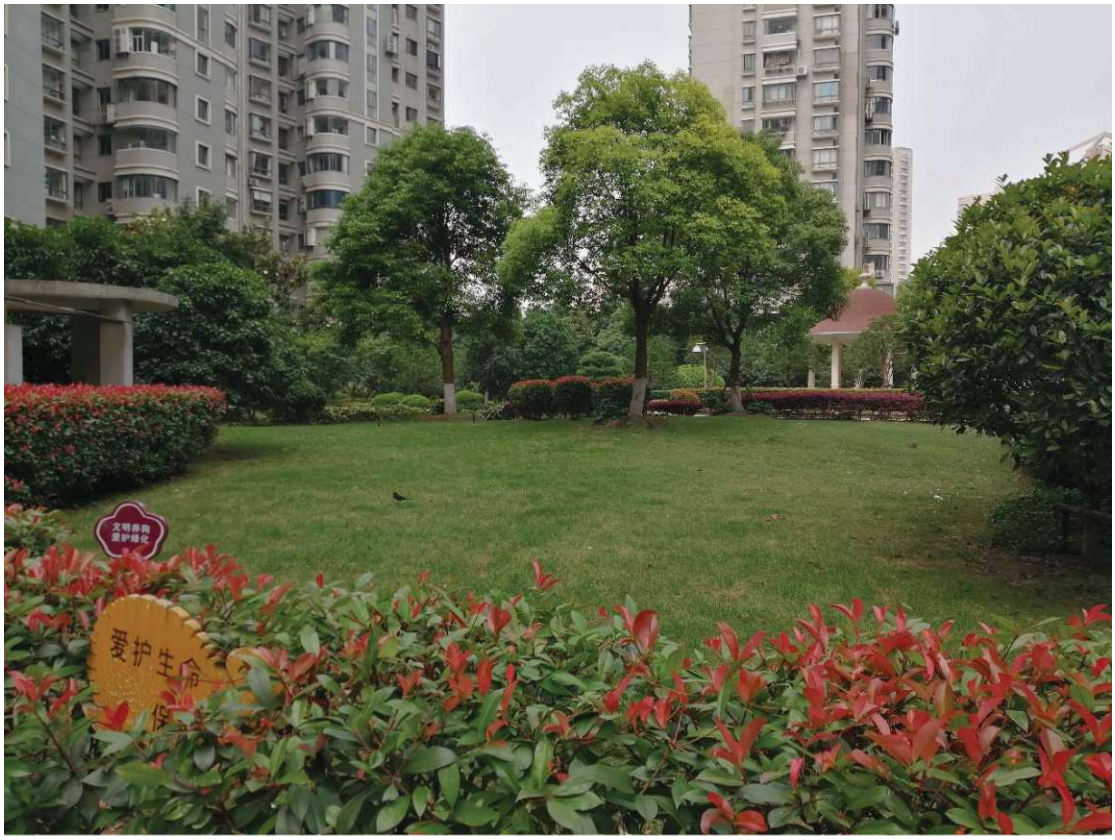

Figure 10.13 Non-accessible lawn at the park (Area 4)

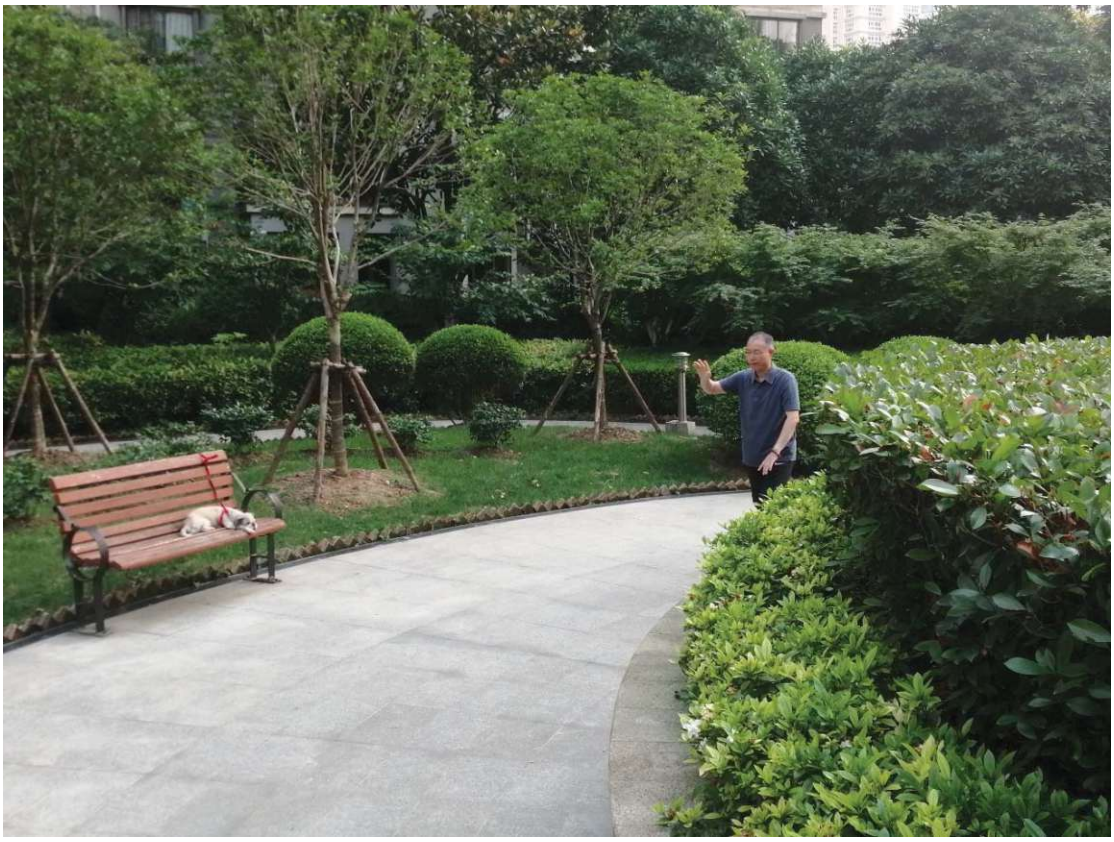

Figure 10.14 Tai Chi practice at park (Area 4)

Figure 10.16 Front porch with e-scooter parking on it (Area 5)

Figure 10.15 Car parking in front of entrance/exit of area 4/5 (Area 5)

10.9 Impressions from the research area 2 – Danwei

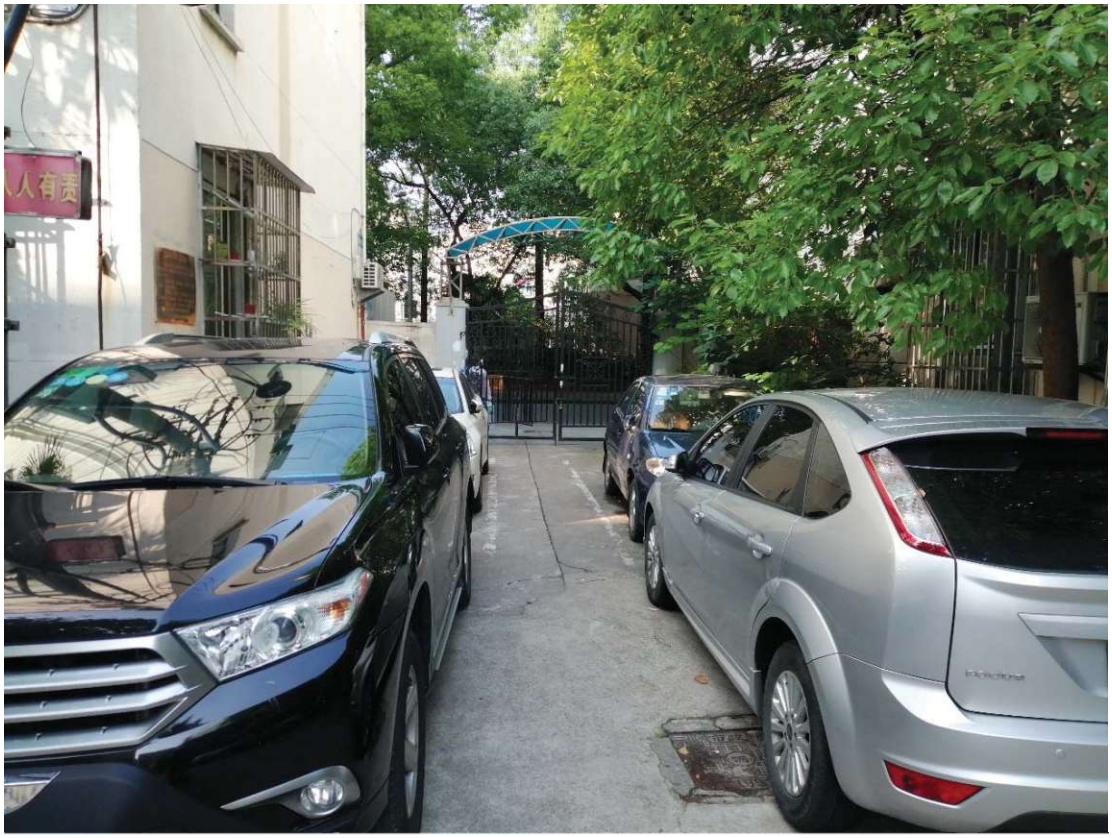

Figure 10.18 Cars parking in front of entrance gate (Area 1)

Figure 10.17 Cloths drying on clothes rail (Area 1)

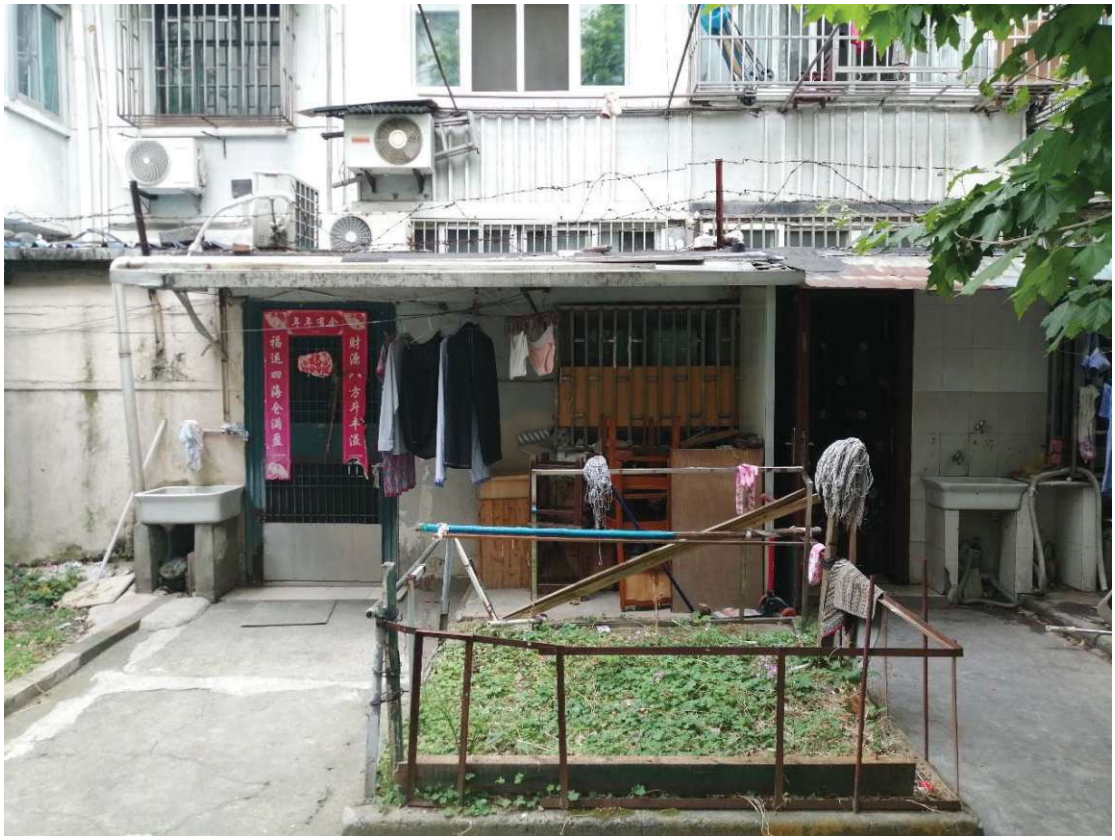

Figure 10.20 Apartments accessible directly from the street (Area 1)

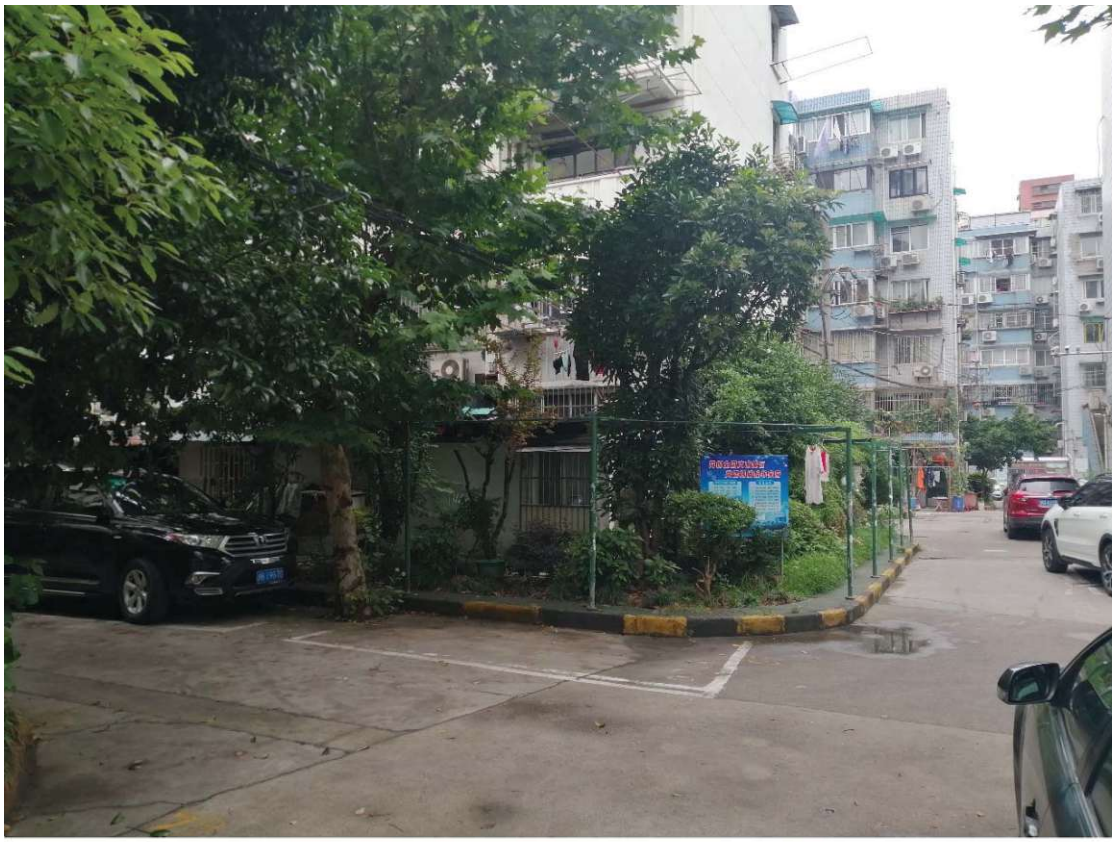

Figure 10.19 Green space with herb-garden (Area 1)

Figure 10.21 People preparing food by a restaurant's back door (Area 2)

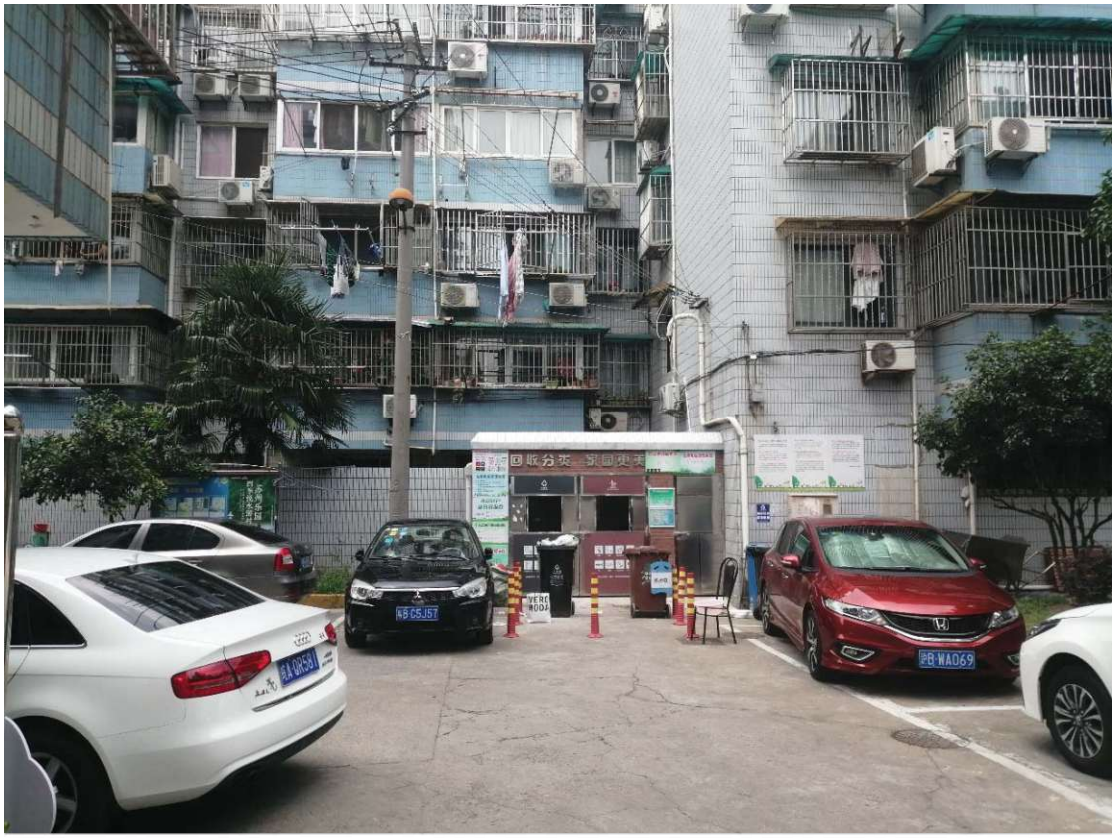

Figure 10.22 View from the street on the garbage containers (Area 3)

Figure 10.24 Self-made terrace in front of apartment/rise-storage (Area 2)

Figure 10.23 Collection of plastic-waste (Area 2)

Figure 10.26 People meeting at pavilion (Area 2)

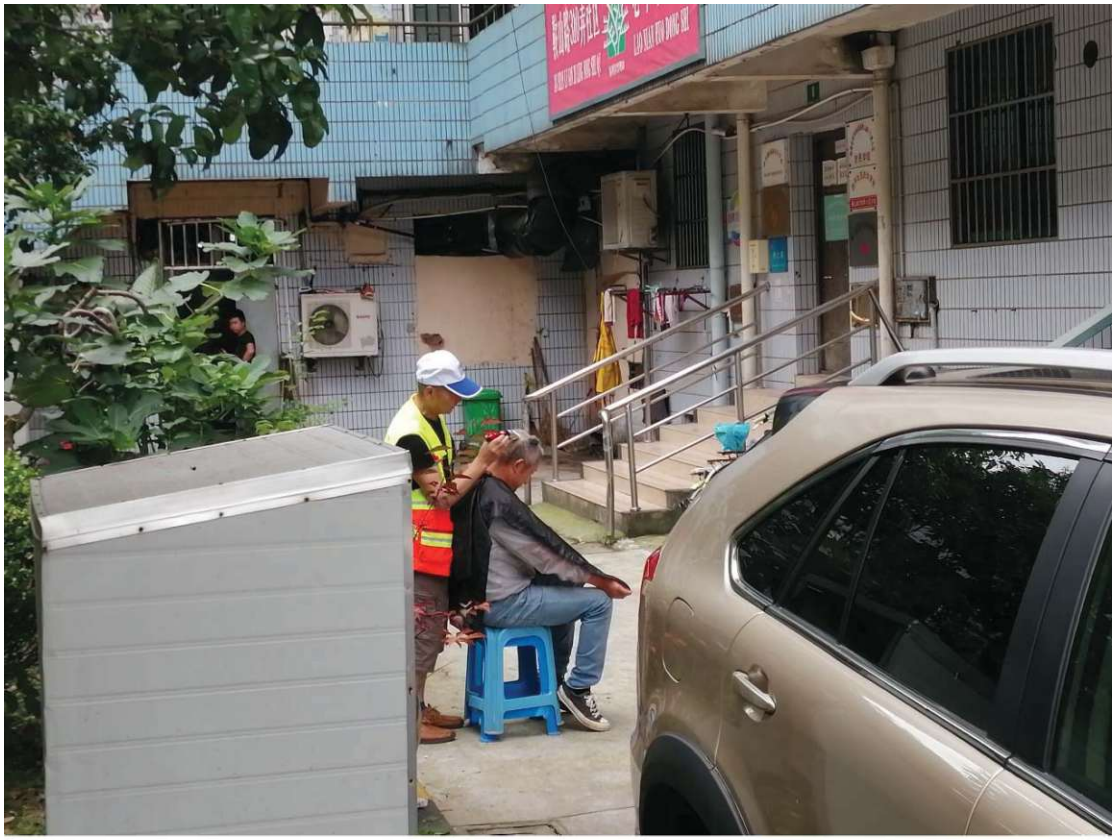

Figure 10.25 Maintenance worker cutting someone's hair (Area 2)

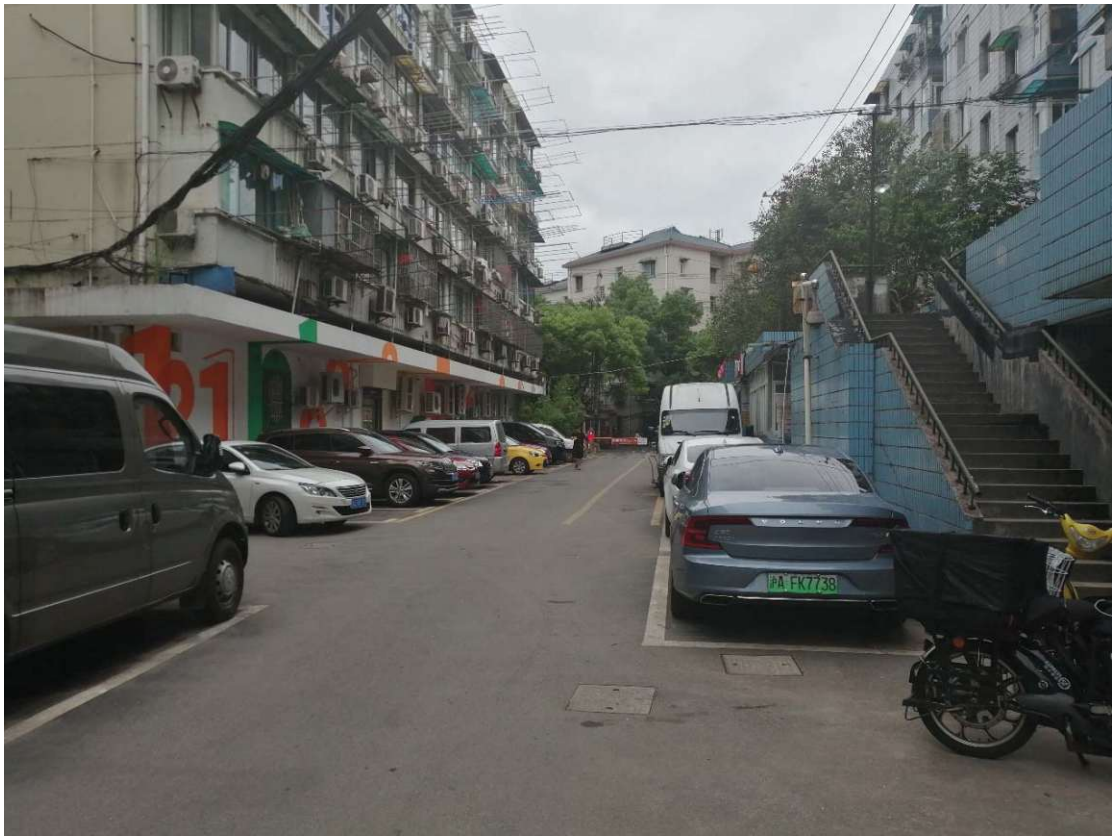

Figure 10.28 View from street to main exit (Area 3)

Figure 10.27 Man sitting at the green area in at the elevated terrace (Area 3)

Figure 10.30 Plants at wall by non-elevated buildings (Area 3)

Figure 10.29 Market entrance (Area 3)

Figure 10.32 E-scooter with toys on it parked in front of entrance to residential building (Area 4)

Figure 10.31 E-scooter garage and parking space (Area 4)

Figure 10.34 Playground in (semi-) public space by research site 2

Figure 10.33 Men playing cards and chat with each other in front of the main entrance of site 2