URBAN OPEN SPACE DESIGN
FOR THE CHINESE FLOATING POPULATION COMMUNITY:
PLANNING AND SITE DESIGN GUIDELINES

Yanting Zhang

Terry Clements, Committee Chair
Wendy Jacobson
Brian Katen

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ABSTRACT

Chinese floating population residents' underprivileged living status and intensified social tension are becoming the two major issues inside their community living settlements. The thesis research holds the position that urban open space can enhance Chinese floating population's quality of life and also contribute to the social capital within their living settlement. It is critical to create the open space system that brings great social and health benefits to the group. Literature reviews reveal floating population's characteristics such as existing and potential leisure activities and leisure places. Contemporary thinking on urban open space qualities, benefits and typologies were reviewed to determine which types of open space are of value to this population. Specific qualities and corresponding benefits of floating population community open spaces, which are closely related to the group's characteristics, are identified. Findings from the literature reviews were used to develop open space design guidelines specific to government sponsored floating population settlement areas. Planning and site design level design guidelines address social and health benefits for the floating population residents. Types of open space and their spatial distributions are identified at the planning level. At the site design level, place-based design guidelines were developed for three major open space categories: the daily use spaces around dwelling units, the streets, and the plaza/squares. Under each category, design strategies were developed to promote desirable open space qualities inside the floating population settlement area, and descriptive design objectives are proposed to achieve these qualities. The design guidelines connect the group's demographic, leisure and work characteristics to open space typologies, qualities and respective benefits, and provide recommendations for the open space design of Chinese floating population community. These design guidelines offer planners and site designers a new tool to guide planning and site design decisions of floating population community open space.

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INTRODUCTION

This thesis holds the position that community open space can enhance the quality of life of Chinese floating population and also contribute to the social integration inside their living settlement. It is important to create open space that responds to the group's characteristics and provide the social and health benefits. With the provision of carefully designed open space systems inside government sponsored floating population settlement, the community would be enhanced to a more livable "home" environment and the unstable, marginalized floating population residents might be changed to the settled down, stationary, new urban citizens.

Throughout the developing world, together with the fast speed of urbanization, rates of rural-urban migration are continuing to grow dramatically. (Council of Europe Chan, 1994; Todaro, 1980; Wahba, 1996; H. Zhang & Song, 2003) As one of the largest developing countries in the world, China has a rapid rural to urban migration population growth. (G. Wang, 2006) According to Wang, in 2006 the number of floating population is almost 10% of current Chinese population. Searching for urban employment opportunities, these rural-urban migrants frequently move between different places in the city. Lacking stable incomes and places to live, the group is often called "Floating Population" (G. Wang, 2006; Y. Zhang, 1999).

It has been widely noticed that the low quality of life and social tensions are two major issues inside the floating population settlement. (Friedman & Randeria, 2004; Zhou & Zhou, 2006) Poorly educated, earning low income and living in deteriorating environment, the floating population residents' quality of

life is mostly below the basic urban living standard that marginalizes the group from the mainstream society. (Pan, 2004a; Qian, 2010; Wang, 2001; Zhou & Zhou, 2006) Inside the floating population settlement, basic social interactions between residents are rare, and people usually don't trust each other, which raises social tensions and brings severe criminal issues. (Zhou & Zhou, 2006)

A considerable number of sociology scholars conducted research on floating populations' social issues, and most of these are concentrated in policy making such as improving labor payment rights, social welfare rights and helping build self-managed organizations. Only a limited number of studies are taken on the physical design aspect of floating population settlement. Open space design, which has been widely used as a strategy for enhancing community residents' quality of life and social integration (Bergeijk, Bolt, & Kempen, 2008; Crompton, 2008; Europe Council, 1986; Peterson, L.J., & Harris, 2000), has being been left out in the area.

The purpose of this study is to identify the beneficial types of open spaces inside the government sponsored floating population community, as well as to develop the design guideline for the open space systems by examining the specific qualities and benefits of the special group's community open space. The research paper is structured into 9 chapters. The first chapter examines the critical issues of Chinese floating population community in aspects of the residents' low quality of life and the limited social capital. Examples of the street design in Aguas Claras, Colombia and Boston's housing relocation projects are introduced, in order to prove the social and health benefits of open space and suggest the importance of open space for floating population community.

Chapter 2 examines floating population residents' characteristics, including the population constitution, social-economic status, living environment and leisure activities and leisure spaces in the settlement open space. The group's existing outdoor activities and spaces are examined to determine their current leisure characteristics; the leisure activities and leisure places back in the rural villages are also studied to suggest the potential leisure characteristics of floating population.

Chapter 3 discusses the benefits and qualities of urban open space that satisfy individual users' needs, address cultural issues and protect users' rights. With these desirable qualities, open space can provide considerable social and health benefits. Under each benefit category, specific open space qualities are discussed.

Chapter 4 identified open space qualities and benefits of floating population community. Residents' individual user needs, cultural issues and user rights are examined and related to their characteristics. Specific open space qualities addressing these needs, rights and cultural issues are identified. Corresponding social and health benefits are discussed.

Chapter 5 examines the types of open space that can offer most opportunities for the community settlement. Woolley and Francis' experienced-based open space typologies are introduced. While Woolley's three spatial categories offer a clear framework to examine the types of open space that are most easily accessed and socially beneficial for a community settlement, Francis covered more types of open space that can contribute to the community residents'

quality of life and social interaction. The research develops a new typology that integrates Francis's open space typology into Woolley's three spatial categories. Chapter 6 applies this combined typology system to floating population open space system, proposed open spaces in the community and identified the benefits could be provided. Three categories of open space, which are most important to the floating population community, are specified: daily places around dwelling units, street open space, and squares/plazas.

The review of design guideline in chapter 7 reveals contemporary thinking on open space design. A suitable framework for the open space design guideline of floating population community is identified. Chapter 8 presents the design guidelines at both planning level and site design level. Providing social and health benefits to floating population residents are set as major goals. The planning level examines the types of open space and the distributions in floating population community. At the site design level, place-based design guidelines were developed for the three open space categories. Under each category, the guideline developed the specific design strategies of providing the desirable open space qualities, and descriptive design objectives on how to realize these qualities.

In the conclusion, the characteristic and the application area of the design guideline research are discussed. Limitations for the research data are pointed out. The future research on floating population's use of open space is then suggested.

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Figure1:   Research Structure

CHAPTER 1: ISSUES OF FLOATING POPULATION COMMUNITY AND IMPORTANCE OF URBAN OPEN SPACE

1.1 Issues of Floating Population Community

In general, the rapid internal migration was thought to be a desirable process by which surplus rural labor was withdrawn from traditional agricultural communities in order to provide cheap manpower to fuel the growing modern industrial big cities. However, the process brings a lot of problems for floating population. The rigid Chinese household registration system, based on the formation of the urban-rural social structure artificially divided urban labor market into the formal and informal ones. These have completely different standards of labor payment rights, breaks and vacation rights, social insurance and social welfare rights. Because of China's rigid household registration policy, most of the floating population is excluded from the formal job market, and can only find the "dirty, tiring, tough" labor work in cities. A large proportion of the floating population is low-income and lacks access to public resources such as education, housing and medical welfare. Away from their rural hometowns and separated from the original village society, members of the floating population are not accepted as permanent urban citizens and often lack a sense of belonging to the city. These conditions are currently accelerating the marginalization process of the floating population group (Pan, 2004a; Qian, 2010; Wang, 2001; Zhou & Zhou, 2006).

Most issues are intensified in migrant communities, often named "the unwanted informal migrant settlement" (Friedman & Randeria, 2004). With comparatively low incomes, most floating population members cannot afford the expensive city center rental cost—instead they have to live in the fringe of

big cities (Friedman & Randeria, 2004). Usually the living environments of these floating population settlements are deteriorating and residents' quality of life is below the basic urban living standard (Meng, 2007). The self-built buildings are often shabby, overcrowded and unsanitary. The low-paid, long hours and heavy labor work deprive most of floating population residents' normal spare time. The messy outdoor environment eliminates the group's outdoor leisure opportunities as well as the public social life (Meng, 2007). The overwhelming labor work and lack of proper rest also bring mental and physical health problems to the floating population (Zhu, 2009). Because most of residents who are in the settlements are rural-urban migrants, physically and culturally, these people are segregated from urban citizens, which brings certain social problems. Issues are especially serious inside Heterogeneous Settlements 1 because residents are from different districts and varied professions; individuals usually have a very limited social circle and barely know anyone outside the circle. Heterogeneous residents often lack mutual trust; they often feel disconnected and lack a sense of belonging. Under the circumstances, criminal issues become more severe, and this leads to a more intense social atmosphere. (Zhou & Zhou, 2006)

It is true (Pan, 2004a; Qian, 2010; Wang, 2001; Zhou & Zhou, 2006)that floating populations' disadvantaged social status is mainly caused by China's rigid household registration policy. Members of the floating population don't have enough socio-economic rights as urban citizens. However, there is not a

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[1] "Heterogeneous Settlement" is defined in relative terms of "Homogeneous Settlement". In "Homogeneous Settlement", most of the community population is from the same district and usually have kinship, geopolitics or labor relation, while in "Heterogeneous Settlement", most rural migration residents are based on the living profit. There might be some small scale homogeneous settlement inside the community; however, the major settlement type is mixed residential.

strong network inside the floating population that could tie members together to support the group, and the marginalized group thus falls into an even more passive position.

Besides the problematic social environment, the deteriorated physical environment of floating population settlements also intensifies the problem: the overcrowded illegal buildings and the awkward messy space not only deprive residents from the basic social interaction, but also create a lot of dead corners with criminal issues.

1.2 Urban Open Space for Enhancing the Quality of life of Floating Population Residents

Importance of the Quality of life for Floating Population Community

Through a review of the universal definition of quality of life and the definition based on Western middle-class values, Rapley (2003) defined quality of life as the "overall general welling-being which comprises objective descriptors and subjective evaluations of physical, material, social and emotional well-being" (Rapley, 2003, p. 53). In his research quality of lifei s affected by personal and environmental factors such as work, education, health, standard of living, housing, neighborhood, personal relationships, family life and friends (Rapley, 2003). In general, Chinese floating population's quality of life is considered below the basic normal level and is at the bottom of the urban society in aspects of living environment, social environment, income, health status, and leisure life (Meng, 2007). Their living situation is considered more and more as "marginalized" and "polarized" from the major society (G. Wang, 2006; Wu, 2003; Zhou & Zhou, 2006).

Many Chinese sociology scholars pointed out the great social risk of the marginalization living status of floating population (Pan, 2004b; C. Wang, 2006; X. Zhang, 2004; Zhou & Zhou, 2006). They stated that as the contrast of quality of life between urban citizens and floating population is bigger, the group's sense of social deprivation and inequality is also becoming more and more severe, and this will bring a considerable amount of antisocial or criminal issues to the big society. According to the 2003 Chinese national crime rate investigation, the crime rate of the floating population out of the general urban population is 46% in Beijing, 70%-80% in Shanghai, and 97%in Shenzhen (Luo, 2002).

Open Space for Enhancing the Quality of life

Urban open space is the land and water in an urban area that is not covered by buildings (Cranz, 1982; Gold, 1980; Tankel, 1963). Used as an important part of people's daily life, urban open space greatly contributes to the individuals' quality of life in the urban context (Woolley, 2003). According to Woolley (2003), Collins (1994) and the Council of Europe (1986), open space can create outdoor recreation opportunities for a wide range of social and nonsocial activities, which can satisfy individuals' needs of passive rest, socializing activity, and other leisure activities. Through these outdoor activities open space can bring considerable health benefits to its users, both mentally and physically. The development of community open space can always enhance the public living environment, attract the nearby local business and provide space for community facilities and institutions. This would bring conveniences to local residents and create certain amount of employment opportunities.

Quite a number of squatter enhancement programs have integrated the open

space development as ways to improve the squatters' living status. These cases include the projects in Danubio and Aguas Claras, Colombia (Hernandez, 2009), in Istanbul, Turkey (Billing, 2009), and the ones in the periphery of Venezuelan big cities. (Pérez, 2004) The open space development in the squatter area of Aguas Claras, Colombia, shows the contribution of open space in improving community residents' quality of life(Hernandez, 2009). Located at urban peripheral area, the spontaneously developed squatters are considered as economically, socially and culturally backward communities. Before the development, the settlement is deteriorating; there are untidy and abandoned places everywhere. Since the 1990s, local residents and authorities started the upgrading process of squatter housing, open space and public facilities. The development recognized the importance of the main street as a circulation area that provides an extension to houses and shops, and playgrounds for children to play. Through the development, public transportation stations, grocery shops and phone stores were developed along the major street and institutions such as churches were connected through the street. As a result the street was successfully redesigned into the place for community residents' daily meeting, commuting, and shopping that with "a different kind of dynamic at different times and with different users" (Hernández, 2009, p40). According to Hernández, the development of open space greatly responds to the needs and aspirations of the people who live in, represents and mirrors the everyday lives of the population. This effort together with other enhancement strategies has created the conventional, legal, and well-served neighborhoods that become part of the city.

1.3 Urban Open Space for Enhancing Social Capital of Floating Population Community

Importance of Social Capital for Floating Population Community

According to famous African American activist Stokely Carmichael (1967), "Before a group can enter the open society, it must first close ranks. This means that group solidarity is necessary before a group can operate effectively from a bargaining position of strength in a pluralistic society". Also, Carmichael pointed out it is important that "each new ethnic group in this society has found the route to social and political viability through the organization of its own institutions with which to represent its needs within the larger society". The theory tries to tie the loose, disadvantaged individuals together to build a strong community rather than scatter them. "Ties" between different individuals are very critical to the process of creating a strong community. Social ties are generally considered as "social capital"-- the connections among individuals, which include "social networks and the norms of reciprocity and trustworthiness that arise from them" (Reingold, Van Ryzin, & Ronda, 2001). In Briggs's research (1998), social ties first provide "a well sense of belonging and social support which helps people get by in life". Also, social ties can "act as social bridges and provide people with leverage to help them get ahead in life". For example, social ties can provide people with important information such as job opportunities. Therefore, having certain social ties is important to learn about new opportunities and becoming upwardly mobile.

It is critical for floating population to build social connections to form more stable communities, and eventually enhance the group's social status. Although the social capital is loose and weak inside the existing floating population

community, social capitals could be generated from connections between people from the same culture district origin, the same profession, or neighbors with varied backgrounds. Once these potential social capitals are realized, floating population residents would have more social interactions and a stronger sense of belonging, which helps building a more secure and stabilized community environment.

Urban Open Space for Building Social Capital

The scholars Carr, Francis, Rivlin, and Stone(1992) state that public life is central to the sense of community and that public space helps fostering a sense of community. Inside the public space people come together, encounter, gain valuable information about each other's habits and patterns of living, and eventually identify with a group, even without having any formal ties to others (Blokland, 2003; Holland, Clark, Katz, & Peace, 2007; L. H. Lofland, 1973; Sztompka, 1999).

Urban Open Space, an indispensable part of public space (Carr, et al., 1992) is a good breakthrough point for the social problems inside a floating population community. According to Woolley (2003), open spaces always contribute a lot to the social life of high density human habitat. The Council of Europe (1986) identified the provision of public open space as a way of fostering the social interaction and community development, and in deprived parts of urban areas of Europe, public open space also helps reduce the inherent tension and conflict Crompton's (2008) research supports the widely held belief that community involvement in neighborhood parks is correlated with lower levels of crime. Public accessible institutions and facilities located in or near open space also provide channels for neighborhood social interaction and have a

positive effect on the creation of community (Völker, Flap, & Lindenberg, 2007). The Netherlands urban planner Van Bergeijk (2008) stated that the use of neighborhood facilities had a positive effect on social networks in distressed neighborhoods undergoing renewal. In multivariate analyses of census and crime data, Peterson and colleagues (2000) found that the presence of recreation centers reduced violent crime in areas with extreme economic deprivation, and suggested that such facilities and their programs may have an important social control function.

In the TU Delft international seminar on public space, urban housing scholar Alexandra M. Curley's (2009) longitudinal study of public housing relocatees in Boston, Massachusetts, found a strong relationship between neighborhood open space, institutions and residents' social integration. Through the federal HOPE VI program, households were relocated from a poverty-concentrated public housing community to different types of mix-income new communities. Curley's research compared the level of social integration in aspect of trust, shared norms and value, between the residents in those different communities with varied amount of neighborhood open space, public facilities and institutions, as well as residents with different income and ethnicity, in order to discover the critical characteristics that decide the neighborhood's social capital.

Curley's research suggests that increased residential proximity to a higher income group does not necessarily promote social interaction. Her findings indicate that social capital is higher in areas with more neighborhood resources such as public open spaces and institutions and facilities. According to Curley, resources such as parks, recreation facilities, churches, employment

centers and even supermarkets are very important in generating trust, shared norms and value among neighbors. For example, in a high-density community where twelve or more households use the same entryway every day, children and mothers frequently gathered on the front steps or at the park benches across the street and the social capitals are comparatively high. These common areas and public spaces encouraged, or even required, recurring encounters with the same people on a daily basis and encouraged the formation of tight-knit social networks, attachment to the community and feelings of safety. In contrast, in some communities with a better housing quality and even small private backyards, relocatees feel isolated and lonely because of the lack of shared open space. Everyone just "shut their doors and stayed to themselves" (Curley, 2009).

Curley's research also found that neighborhood open spaces and public institutions do provide residents with opportunities to encounter and observe each other, which over time can generate public familiarity and trust in others. Because opportunities for both casual exchanges and more meaningful interactions are provided, it is easier for residents to build and access social capital in the neighborhood context.

1.4 Summary

This chapter examines the critical issues of Chinese floating population community in aspects of the residents' low quality of life as well as the limited social capital inside the community. These issues gradually marginalized floating population and threatened the stability of the whole society. Open space can accommodate varied social and nonsocial activities and create recreation, social interaction, health benefits and economic benefits for a floating population community, which improves the floating population

residents' individual quality of life and social capital. For example, the street design in Aguas Claras, Colombia provides open space that responds to the residents' daily needs. The proximity of open space and public institutions in Boston's housing relocation projects can increase the social capital of the community.

CHAPTER 2: CHARACTERISTICS OF CHINESE FLOATING POPULATIONCOMMUNITY

The term floating population community generally refers to voluntary settlement areas in or around an urban fringe area which is formed by large groups of rural surplus laborers (Wu, 2003). This part of the literature review focuses on floating population residents' characteristics, including the group's population constitution, social-economic status, living environment and leisure activities in the settlement open space.

2.1 General Characteristics of Floating Population Community

Living Environment

In general, there are two types of existing floating population settlements—spontaneous settlements and government controlled settlements (Liu & Sun, 2007). The spontaneous settlement is built by local villagers on the urban fringe area, who play the role of landlords. Usually for the maximum economical profit, existing rental buildings are disorderedly extended or rebuilt on the original 5 to 6 floors village apartment buildings. Spaces between buildings are usually very tight and narrow. Also, there are a high number of dead corners with potential criminal issues. Besides the basic commuting street, open space such as parks and plazas barely exists inside this type of settlement, and they also lack public resources such as cultural and recreational facilities.
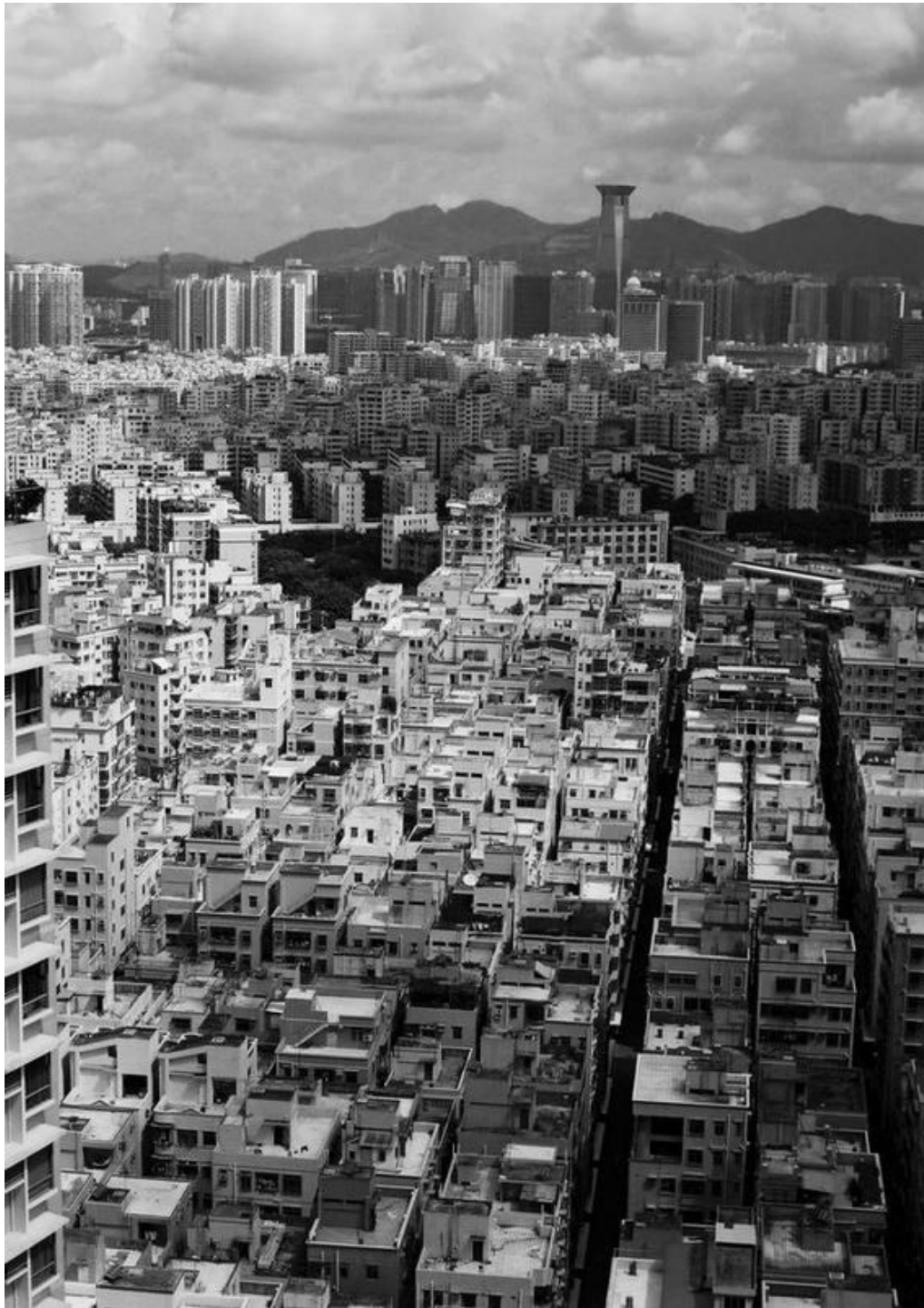
Figure 2:   Bird's eye-view of spontaneous settlement, Shenzhen, China
(Daniel, 2008)

Figure 3: Figure: Bird's eye-view of spontaneous settlement, Shanghai, China, (Daniel, 2008)

Figure 4: The narrow street inside spontaneous settlement, (Information Times, 2008)

In order to enhance the deteriorating living environment of spontaneous settlements, local government and village committees on the urban fringe area started to plan out other types of rental communities with a spatial plan and unified building structure standard. In the government controlled settlements, apartment buildings are often laid out in simple rows with enough space between buildings. Residential areas are usually 5 to 7 floors of affordable housing apartments with outside passageways. There is a certain amount of planned open spaces inside this type of settlement, such as streets with sidewalks, simply designed plazas, together with some indoor entertainment spaces. However, not much of the public life occurs outdoors -- streets are still mostly used for commuting, plazas are often left as empty fields.

Figure 5: Plan of government controlled settlement, Shanghai, (Luo & Wang, A Study on the Difference of Social Integration of the Different Floating Population Aggregation Types in Shanghai, 2008)

Figure 6: Streets of government-sponsored settlement, (New House, 2011)

In general, although the spatial order and building style of government-sponsored settlement might be monotonous and not well-designed, still, the clear order and controllable physical environment bears the future settlement prototype for the floating population community (Liu & Sun, 2007; Wu, 2003), which allows the planning and design of open space. The research of floating population community open space design is conducted under this type of settlement.

Floating Population Constitution

Age

The average age of the population is low. According to Meng (2007), most of the population is in the age range of 20-49, although this might vary slightly in different areas.

Gender

There is a higher proportion of male than female. According to the 2000 nationwide population investigation in China (Meng, 2007),the gender ratio[2] of the floating population in Shanghai is 134.3, which is much higher than the average ratio of the entire Shanghai (105.7).

Family Structure

About half of the floating population is married; but married couples with children usually do not take their children to the big cities; instead, a large proportion of the floating population's kids are left behind at the countryside hometown. Take Shanghai as an example: about a quarter of married floating population have kids, however only half of parents take their kids with them—in another word, only around 15% of the floating population families take their kids into the big cities (Meng, 2007; Zhou & Zhou, 2006).

Economic Status and Working Structure

Floating population's average income is low compared to urban citizens. Most of them make a living by working in secondary or tertiary industries3, especially in the tertiary industries that include services and business. Those low-paid jobs often require heavy labor and long working hours (Wu, 2003).

Wu's survey (2003) shows the proportion of floating population's working structure:

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2 Gender ratio is the ratio of males to females in a population. 100 means 100 males to 100 females.
3 There are 3 key industrial economic sectors: the primary sector, includes agriculture, forestry, animal husbandry and fishery ; the secondary sector, involves mining, construction, and manufacturing; the tertiary sector, which deals with services, transportation and postal service, computer service and software industry, finance and business, technological research, design and development such as computer programming, and biochemistry.(Chinese National Bureau of Statistics, 2003)

24.9% service (serves as maid or serves in catering business)

27.6% on site labor construction

17.2% sales, small private business

13.8% industry, manufacturing

Educational Level

Most of the population has either a high school or below high school education and this is low compared with urban citizens. Even though there are still some who have more than high school education level, such as vocational school, most people lack professional skills as well as job information access, and this leads to their relatively disadvantaged position in the urban job market (Wu, 2003).

Origins

Most floating population residents are from the provinces of Sichuan, Guangxi and Jiangxi, and each has a district culture background. Usually, people inside the floating population settlement have different dialects, food culture, and living styles, as well as different kinship and geopolitics based networks. However, because most of the floating population is from the countryside, they carry some similarity to rural living styles (Wu, 2003; Zhou & Zhou, 2006).

Social Environment

Social/Culture Environment outside the Community

The floating population often feels a social exclusion from urban citizens, and has an uncertain social identity. Lacking attachments to the cities, a large part of the group considers the work in cities as merely temporary, which reinforces their "floating" status (Pan, 2004b; Zhou & Zhou, 2006).

Social/Culture Environment inside the Community

Because people from the same culture district usually have similar living habits such as food culture, folk art and festivals, they usually build up their social network based on same districts' kinship and geopolitics. Inside floating population communities, there are usually several types of different district cultures, however lacking opportunities for social interaction, connections between people from same culture district are usually loose and weak, and there rarely exist social ties between people from different cultural districts. For most residents, there is little attachment to their living settlement (Pan, 2004b; Zhou & Zhou, 2006).

2.2 Leisure Characteristics of Floating Population Community

Floating population communities have their unique leisure styles in aspects of leisure time, location and type of activities (Ding, 2005; Meng, 2007; Wu, 2003). However, currently their public life is limited and the social capital is generally low inside the community (Pan, 2004b; Zhou & Zhou, 2006). Back in the floating population's rural countryside hometown, those rural villages usually hold varied public life, and have great social capital—people know each other well and have a strong sense of belonging to the place where they live (Cao, 1997; Li & Li, 2007). Thus, besides reviewing floating population's existing leisure characteristics, it might also be helpful to study the leisure style back in their rural villages. Besides, floating population's leisure characters also differ between professions. However, currently there are very limited studies in the area, and this part will not be discussed in the research either. Also, because most of floating population members don't take their children into the cities, children's play is out of the research scope too.

Existing Leisure Characteristics

Leisure Time Distribution and Spatial Limitation

The floating population usually has very limited leisure time. On a daily average, they often spend 12 hours at work, 8 hours on physical needs, 1 hour on housework, and less than 3 hours of spare use. Comparably, an urban citizen usually spends 7 hours at work, 9 hours on physical needs, 2 hours on housework and about 6 hours on leisure activities, which is double the leisure time of the floating population members (See Table 1). This is because for most floating population members earning an income is the first priority, and they choose to spend long hours working to get more income.

	Work (hours)	Physical need (hours)	House chore (hours)	Leisure (hours)
Floating Population	12	8	1	3
Urban Citizen	7	9	2	6

Table 1:   Daily time structure of floating population and urban citizen (Meng, 2007).

Married woman inside the floating population group have the least leisure time—most of them spend 2 more hours on household work compared with men, and they only have 1 hour left for leisure (Wu, 2003).

Because floating population usually has long working hours, they barely have enough spare time to visit the city center's open space. Home-centered places are where floating population spend their daily spare time the most.

Leisure Activities

To understand the general types of leisure activity among floating population,

Chinese scholar Ding (2005) did an investigation of floating population's leisure activities typical of floating population concentrating in the area of Minhang, Shanghai:

Activities	Number	Proportion
Rarely have leisure time	248	11.6%
Watch TV / listen to the radio	1276	59.6%
Read books and newspaper	226	10.6%
Shop	160	7.5%
Internet/play games	79	3.7%
Play cards / mahjong	50	2.3%
Drink / chat with friends	38	1.8%
Watch movie / video	34	1.6%
Play Sports	18	0.8%
Karaoke / dancing	11	0.5%

Table 2:   Types of leisure activities and relative proportion of floating population (Sample size: 2140 population sample)

Ding also summarized the floating population's leisure activities and categorized them into the following typologies:

- Passive rest activities, such as sitting, watching TV and listening to the radio. For floating population, physical rest and relaxation are very important in order to recover from the long hours of heavy work. Inside the floating population community, there is often either no outdoor space for passive rest activities, or the design lacks proper consideration for the activity. Most of the passive rest activities happen at home.

- Amusement activities. Living in the city, floating population residents gradually

adopted urban citizen's amusement activities such as hanging out in entertainment places, dancing, singing Karaoke and watching movies. However, because of the economic limitations, the floating population can rarely afford the city's expensive dancing halls or Karaoke places. Instead, it is more popular for them to hang out at the affordable local entertaining places such as small video rooms and karaoke bars.

- Games or gambling activities, including playing cards and mahjong, and Internet games. Those activities take a certain proportion in floating population's leisure time. The excitement of playing games can help relieve the work pressure while bringing fun to the group. Such activities often happen in the chess/cards room or Internet room in or around the floating population settlement.

- Sports activities, including exercising and playing sports games. The ratio of this type of activity is comparably low. On one side, this is because floating population's tiring long-hours labor work exhausts their daily energy; on the other side, because of the expense, there are rarely sports facilities built around the floating population community.

- Self-improvement activities, such as reading books and newspapers, going on the Internet and taking skill improvement classes. With a generally low-educational background, certain floating population, especially skillful people have a strong need to acquire information and improve themselves. Currently, most self-improvement activities occur at home or in public Internet rooms. Resources such as public classrooms, libraries or newspaper kiosks are limited inside floating population community.

- Socializing activities. In general floating population has a very limited socializing circle. Inside the community, most of them only know 2 to 3 relatives or acquaintances from the same origin and they barely have social

interaction with people outside the small circle. Most of floating population's socializing activities are planned, such as chatting while dining, which occurs at home, teahouses or restaurants.

- Shopping activities. There are two types of shopping activities: shopping for necessity and casual shopping. Although a large proportion of the floating population's shopping activities are part of the household chores, the activity might also involve strolling around, people watching and casual socializing. Shopping places such as outdoor strolls, small local grocery stores, farmer's markets and whole sale markets are popular for the comparable low price, intimacy, convenience, and the similarity to countryside open air market (Ding, 2005).

These activities could be classified as social and nonsocial. Floating population's past rest activities such as watching TV, listening to the radio and self-improvement activities, such as reading books, mostly occur in a solitary status and are nonsocial. Amusement, shopping, sports/exercising and socializing activities that usually require interactions with other people, are social. According to Ding's investigation, nonsocial leisure activities take over 70% of floating population's existing leisure time, while there are only a small number of social activities, which shows the lack of public life in floating population settlement.

Place of Leisure Activities
According to Ding's investigation, home is the place where the floating population spends large proportions of their leisure time. It is mostly for solitary activities such as watching TV and listing to the radio. There is a limited amount of indoor places inside the floating population settlement that offer opportunities for the group's public social life. Grocery stores, farmer's markets and wholesale markets

are the popular shopping places. Small local entertainment places such as video rooms and karaoke bars provide indoor places for amusement activities. Restaurants and teahouses also accommodate certain socializing activities. However, outdoor spaces inside the floating population community usually do not provide opportunities for social life--although there are streets and sometimes certain plazas in the settlement, without enough design considerations for outdoor social life, streets are mostly used for commuting purpose, and plazas are often empty.

Generally, floating population's leisure characteristics can be summarized as below (see Table 3).

- **Nonsocial activities**

    (More than 70% of floating population's existing leisure activities)

Leisure Activities	Sub Category of Leisure Activities	Place Of Leisure Activities
Passive rest	Watching TV Listing to radio	Home/No specific outdoor place offered
Self-improving	Reading books	Home/No specific outdoor place offered

■ **Social activities**

(Less than 30% of floating population's existing leisure activities)

Leisure Activities	Sub Category of Leisure Activities	Place of Leisure Activities
Amusement	Dancing, Singing Karaoke, Watching movies	Local entertainment place
Chess and Cards Games	Playing cards/mahjong	Home Chess/cards room
Shopping	Shopping for necessity Casual shopping	Outdoor stalls Grocery stores Farmer's market Whole sale market
Sports/ Exercising	Sports games Exercising	No place
Socializing	Chatting while dining	Home Restaurant Teahouse

Table 3: Existing leisure characteristics of the floating population

It is obvious that inside the floating population settlement social activities are rare, and there are very limited numbers of spaces that provide opportunities for the residents' public life. In contrast, the public social life is abundant back at the floating population's rural village settlement. The following section will compare rural villagers' leisure characteristics to floating population, in order to find the potential leisure opportunities for floating population community.

Rural Countryside Villagers' Leisure Characteristics

Leisure Activities

As rural villagers, floating population's leisure closely relate to the rural countryside living style and different culture district origins. The leisure activities could be categorized in to passive rest, amusement, socializing, and fairs (Cao, 1997; Li & Li, 2007; Xun Tang, 2004).

- Passive rest activities, besides watching TV and reading books at home, sitting, lingering, people watching at the village open field also take a large proportion of rural villagers' passive rest activities. Occurring in public, those activities bring a sense of being connected with other people, even indirectly. Thus, they could be considered as social.

- Amusement activities, including folk art activities such a local drama, stilts walk, gong and drum performance, acrobatics, and storytelling, often take place on the local village center stage or certain vacant place. Amusement activities also differ between culture districts. For example, for folk art amusement, Anhui province' featured opera is Huangmei, while it is Qingqiang in Shanxi and Yu in Henan.

- Socializing activities that are usually associated with doing house chores. Rural villagers often gather and chat when dealing with house chores when drawing water around a well, grinding flour inside the mill, eating outside in the street, or mending cloth in the front courtyard. Besides, different culture district people often hang out in their local restaurants that feature the districts' flavor. Some culture districts have their unique socializing styles at a specific place. For example, people from Sichuan province have a special "tea culture"

leisure style (Dai, 2005). Usually they go to teahouses for hours, hanging their birdcage outside, drinking local tea, chatting with acquaintances, singing/listening "Chuan" Opera or playing chess games. Some teahouses have story-telling, Sichuan dulcimer art performance from time to time. Also, people from some northern provinces have the leisure habit of going to public bathrooms. Not only taking a bath, but people also meet and socialize there while having a massage, haircut, etc. Another example are the people from Guangzhou district who have the habit of shopping/dining at the night fair with local snacks, open air barbeque food and varied vendors and restaurant (Guo, 2007).

- Temple fairs/events. The big festivals happen during slack farming season, and usually include activities such as worship, folk art performance and local goods trading. For different culture districts, fairs happen at different times of the year based on the areas' varied farming schedule with the local theme. Those activities often happen either in the village main street or center open field of the village.

For rural countryside villagers although watching TV and reading books are solitary activities, large part of their spare time activities are social – passive rest such as sitting, lingering and people watching often provide villagers opportunities to be in pubic; open field amusement and socializing are the common leisure activities that foster villagers' mutual interaction; temple fairs and events are the popular festivals among the whole village.

Place of Leisure Activities

Home is one of the places where rural countryside villagers spend their leisure time, however, a large amount of villagers' leisure activities, which are considered social, often occur in outdoor spaces. For example, village central open fields are important places for local amusement activities and large fairs and events. Major village streets are also common outdoor socializing spaces. Ledges along streets are often popular spaces for villagers to sit, rest, watch pedestrians, greet acquaintances or conduct a casual conversation. Front yards are also often used for passive rest and socializing. Around village public facilities such as wells and mills, villagers often socialize while doing household chores. Besides, local restaurant with special districts' flavor, teahouse, and for some areas bathhouse, are places to hang out too.

Leisure characteristics of rural villagers could be summarized into the following table:

■ **Nonsocial activities**

 (Small proportion of rural countryside villagers' leisure activities)

Leisure Activities	Sub Category of Leisure Activities	Place Of Leisure Activities
Passive rest	Watching TV, Listing to radio	Home

■ **Social activities**

(Big proportion of rural countryside villagers' leisure activities)

Leisure Activities	Sub Category of Leisure Activities	Place of Leisure Activities
Passive rest	Lingering Sitting People watching	Front yard Along major village street Open field
Amusement	Folk art from varied districts	Open field
Socializing	Socializing with house chores, Socializing while dining, drinking tea Socializing while bathing	Front yard, Along major village street Wells, mills Local restaurant Teahouse, Bathhouse
Temple fairs /events	Folk art performance Local goods trading	Stage/open field in the village center or outside temple; Major village street

Table 4:   Leisure characteristics of countryside villagers (Cao, 1997; Li & Li, 2007; Xun Tang, 2004)

2.3 General Leisure Characteristics of Floating Population

The following table compares floating populations' leisure characteristics with rural villagers, in aspects of leisure activities and places of leisure activities.

■ **Nonsocial activities**

(Big proportion of Floating population's leisure activities)

Activity Category	Floating Population's Leisure Activities	Rural Countryside Villagers' Leisure Activities
Passive rest	Sitting, watching TV, listening to the radio at home	Watching TV, listening to the radio at home
Self-improvement	Reading books and newspapers at home Reading on internet	Reading books

■ **Social activities**

(Big proportion of Floating population's leisure activities)

Activity Category	Floating Population's Leisure Activities	Rural Countryside Villagers' Leisure Activities
Passive rest		Sitting, lingering, dozing, people watching in the open field
Cards/ games	Playing cards/mahjong games, playing internet games, mostly at home, cards/mahjong room, or at internet room	Playing cards/mahjong games at home or cards/mahjong room
Sports/ exercise	Sports games, exercise	Rare

Activity Category	Floating Population's Leisure Activities	Rural Countryside Villagers' Leisure Activities
Shopping	Necessity shopping and shopping while strolling, at outdoor strolls, small local grocery sorters, farmer's exchanging market, and whole sale market	Necessity shopping at outdoor strolls, small local grocery sorters and farmer's market. Besides daily shopping, there are often periodical shopping fairs
Fairs/ festivals	Rare	Different district cultural festivals with abundant contents take place periodically, which often associate with local amusement shows and market fairs.

Table 5:   Comparison of leisure activities between floating population and countryside villagers

- **Place for Nonsocial activities**

    (Major leisure place for Floating population)

Activity Category	Place of Floating Population's Leisure Activities	Place of Rural Countryside Villagers' Leisure Activities
Passive rest	Home	Home
Skill-improvement	Home	Home

■ **Place for Social Activities**

(Major leisure place for floating population)

Activity Category	Place of Floating Population's Leisure Activities	Place of Rural Countryside Villagers' Leisure Activities
Passive rest	None	Front yard Along major village street Open field
Cards/Games	Cards/mahjong room, Internet room	Cards/mahjong room,
Sports/exercise	Rare	Rare
Socializing	Restaurant Teahouse	Front yard, Along major village street Around wells, mills Local restaurant, teahouse, Bathhouse
Amusement	Local entertainment place	Open field
Shopping	Outdoor strolls Grocery sorters Farmer's market Whole sale market	Outdoor strolls Grocery sorters Farmer's market
Fairs/ festivals	None	Stage/open field in the village center Major village street

Table 6: Comparison of leisure places between the floating population and countryside villagers.

While the majority of floating populations' leisure activities are solitary and occur at home, rural countryside villagers have abundant social activities taking place in the village outdoor public space such as village central field, street and front yard. It is true that the floating population's lack of social activities may be caused by the low occurrence of community open space. If community open spaces are appropriately distributed and well designed, there can be outdoor opportunities for the social activities such as people watching, card games playing, socializing, amusement, and festivals. There can also be outdoor opportunities for some solitary nonsocial activities such as sitting, lingering, and book reading. And the floating population might also gain the rich community social life as the countryside villagers.

CHAPTER 3: THE BENEFITS AND QUALITIES OF URBAN OPEN SPACE

The open space has different qualities and can contribute to the urban environment in varied ways (Collins, 1994; Council of Europe, 1986; Dunnett, Swanwick, & Woolley, 2002; Woolley, 2003). Also, it is widely accepted that there is a wide range of benefits of urban open space, in the social, ecological and economical aspects (Collins, 1994; Council of Europe, 1986; Woolley, 2003). Certain open space qualities are especially important in deciding the use of open space and can greatly affect the specific benefits towards a community settlement.

3.1 Definition of Urban Open Space

Physically, open space is defined as land and water in an urban area that is not covered by buildings (Cranz, 1982; Gold, 1980; Tankel, 1963). Danish architect and urban designer Jan Gehl (1987) describes open space as an outdoor area that allows different types of activities encompassing necessary, optional and social activities. In his definition, necessary activities are "almost compulsory" and include going to school or work, shopping or waiting for a bus. Optional activities are described as taking place "if there is a wish and time" and may take the form of walking for fresh air, standing, sitting or sunbathing. Social activities are considered to be an evolution from necessary and optional activities, depend on the presence of one another person and may include greeting and conversation, communal activities and passive activities of watching and hearing other people. In People Place, Marcus and Francis (1990) raised the notion of open space as public, semi-public, and semi-private open space. Their categories include the open spaces that are publicly owned and publicly accessible, such as neighborhood plaza spaces; those that are often privately owned and managed

but accessible to the public, like corporate plazas, college campuses; and those that are privately owned and accessible only to a particular group of users, such as elderly housing. The contemporary definitions provide very important understandings of open space, and offer the major spatial scope to enhance the social integration of floating population community. Besides, some publicly accessible indoor space such as neighborhood institutions and facilities, which are located in or around outdoor space and provide necessary services and goods can actually "promote the collective efficacy of residents in achieving social control and cohesion", and help residents realize their common values and goals (Curley, 2009) It is widely observed that for floating population community, indoor places such as local teahouses, farmer's market and grocery stores are the important public places for the group's social life (Cao, 1997; Ding, 2005; Jin, 2007; Li & Li, 2007), and are auxiliary to the floating population open space system.

For the purpose of my research, urban open space is defined as the outdoor space in urban areas, such as plazas and streets, and allows users to take a variety of necessary, optional and social activities. Those places might be publicly or privately owned and managed, but are generally accessible to the public.

3.2 The Benefits of Urban Open Space

Benefit is something that gives positive advantage to a person, while "opportunity", is defined as a "favorable occasion" or "opening offered by circumstances". (Woolley, 2003) As it relates to open space, opportunities refer to the openings for certain activities, such as play, watching and walking, while benefits associated with activities may relate to improving mental or physical health (Woolley, 2003).

The Council of Europe (1986) generalized open space and its benefit thus:

Open space is an essential part of the urban heritage, a strong element in the architectural and aesthetic form of a city, plays an important educational function, is ecologically significant, is important for social interaction and in fostering community development and is supportive of economic objectives and activities. In particular it helps reduce the inherent tension and conflict in deprived parts of urban areas of Europe; it has an important role in providing for the recreational and leisure needs of a community and has an economic value in that of environmental enhancement.(Council of Europe, 1986)

The UK Department of the Environment categorized open space benefits into three areas: economic benefits, environmental benefits, and educational, social and cultural benefits. The Ontario Federation of Parks and Recreation identified benefits of open space as personal, social, economic and environmental (Collins, 1994). Woolley (2003) integrated others' understandings of open space benefits into her own categories: social, health, environment and economic benefit.

As this research addresses improving the quality of life and social interaction for the floating population community, this literature review focuses on the social, health and economic benefits. Reviews of benefits would be limited to the ones that relate to the floating population's specific characteristics. For example, because most floating population does not have children accompanying them, open space benefits for children would not be included. Social, health and economic benefits that relate to the floating population's characteristics such as requiring outdoor space for social and optional activities will be the focus of review.

3.3 The Qualities of Urban Open Space

Qualities of an open space usually include physical qualities and human qualities.

Physical qualities are the special features such as the size of open space and the aesthetic characteristics including the presence of trees and water (Giles-Corti, et al., 2005). Human qualities include features such as proximity, accessibility and availability of amenities and are essential to support and simulate the needs and activities of users in open space (Carr, et al., 1992; Giles-Corti, et al., 2005).

During the process of open space design, there are two frequent tendencies: one is to emphasize the physical qualities of a site; the other is to incorporate human qualities with physical qualities to support user needs and activities (Francis, 2003). According to Carr (1992), an emphasis on physical qualities alone often fails to cover the full array of factors that are critical to successful public places, and might turn out to be limiting in many aspects. Mark Francis (2003) pointed out that human qualities of open space are a prerequisite to address other issues such as aesthetics and physical form of the urban open space. A number of projects and case studies have also proved the importance of considering the human quality of open space. Examples include studies and redesigns of Bryant Park (Berens, 1997; Thompson, 1997), Seagram Plaza (Whyte, 1980), and Central Park in New York City (Barlow, 1987), as well as Gas Works (Carr, et al., 1992). In my research, open space qualities are the ones that integrate human qualities with the physical environment of open space. These qualities should be closely related to floating population's characteristics and directly decide the groups' social use of open space.

Famous landscape scholar Clare Cooper Marcus (1990), landscape architect Mark Francis (2003) and architect Stephen Carr (1992) are the three major writers who focus on open space qualities that support user needs and activities. Marcus (1990) developed a set of criteria for the successful "people place" in terms of

easily accessible, comfortable, supporting most desirable activities, gearing to the needs of user group, encouraging the use of subgroups, supporting programs for users, being easily maintained and so on. Francis (2003) stated open space should satisfy user needs such as comfort, relaxation, passive engagement, active engagement, discovery and fun while addressing cultural conflicts that arise between ethnic, age or gender differences. Stephen Carr (1992) argues that besides satisfying user needs such as comfort, relaxation, passive engagement and active engagement, the successful open space should also protect user rights such as accessibility, action, claim and change of space. Besides, according to Carr, successful open space should also foster connections inside and between different culture groups.

Although the three authors might differ slightly in understanding use of open space, most of them agreed successful open space should include the qualities that meet the individual needs such as comfort, relaxation, passive engagement and active engagement. Both Francis and Carr noticed the importance of open space qualities in addressing the user group's cultural issues. While Francis focused on conflicts between different culture groups, Carr puts an emphasis on connections inside and between these groups. Besides, Carr stressed the important open space quality of protecting user rights, which could decide or control if individual and group users are free to achieve their expectations towards open space.

While satisfying the individual user needs and protecting user rights are basic for the use of open space, addressing group users' culture needs or differences might contribute to the community's social interaction and social cohesion, which are closely related to the current issues of Chinese floating population community.

In my research, qualities of open space will mainly address issues in three areas: individual user needs, group culture issues and user rights.

3.4 The Benefits and Qualities of Urban Open Space

When open spaces are designed towards the qualities that can satisfy individual user needs, protect user rights and address the cultural issues, wide use of open space would be stimulated and benefits of open space can be generated too. The following paragraph will discuss the qualities of successful open space under the benefit category.

The Social Benefits and Corresponding Qualities of Urban Open Space

According to Woolley (2003), the most obvious benefits and opportunities that urban open space provides for city living are social benefits—that is opportunities for people to do things, to take part in events and activities or just to be. According to Woolley (2003), the social benefits could be categorized into passive recreation, active recreation, community focus and cultural focus.

Passive recreation

Open space qualities that satisfy individual user needs and protect user rights closely relate to the generation of passive recreation benefits. According to Carr (1992), to meet the basic individual need of comfort or relaxation, open space should provide a comfortable environment for sitting, lingering, that creates opportunities for people to be solitary, and to "get away" from urban crowds and noise. To address the individual needs of passive engagement, there should be an environment for users to take the activities that "encounter with the setting without becoming actively involved", such as watching people or nature features. Also, to satisfy the needs of active engagement, there should be spaces for activities that "encounter with the setting" and make people actively involved in it".

Those activities include the "passive activities" mentioned by Woolly, such as socializing, shopping and taking part in events. Also, according to Carr, realization of user rights is the overarching prerequisite that decides if people are free to achieve the experiences they desire in public space. For example, the accessibility of open space directly decides whether people are able to have activities in the space. The open space provides freedom of action often allows different activities and is concerned about special group's activity needs. Also, the open space gives freedom of claim, allows individuals, groups or special groups appropriate space while having activities for their anonymity and intimacy. Last but not the least, the open space allows freedom of change and could be modified temporarily or permanently to adapt to the change of users' needs.

So by protecting user rights and satisfying individual user needs, the open space can provide openings for a wide range of nonsocial activities such as sitting, lingering and looking at nature views, as well as social activities such as people watching, meeting friends, conversing with strangers. And all these activities can generate the benefit of passive recreation.

Active recreation

Active recreation benefit refers to recreation opportunities for the physically active activities, which includes sports games such as football, cricket, hockey and exercise such as running, jogging and cycling. Opens spaces can accommodate a wide range of active activities, which greatly contributes to the health and social fabric of the nation. Those recreation opportunities are widely proved in helping the reduction of the risk of heart attacks and strokes, improved weight control, etc. In addition, the level of self-esteem and coping with life would be enhanced in general. Moreover, these activities can provide opportunities for young people to

develop feelings of well-being, self-confidence, relaxation and independence, and are considered to be of particular benefit to disadvantaged groups within the urban community (Woolley, 2003).

However, inside the floating population community, needs for sports games and exercising are very rare, not only because of the lack of sports sites, but also because after a long day of labor work, floating population residents are mostly exhausted and rarely have energy for those intense games. Thus the active recreation benefit will be not applied to the floating population community open space.

Community focus

According to Carr(1992), when the open space carries qualities to meet the individual user needs and protect their rights in a way that creates a shared experience, connections between group members with similar interest, ethnic background and age can be built and cultural connections ban be fostered. For a site to foster group connections, it must first satisfy the individual needs of passive engagement and active engagement that allow users to encounter with each other, directly or indirectly. For example, in a community settlement, connections can be created in the settings with repeated social activities such as watching people or a performance, socializing or shopping in public, which foster the interpersonal interactions of family, friends or acquaintances. Also, there might be certain conflicts between different user groups (Francis, 2003). Those conflicts are often between users who desire different activities, between ethnic groups, or between gender groups. Addressing user rights could help balancing the conflicts between varied groups while creating connections. For example, open space that allows freedom of action could accommodate various activities through ways such as

providing multiuse spaces, separating noisy active areas from quiet areas, providing space for special groups. Open space that allows freedom of claim often provides subspaces that can be temporarily claimed by different user groups. Also, open space that provides freedom of change can provide spaces for temporary group activities such as large gatherings for events.

While open spaces are designed towards the creating of group connections while mediating cultural conflicts, a sense of community. In other words, the community focus would be created, and open space could become the center for neighbors and familiar groups to meet at and to take on varied social activities.

Planner and land designer Noah Billing (2009) investigated the self-built squatter neighborhood in Istanbul, Turkey, and found that the streets and the open spaces nearby are the most used open spaces by the local neighbors, relatives, friends, and businesses people. Group social activities such as greeting, conversation, bargaining, and children's play occur on a daily basis and foster interactions and connections between squatters' residents. The street is considered the center of the residents' social and practical life (Billing, 2009).

Cultural focus

According to Carr(1992), building up connections includes the ones between members in a special ethnic culture group. When open space ties up a special culture group, it must meet the members' individual needs and protect their rights. And user rights overall control if people are free to achieve their desires in public space. Woolley (2003) stated that once repeated opportunities are successfully provided for people from an ethnic minority background to use the space, within their special culture needs and desires, cultural focus could be created. For

example, the Hispanic population that uses the public park tends to use the facility in family groups and often use balloons and streamers to define the territory. African Americans were observed going to the park more often with friends for socializing and organized sports. Caucasians were in the park mainly for self-oriented activities. People from the Chinese community were usually old men who were relaxing, socializing or performing Tai Chi. By providing the recreational opportunities open space can draw people from ethnically and socially diverse backgrounds to the place (Woolley, 2003). Besides offering settings for these ethnic culture groups' activities in order to achieve the needs, the open space also needs to protect group users' rights to make sure of its use. Freedom of actions should be allowed for different ethnic groups, for example, noisy active areas for Hispanic population's gathering could be separated from quiet areas for old Chinese people's Tai Chi activities. Freedom of rights could also be provided through the subspaces design for different ethnic groups' short time claim. Also open space could be changed for groups' temporary or long term use such as cultural fairs.

One example is the open space development in South Bronx neighborhoods with long term illegal dumping and other crime problems. A symbolic wood house with a special meaning in Latin culture was constructed during the development process. After the construction, the place quickly became the center for the Latin immigrants' activism and celebrations People repeatedly came together for meetings, music, and speeches. The crime rate was reported as going straight down since then (Lanfer & Taylor). Woolley (2003) stated that once appropriate design approaches are made to meet different cultural background people's recreation needs, open space can become culturally the magnet that encourages more people from an ethnic minority background to use these spaces.

The Health Benefits and Corresponding Qualities of Urban Open Space

Besides social benefit, open spaces in urban areas have also been considered to have benefits for both physical and mental health (Dunnett, et al., 2002; Hunt, 2004; Woolley, 2003). Results of a range of studies give strong support to the fact that nature offers a wide range of both psychological and physical benefits (Dunnett, et al., 2002).

Open space's qualities of offering comfortable environment for sitting or lingering are important for the physical health benefits. Sitting and lingering are an important part of physical rest that can help the body to rebuild and renew itself and prevent debilitating illnesses like exhaustion syndrome, chronic fatigue, and fibromyalgia (Edlund, 2010). In the research based on main confounding factors in the 2008 Behavioral Risk Factor Surveillance System survey, it is found that insufficient rest is related to heart disease, stroke, diabetes mellitus, and obesity (Shankar, Syamala, & Kalidindi). Thus, through providing outdoor space for physical rest activities, open space can contribute to the physical health of its users.

Through providing environment for people to sit, to linger around, to watch nature settings, open space can satisfy individual user needs of comfort, relaxation and passive engagement. While satisfying needs of comfort and relaxation provides users the experience of "being away", meeting the need of passive engagement offers people the experience of encountering with the setting, without being actively involved (Carr, et al., 1992). All these experiences can help people recover from the stress of urban life. A wide range of studies showed the restorative benefits of visual contact with vegetation and other nature elements (Parson, 1991; Venderber, 1986). Both the physiological and self-reporting data

indicated that different everyday outdoor environments can have different influences on recovering from stress and unsurprisingly, recovering from stress was shown to be faster and more complete by exposure to natural rather than urban environments (Woolley, 2003). Additionally, according to renowned environmental psychology scholars Rachel Kaplan and Stephen Kaplan (1983; 1989), the natural environment has a special relationship to each of the four factors that are important to a restorative experience, which include 'being away', 'extent', 'fascination' and 'compatibility'. For example, for an environment to be restorative, a sense of distance and a feeling of escape from the ordinarily present are necessary. The feeling could be related to experiences such as visiting the seaside, mountains, lakes or forest. Extent can be experiences of wilderness, desert or forest; it also could be fostered on a smaller scale, such as by the design of a path winding through the open space, or the historical connection with the site. Fascination is the involuntary attention drawn by a certain natural setting. Compatibility is the fit between environments, and it relates to the relationship between nature settings and human activities. Kaplan and Kaplan (1989) carefully point out, however, that far away nature or a vast wilderness is not the only setting for enjoying restorative experiences. The smallness of nearby nature is often crucial. For example, the distinctiveness and separateness of the natural environment from the everyday may be as important as the literal distance.

The Economic Benefits of Urban Open Space

The existence of open spaces has an impact on the value of properties as well as other economic aspects of urban regeneration (Woolley, 2003). The economic benefit could be discussed as follows:

The impact on property values

Frederick Law Olmsted, who created over 3000 landscapes in North America, following his success with Central Park in New York, was able to convince local and national politicians that those parks and open spaces were important both socially and economically to urban populations. Writing about early park developments in several countries also indicates that the value of land and of property adjacent to park development was higher than that of the ones further away. Also, the presence of trees on a site has been shown to affect the residential property values, and the number of trees on a plot impacts the selling price of houses as well.

The raised property value mostly benefits the owner of the land instead of the people renting the houses. And there are no direct economic benefits from property value towards floating population community residents. Thus, open spaces' benefits of rising property values are not considered.

The development opportunities

According to Woolley (2003), as an integral part of successful neighborhood schemes, urban open spaces can generate economic benefits by community commitment opportunities. Especially new business, training and education programs could have been set up in the vicinity of open space. For the low-income communities, if the development of business is controlled and mostly contributes to the local residents, employment opportunities and development benefits would be generated towards the local low-income group. Heeley Millennium park in Sheffield, England, is a successfully example. The park is designed and managed by the local community on a derelict open land in the run-down neighborhood, and is targeted as "flagships or focal points for neighborhood regeneration initiatives". The process of park development has

greatly improved the local environment quality and created a number of facilities and recreation opportunities, but also attracted a number of businesses in or around the park. These businesses included pubs, retail units, and light industry companies, and have brought great economic benefit to the local community (Dunnett, et al., 2002).

While economic benefits are generated by the proximity of business and programs of urban open space, both social and health benefits are fostered by integrating physical and human qualities to address individual needs, group cultural issues and protect the user rights. When basic user rights are protected, by providing environment for nonsocial activities, open space can satisfy users' needs of comfort, relaxation, passive engagement, and create the corresponding passive recreation benefit. By providing environment for the desired social activities, open space can satisfy users' needs of comfort, passive engagement and active engagement, which will bring considerable benefits of passive recreation, community focus and cultural focus. Additionally, by providing environments for passive rest activities such as sitting, lingering and people watching, mental health and physical health benefits can be provided too.

CHAPTER 4: THE BENEFITS AND QUALITIES OF URBAN OPEN SPACE IN FLOATING POPULATION COMMUNITY

This chapter identifies the open space qualities that contribute to the floating population community as well as the corresponding benefits open space. The qualities that satisfy floating populations' individual needs, solve cultural issues and protect user rights are examined.

4.1 The Social Benefit and Qualities of Open Space

Through the previous discussion of the open space benefits, passive recreation, community focus and culture focus are recognized as the three major social benefits of open space in the floating population community. We already know that floating population's heavy daily labor work requires great amount of passive rest activities such as sitting, watching TV, listening to the radio, and currently most of the activities happen at home. By offering comfortable outdoor settings for passive rest activities such as sitting and lingering, which are mostly in solitary status, open space can meet floating population's individual needs of comfort and relaxation. By providing places for the nonsocial activities, open space can also meet the group's needs of passive engagement. These nonsocial activities include the self-improvement activities such as reading books and passive rest activities such as watching nature features. While open space carries these qualities towards satisfying the individual user's nonsocial needs, passive recreation benefits can be generated.

Open space can also provide outdoor settings for the social activities of the floating population. Open space could provide spaces for game/gambling activity and passive rest activities such as people watching, observing performance and

other activities. Open spaces and surrounding commercial indoor places could also offer space not only for floating population's existing amusement activities such as movie/Karaoke, but also for the rural folk amusement activities such as folk dance and district music performance. Besides these, socializing activities such as dinning at teahouse and restaurant, chatting while doing outdoor house chores, and conversing with acquaintances could occur in open space. Shopping and periodical district fairs or festivals, which are popular back in floating population's rural hometowns, could take place in the open space too.

By providing an environment for these social activities, open space satisfies floating population's individual user need of passive engagement and active engagement and can create the passive recreation benefit. Moreover, providing settings for these social activities could also create the social experience of being in public and interacting with other people, both directly and indirectly (Curley, 2009; Woolley, 2003). These experiences enhance the social interactions and build connections between community members, and can create community focus for floating population settlement.

By providing outdoor settings for activities featured in the district culture, for example local folk dance or district musical instrument play, socializing in the restaurant with district's flavor or taking part in fairs with certain district's theme, the residents from similar district culture backgrounds could be drawn together and interact with each other. The process not only builds connections between culture districts' members, but also creates culture focus for different cultural groups.

It is worth mentioning that the user rights overall control if the floating population is

free to achieve the types of experiences they desire in public space, and whether certain connections can be created inside the community. This directly affects the benefits of open space towards the floating population settlement. We already know the floating population group has very limited leisure time and transportation ability, thus open space should be located at an easily accessed place and should be designed to be accessible for the group's everyday use. Open space should provide the freedom of actions that allows different types of social and nonsocial activities, especially certain district culture group's amusement, socializing activities to take place. Open space needs to assure the freedom of claim, and this requires varied settings to foster individuals or group, especially varied district culture group's control over space. For example, there should be different sizes of spaces to foster individuals' intimate chatting, as well as big group users' conversation. Or, subareas should be designed for certain district culture group's use. Open space also should allow freedom of change for floating population residents' short-term use such as festivals, night shopping fairs. Also, open space should be adjustable for long-term changes such as the population constitution of the community.

4.2 The Health Benefit and Qualities of Open Space

Floating population's heavy daily labor work often requires a considerable amount of rest to recover from. Lacking physical rest might cause heart disease, stroke, diabetes mellitus, and obesity (Shankar, et al.). According to the investigation taken by the Economic Research Institute of Chinese Social Sciences Academy in 2006 (Zhu, 2009), long hours overload working and lacking adequate rest has already caused about 21% female and 18.7% male floating population to feel abnormal fatigue; while 14.1% female and 7.9% male frequently have headaches (Zhu, 2009). Open space can provide comfortable outdoor environment for physical rest activities such a sitting, lingering and watching nature surroundings,

which can satisfy the needs of comfort, relaxation and passive engagement and generate the benefit for physical health.

By providing areas (even if very small) with nature features for activities such as lingering and sitting, open space can satisfy individual user needs of comfort and relaxation and provide floating population the experience of "being away". Also, by offering a natural setting for observing, open space can meet the individual need of passive engagement and offer individuals the experience of encountering with the setting and without being actively involved (Carr, et al., 1992). These experiences are very critical for the generation of mental health benefits (Woolley, 2003). In other words, the open space qualities of addressing individual user needs of comfort, relaxation and passive engagement greatly contribute to the group's mental health.

4.3 The Economic Benefit and Qualities of Open Space

Through the development of open space, new businesses such as restaurants, retail shops and market places, or even commercial stripes could be drawn in the vicinity area. Employment opportunities will be created for the community residents. Also, community programs such as commercial fairs and job fairs can be managed in open space and might also bring certain economic benefits to the floating population community.

This chapter closely relates floating population's characteristics to the open space qualities address their needs, rights and cultural issues. For example, providing an outdoor environment for passive rest activities such as sitting, lingering and people watching can satisfy the floating population's needs of comfort and/or relaxation. Providing space for outdoor festivals not only meets residents' needs of passive engagement, but also involves cultural issues such as building

connections between neighbors, district cultural groups and addresses certain conflicts between user groups. Floating population's rights such as freedom of claim are the perquisite for the group to achieve their needs and build connections while coordinating the cultural conflicts. When the open space carries qualities that can satisfy these user needs, protect the rights and address the cultural issues, specific social, health and economic benefits for the floating population residents can be generated

CHAPTER 5: URBAN OPEN SPACE TYPOLOGIES

Open space is a big notion and we all know it might include a wide range of typologies. This chapter examines the types of open space that mostly solve the issues for a disadvantaged community settlement while offering maximum opportunities for the residents.

5.1 Urban Open Space Typologies

As early as 1969, Eckbo has suggested the functional classification of urban open space, including provision for relaxation and recreation, conservation of wildlife, natural agricultural resources, scenery and the shaping and control of urbanization. Later the London Planning Advisory Committee proposed the typologies which were based on land use and included green open space such as small local park, metropolitan park, regional park and linear open space (Llewelyn, 1992). It is Lynch's typology (1981) that started the classification which relates to user experience; however, most are focused on hardscape such as squares, plazas and playgrounds. To explore more types of open space, Woolly (2003) and Francis (Francis, 2003) go further and develop the typology system that not only includes hardscape but also green space, and all types of classification can be summarized into the following table:

Focus	Representative	Sub-Category	Value/Benefit
Function	Eckbo (1969)	Urban open space for relaxation and recreation, Conservation of wildlife, natural and agricultural resources, scenery and the shaping and control of urbanization	Emphasis on recreation, ecology, scenery, agricultural value of open space
Land Use	London Planning Advisory Committee (Llewelyn, 1992)	Small local park, local park, metropolitan park, regional park, linear open space	Emphasis on urban society's needs, so the open space can contribute to the spatial quality of city/region and serve for planning (Valk & Dijk, 2009)
Quality & Experience of Open Space	Lynch (1981), Woolley (2003), Francis (2003)	Squares, plazas, playgrounds, pedestrian streets, marketplaces, waterfronts, tails, etc. Francis (2003)	Addresses user needs such as accessibility, socializing (Woolley, 2003), Comfort, relaxation, passive engagement, active engagement and discovery (Francis, (2003).

Table 7: Comparison of open space typologies and associated values/benefits with different focusing areas

It is true that typologies based on function help the understanding of recreation, ecology, scenery and agricultural value of open space, while classifications based on land use are determined by the planner, designer or manager, and are mostly used as a tool for resource distribution or to help prioritizing urban open spaces for the urban development or regeneration. According to Woolly (2003), however, these typologies barely describe the quality of open space, user experience, or the value that an individual might give to a particular space. Francis (2003) pointed out the potential problems caused by such categorization: there might be conflicts between users and managers, designers and managers, or between different groups of users. He also suggested problems such as underused playgrounds, teenagers occupying spaces designed for the elderly or conflicts between some park users and skateboarders often happened because of the lack of understanding of user needs. Also, Morgan (1991) pointed that the design of open space under such typologies might fail to recognize the potential that smaller open spaces can provide for the experiences of different users and that people want to use open spaces close to their homes.

It has been widely proved that successful parks and open spaces are the ones that are lively and well-used by people (Whyte, 1980); (Lynch, 1972); (L. Lofland, 1998); (Mozingo, 1989). It is also agreed that successful public spaces are the ones that are responsive to the needs of users, democratic in accessibility and meaningful for the larger community and society (Carr, et al., 1992), We can see that for the design of urban open space for certain user groups, user-based typologies are a better scope to look at. As two major researchers in the area, Woolly (2003) and Francis (2003) 's classifications will be discussed.

5.2 Francis's Typology
Francis (2003)'s definition of open space has integrated Danish urban designer

Jan Gehl (1987) and sociologist Ray Oldenburg (1989)'s understanding of open spaces as "life between buildings", which refers to places developed for different forms of public life as well as "third places": spaces that "host the regular, informal and happily anticipated gatherings of individuals beyond the realms of home and work ". (Oldenburg, 1989, p. 16)

According to Carr et al (1992), public life, which formed the basic types of open space, is shaped by three levels of cultural forces: social, functional, and symbolic. Carr also went further to explain the formation process of public life under these three forces. The social force usually fostered multipurpose spaces for social life of the society. For example, areas to promenade with food vendors and festive air could be the open space to serve these purposes. The functional force serves the basic needs of a society; paths and streets that offer people access between different places, market places created to exchange products. Lastly, the symbolic force develops out of the shared meanings people have for physical setting and rituals that occur in public. Open spaces such as memorials are often spaces for such kind of public life. Besides these three forces, Carr et al (1992) also pointed out the importance of technology, social, political and economical factors that strongly affect public life.

Based on the understanding of public life which can serve all the functional, social and symbolic desires of the society and form different types of open space, Francis (2003) developed his open space typology (See Table 2):

Typology	Sub-category
Public Park	Public /Central Park
	Downtown Park
	Commons
	Neighborhood Park
	Mini/Vest-pocket Park
Squares and Plazas	Central Square
Memorials	
Markets	Farmers markets
Streets	Pedestrian Sidewalks
	Pedestrian Mall, Transit Mall
	Traffic Restricted Street
	Town trails
Playgrounds	Playground
	School yard
Community Open Space	Community Garden/Park
Greenways and Linear Parkways	
Urban Wilderness	
Atrium/Indoor Marketplaces	Atrium
	Marketplace,Downtown shopping center
Found/Neighborhood Spaces	Everyday Spaces
	Neighborhood Spaces
Waterfronts	Waterfronts, Lakefronts ,Harbors
	Beaches, Riverfronts, Piers

Table 8:   Mark Francis' (2003) open space typologies that are developed from different forms of public life.

5.3 Woolley's Typology

In her book Woolly (2003) developed typologies of open space that are based on "the value that an individual might give to a particular space", as well as the evolvement of public life. She developed two aspects that measure open space. The physical one relates the physical distance that spaces are from home, and the social familiarity which relates to who the people might spend time with, meet or just see in these different spaces. She then went further to categorize open spaces into three big ranges: domestic, neighborhood and civic (See Table 3). According to Woolley, the domestic urban open spaces are physically associated or most closely located to the home and socially are likely to be used mainly by the family, friends and neighbors. Neighborhood urban open spaces are physically not directly related to the home but to the neighborhood and community within which one lives. Socially, these spaces will be used not only by family, friends and neighbors but also, predominantly, by others within the community who are likely to live within the vicinity of the space. Civic urban open spaces are those that are set within the urban context but which are, usually, physically farthest from the home or are places at strategic or specific locations. Such spaces are more of a social mix where one is most likely to meet people from different physical part of the city.

Typology	Sub-category
Domestic	Housing
Urban open spaces	Private gardens
	Community gardens
	Allotments
	Parks
	Playgrounds
Neighborhood	Playing fields and sports grounds
Urban open spaces	School playgrounds
	Street
	City farms
	Incidental spaces and natural green space
	Commercial
	—squares, plazas, water features, office grounds
Civic	Health and education
Urban open space	—hospital grounds, university campuses, courtyard, roof gardens
	Transportation
	--ports and docks, transport and water way corridors
	Recreational
	--woodland, golf courses, cemeteries

Table 9:   Helen Woolley's (2003) open space typologies that are based on the levels of social familiarity and distance from home.

The Typology could also be show the in the following figure:
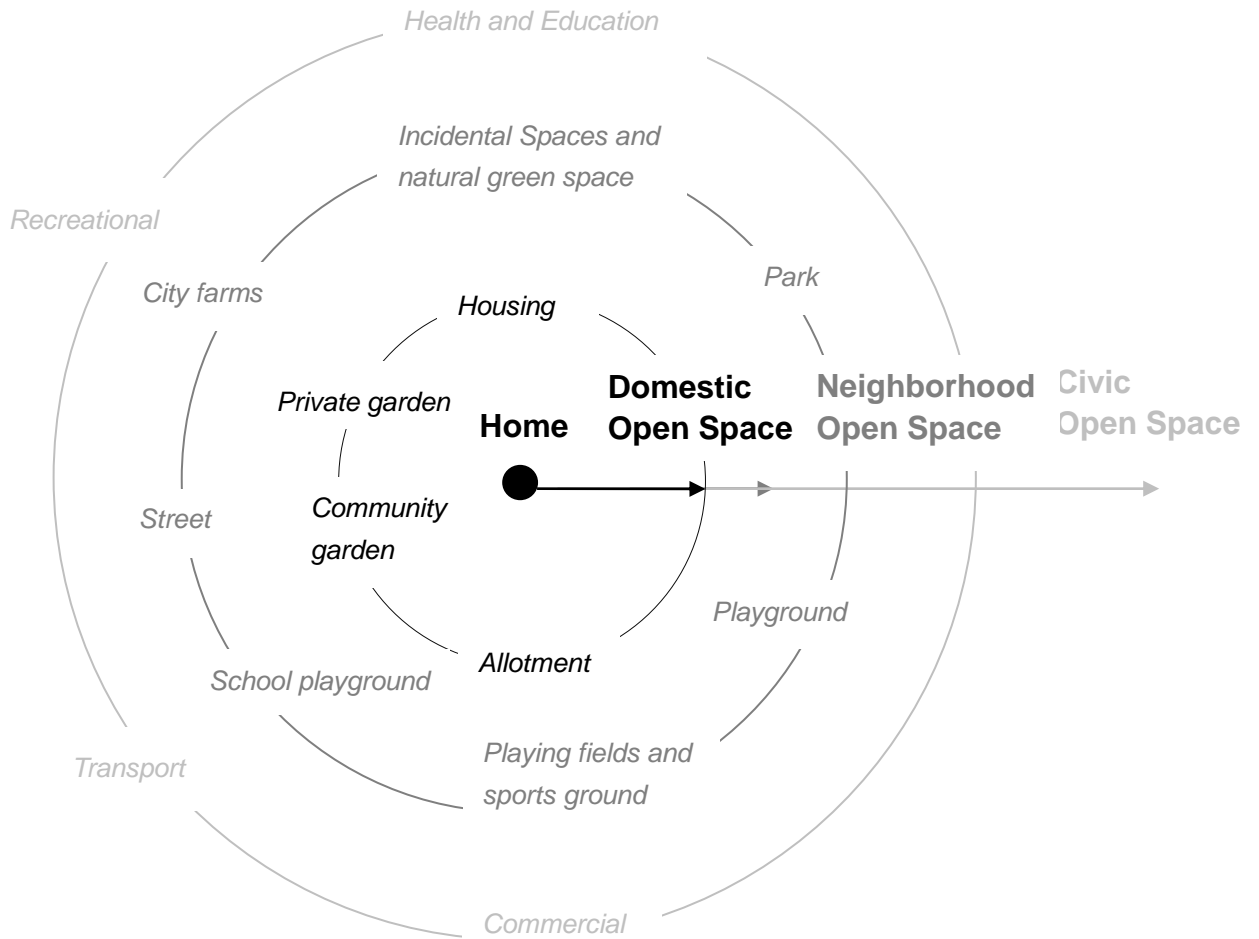
Figure 7:   Spatial diagram of Woolley's open space typologies that are based on the levels of social familiarity and distance from home.

5.4 The Understanding of Woolley and Francis' Typology

By suggesting the different physical distance the open spaces are from home, as well as varied social levels of familiarity, sociability and anonymity, Woolly (2003) categorized different types of urban open space based on their contributions at city, neighborhood and domestic scales. While Woolley's three spatial categories offer a clear framework to examine the types of open space that are most easily accessed and socially beneficial for a community settlement, Francis covered more types of open space that can contribute to the community residents' quality

of life and social interaction. Public parks and central squares offer chances of meeting for people from different parts of the city and have citywide importance. Memorials, the public places that memorize people or events of local and national importance usually have civic wide importance. Interconnected open space such as greenways, linear parkways and waterfronts can make contributions at the city, neighborhoods and domestic levels. Pedestrian malls, downtown shopping centers and transit malls are mainly located in the city centers while farmer's markets and market places are the daily shopping and meeting places for neighborhoods and communities. Pedestrian sidewalks and traffic-restricted streets could offer daily commuting and meeting opportunities to the city, the neighborhoods and domestic places. Also, everyday spaces such as street corners, steps to buildings, vacant or undeveloped spaces could be popular places for neighbors' hanging out and are an important part of neighborhood and domestic open space too. All these types of open space developed by Francis could bring important social, economic or health related opportunities to the city, the neighborhood and the community.

It is thus necessary to come up with a new typology that integrates Francis's list of open spaces into Woolley's three spatial categories (See Table 4, Figure 2):

Typology	Sub-category
Domestic urban open spaces	Housing
	Private gardens
	Community gardens
	Pedestrian sidewalks
	Traffic restricted street
	Street corner
	Farmers' market
	Atrium
	Memorial
Neighborhood urban open spaces	Squares/plaza
	Neighborhood parks
	Pedestrian sidewalks
	Traffic restricted street
	Transit malls
	Town trails
	City farms
	Incidental spaces and natural green space
	Greenway and linear parkways
	Farmers' market
	Atrium
	Marketplace
	Playgrounds
	Playing fields and sports grounds
	School playgrounds
	Memorial

Typology	Sub-category
	Public central parks
	Downtown parks
	Mini/Pocket park
	Squares/plazas
Civic	Water features
urban open space	Office grounds
	Hospital grounds
	University campuses
	Courtyard
	Roof gardens
	Ports and docks
	Transport and water way corridors
	Woodland, golf courses, cemeteries
	Pedestrian sidewalks
	Traffic restricted street
	Transit malls
	Town trails
	Memorials

Table 10: Typologies adopted from Woolley's framework and both Francis and Woolly's types of open space, which could show different forms of public life and the spatial distribution across the ranges occupied by the community residents

Golf course
Woodland, cemeteries
Greenway and linear parkways

Ports and docks
Waterway corridor

Transport corridor

Greenway and linear parkways
Incidental Spaces and natural green space

City farms
Waterscape

Housing   Memorial

Memorial

Memorial

Home   **Domestic**   **Neighborhood**   Civic
Open Space   **Open Space**   **Open Space**

Atrium

Market place

Farmers market

Private garden

Community garden

Atrium

Farmers market   Traffic restricted street

Market place   Pedestrian sidewalks

Pedestrian mall   Traffic restricted street

Transit mall

Town trails   Pedestrian sidewalks

Pedestrian mall

Transit mall

Town trails

Pedestrian sidewalks

Traffic restricted street

Street corner

Squares/Plaza

Neighborhood parks

Hospital ground

University campus

Roof gardens

Courtyard

Playing fields and sports ground

School playground

Playground

Public/Central Park   Downtown Park
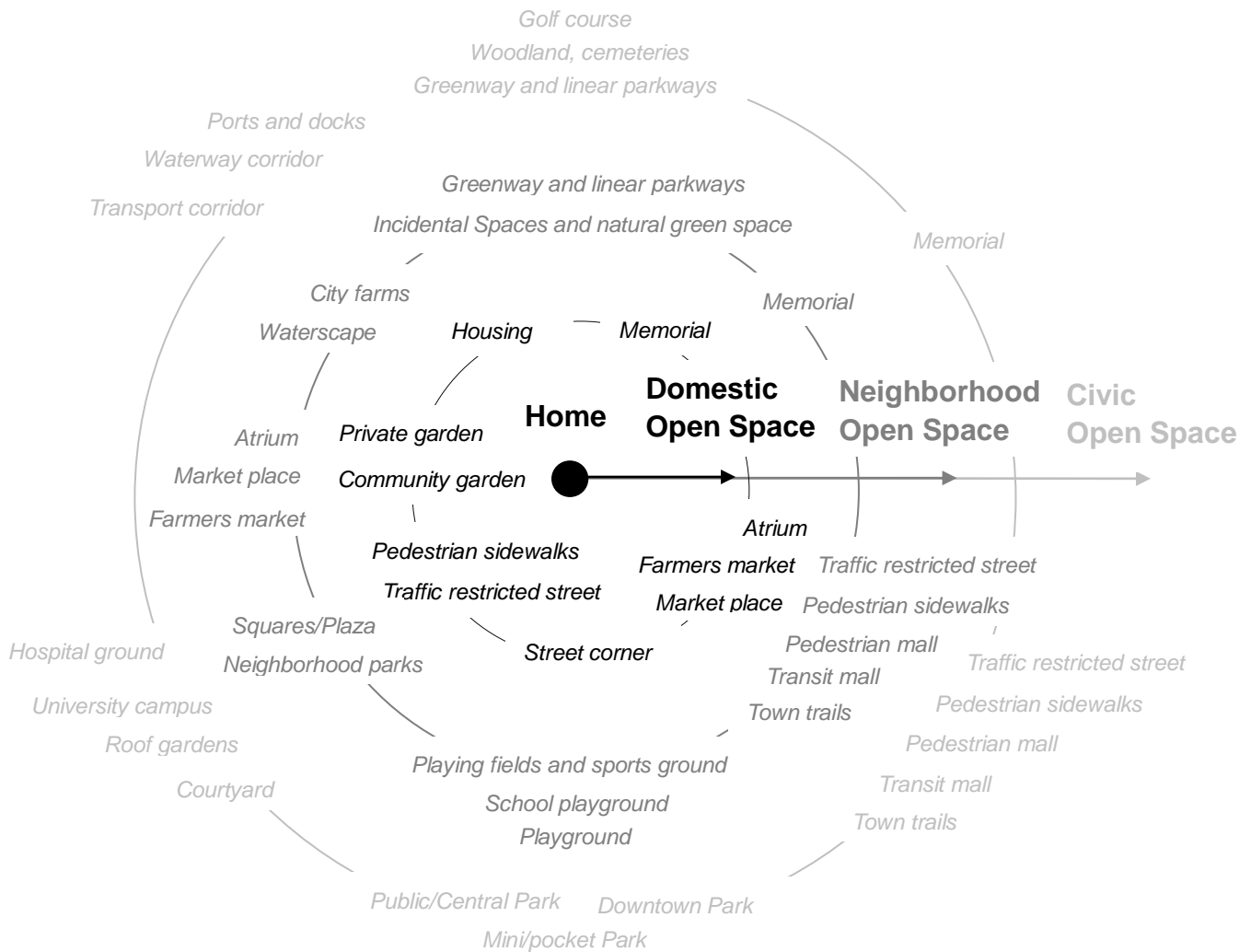
Mini/pocket Park

Figure 8:   Spatial diagram of typologies adopted from Woolley's framework as well as both Francis and Woolly's types of open space. These typologies could show different forms of public life and the spatial distribution across the ranges occupied by the community residents

CHAPTER 6: TYPOLOGY OF URBAN OPEN SPACE IN FLOATING POPULATION COMMUNITY

Through the literature review of floating population's characteristics, we already know that floating population members usually have very limited spare time, and the distance between dwelling units and open space is critical to the population's use of open space. Compared with domestic and neighborhood open space, civic open spaces are far away from the floating population settlement, and require certain time and expense to reach thus are often inaccessible for the daily use. Because of the close distance from home, domestic and neighborhood open spaces often provide more direct opportunities for family members, acquaintances and neighbors to use on a daily basis and can contribute more to the floating population community residents' social interaction and life quality.

Certain types of open spaces in Woolly and Francis' list do not exist in the floating population community. Private gardens, pedestrian malls and transit malls are usually not planned as part of a floating population settlement. Also, because most floating population members just moved into big cities for a short period, memorials, which reflect the group's history, do not exist in the settlement either.

Inside government controlled floating population settlements, instead of single family houses and row houses, 5 to 7 floors affordable apartments are the typical building types and are often laid out in simple rows. Thus it is more appropriate to refer to the notion of "housing" which according to Woolley is the open field around the single-family house, to passageways that are attached to apartment units, steps to the buildings, and the platform in staircases. By providing space for a certain social and nonsocial activities, these places can provide health benefits,

recreation opportunities and enhance the familiarity between neighbors that contribute to the sense of community. For example, passageway can provide sitting/standing areas for neighbors' nonsocial activities such as sitting, lingering around, reading books and newspaper. Passageway, steps to buildings and staircase platform can also provide space for social activities. Residents might watch the street pedestrian traffic and observe nearby performances and other activities in the passageway. Encounters and casual greetings between neighbors could take place in the passageway, steps to buildings or platforms. Family members and neighbors might chat while doing housework around pubic water facet and dining around outdoor tables/seats in the passageway. Neighbors could play chess/cards games in the passageway or stairs case platform and start conversations.

Instead of "market place", wholesale market and supermarket are more popular shopping place inside floating population community, which provide opportunities for shopping and wide range of socializing activities which provide the social benefit of community focus.

Because of the limited land resource in the settlement, hardscape such as plaza is more common than green park space inside floating population community, and the notion of green park space could be integrated into neighborhood/community squares/plaza. Squares and plazas are the central open space inside a community or neighborhood. By providing space for a wide range of social or nonsocial activities, squares and plazas could offer recreation benefit; foster the community focus and cultural focus, and enhance the health status of community or neighborhood residents. Nonsocial activities such as sitting/lingering in solitary status might take place in quiet areas that are away from pedestrian; reading

newspapers or job information is usually around newspaper kiosk and public information board. A wide range of social activities often occur on the edge or inside plazas/squares too. Shopping activities, chess/cards game activities, neighbors and district cultural groups' amusement activities often take place on a piece of ground or places with seats and tables, These activities not only provide recreation opportunities, but also fosters socializing activities. People watching or watching other activities often take places along the pedestrian traffic or around game areas and amusement areas; casual conversation might occur along the pedestrian traffic in or around plazas/squares too. Especially, cultural fairs on neighborhood plaza might offer opportunities for large group of people from same cultural origins to meet and socialize.

Pedestrian sidewalks, traffic restricted street, and street corners are the busiest open spaces where everyday commuting happens. These places can accommodate nonsocial activities such sitting/lingering in quiet area, reading books/newspapers, reading job information on the public board, as well as social activities such as people watching, observing performances or other activities, playing cards/chess games, amusement activities between neighbors or district cultural groups, shopping, and community fairs and cultural festivals. These places also provide space for a wide range of socializing activities. On sidewalks, at street corners and non traffic spots, intimate individuals often socialize at quiet sitting/lingering areas; neighbors might encounter and greet each other along pedestrian traffic; conversations could take place between neighbors, cultural groups through amusement activities, chess/cards game and community fairs or cultural festivals; acquaintance might come across each other while shopping on the street. Neighbors might also meet at bus stations on the neighborhood major street and bike racks along community streets. These open spaces associated

with street can create recreation benefits; contribute to the sense of community, the cultural focus, as well as health benefits for floating population residents.

There are certain types of open space that carry important social and economic benefits for the floating population community, are not mentioned by Woolley or Francis. Besides the outdoor open space, certain private indoor places in or around streets and plazas also accommodate large amount of the neighbors' public life. Entertainment places could offer the floating population opportunities for amusement activities while chess/cards rooms and Internet rooms provide places for playing games. Public laundry rooms could be the place for neighbors' casual socializing. Restaurants and teahouses are common places for socializing too. The proximity of these indoor places around streets or plazas can bring employment opportunities and foster community focus and cultural focus for the floating population residents. Also the appearance of these indoor places is important to the use of the surrounding open space. The outdoor spaces around these commercial indoor places are often popular for people to sit, to watch passing scenes and to socialize. Around public laundry room and entertainment places, grocery stores, restaurant and teahouse, if sitting or staying areas are provided; acquaintance might run into each other and start a short conversation. Especially around the stores/restaurants that provide cultural district commodities, sitting/staying space might offer chance for people from same hometowns to know each other. On the open areas inside plaza/squares, community/neighborhoods events, job fairs and cultural festivals might take place frequently. In my research, although these private indoor places are not consider as part of floating population open space system, their proximity to open spaces are important to stimulate social activities in the surrounding outdoor space and these places can enhance community residents' quality of lifeand social

interaction. These indoor places would be listed in the domestic and neighborhood open spaces.

In general, typology of urban open space in floating population community could be summarized as below. (See table and figure)

Typology	Sub-category
	Community squares/plaza
	Pedestrian sidewalks
	Traffic restricted street
	Street corner
	Passageway
Domestic	Steps to buildings
urban open spaces	Farmers' market
	Super market
	Grocery Stores
	Community chess/cards room
	Community internet room
	Place of entertainment
	Restaurant
	Teahouse
	Public laundry room

Typology	Sub-category
	Neighborhood squares/plaza
Neighborhood	Pedestrian sidewalks
urban open spaces	Greenway and linear parkways
	Waterscape
	Traffic restricted street
	Transit malls
	Farmers' market
	Super market
	Grocery Stores
	Neighborhood chess/cards room
	Neighborhood internet room
	Place of entertainment
	Restaurant
	Teahouse
	Public laundry room

Table 11: Typology of Open Space in Floating Population Community

Neighborhood Squares/Plaza

Waterscape

Greenway

Linear parkways

Community squares/plaza

Street corner

Pedestrian sidewalks

Traffic restricted street

Traffic restricted street

Pedestrian sidewalks

Passageway

Steps to buildings

Home

Domestic Open Space

Neighborhood Open Space

Farmers market

Supermarket

Grocery Stores

Farmers market

Supermarket

Grocery Stores

Public laundry room
Restaurant
Teahouse

Community chess/cards room,
Community internet room,
Place of entertainment,

Restaurant
Teahouse

Neighborhood chess/cards
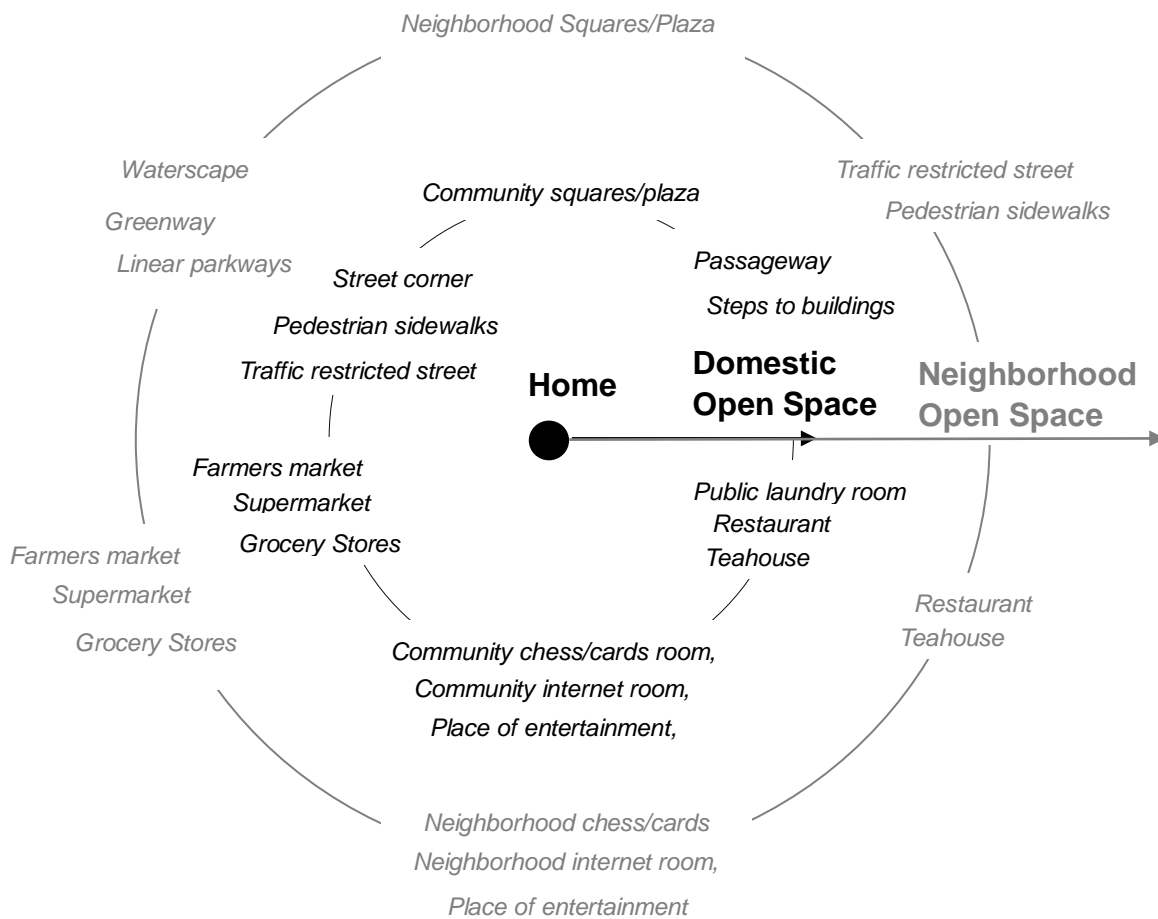Neighborhood internet room,
Place of entertainment

Figure 9:   Typology of Open Space in Floating Population Community

To summarize, there are three categories of open space that are most important to the floating population community: daily places around dwelling units, street open space, and squares/plazas. Daily places around dwelling units include passageways and steps to buildings, and are considered as part of the domestic open space. Daily places provide space for residents' everyday use and can bring certain community focus social benefits and health benefits. Street open space

includes street corners, pedestrian sidewalks and traffic restricted streets, and exist in both domestic and neighborhood open space. Streets often accommodate varied social activities. Plazas and squares are central open space inside a community or a neighborhood and can provide a wide range of social and nonsocial activities. Besides generating health benefits, both street open space and plazas/squares can create considerable social benefits such as passive recreation, community focus and cultural focus. Commercial indoor places are often in or around street open space and plaza/square. These places include supermarkets, grocery stores, chess/cards rooms, Internet rooms, entertainment places, public laundry rooms, restaurants and teahouses. These commercial indoor places accommodate certain amount of public life and are important to stimulate the use of surrounding open spaces. Besides, these places can also generate certain economic benefits towards the floating population community.

CHAPTER 7: DESIGN GUIDELINES

This chapter examines the contemporary writings of design guidelines. The roles of design guideline that include the purpose and application areas of guidelines and the people who use the guidelines will be studied. Important sectors that structure a guideline will also be examined. During the literature review, Urban Design Guidelines for High-Rise Housing in Ottawa, Canada (Planning and Growth Management Department, 2009) which represent the common format of guidelines used by the city planning department, will be introduced. Design & Management Recommendations from Projects of Public Open Space (Francis, 2003) and Design Checklist in *People Place* (Marcus & Francis, 1990), which are user-based open space design guidelines will also be studied, in order to suggest the format for the floating population community open space design guidelines.

In the Urban Design Guidelines for High-Rise Housing, the guidelines were developed by the City Planning and Growth Management Department for the government's review of high-rise area development. City planners and urban designers are the major users of the guidelines. There are three major parts that compose the guideline: the goal, the strategy and the objective. For example, the general goal of the guideline is to design and integrate the high-rise buildings that "support urban service and amenities" and "contribute to an area's livability", and create better city image (Planning and Growth Management Department, 2009, p. 2). A set of strategies was developed under the general goals. For example, "mix of uses and open space" and "human-scaled, pedestrian-friendly streets and attractive public spaces" are strategies to create amenities and "livable, safe and healthy communities" (Planning and Growth Management Department, 2009, p. 1).

The design guidelines developed specific objectives under different categories such as:

- Pedestrians and the Public Realm
- Open Space and Amenities

For example, under the "Pedestrians & the Public Realm" section, the design guidelines developed detailed objectives referring to sidewalks, tree planting, pedestrian links, pedestrian circulation, protection from microclimate, etc, in order to achieve the strategies of creating human-scaled, pedestrian-friendly streets which contribute to the goal of amenity and livable, safe and healthy communities.

The Urban Design Guidelines for High-Rise Housing explained the basic structure of design guidelines. The goal set up the general desired outcomes of high-rise housing development. The strategies frame the major areas to work on towards specific goals, while the specific objectives suggest solutions for those major areas.

The Design & Management Recommendations for Projects of Public Open Space (Francis, 2003) are mainly for open space designers and managers. The general goal of the guidelines is to create well-used open space. Strategies such as satisfying user needs, protecting users' rights for access, appropriation, considering the users and stakeholder participation and accommodating adaptability and flexibility, are developed. A set of objectives are developed under the following four categories:

- Uses and Activities

- Comfort and Image

- Access and Linkages

- Sociability

Under each category, Francis gave specific objectives for open space design and management and objectives under the same category are contributing to one strategy. For example, under the category of "Uses and Activities" design objectives are developed such as:

- Provide amenities that will support desired activities

- Create focal points where people gather

- Develop a series of community-oriented programs with local talent from institutions to attract people in the short term and to demonstrate that someone is in charge.

- Change the types of events that are held or modify the space, if necessary, to better accommodate events.

- Work with adjacent property owners and retailers to develop strategies to lease ground floors of empty buildings and help revitalize the area.

The design objectives are prescriptive. For example, instead of examining types of activities and suggesting specific amenities that will accommodate desired activities, Francis recommend designers to "provide amenities that will support desired activities".

In *People Places*, Clare Cooper Marcus (1990) developed a design checklist for the designers, clients and the potential users of urban places, in order to create

pleasing, comfortable, supportive and beautiful people places. Marcus also developed a set of criteria for the successful "people place" in terms of easily accessible, comfortable, supporting most desirable activities, geared towards the needs of user groups, encouraging of the use of subgroups, supporting of programs for users, being easily maintained and so on. These criteria could be understood as strategies for open space design. Based on these criteria, Marcus (1990) categorized 7 types of urban open spaces and developed the placed-based design checklists for each type. She then developed the design checklist according to open space attributes such as location, size, visual complexity, microclimate, boundaries, circulation, seating and planting, etc. Each aspect included the objectives that contribute to different strategies. For example, in the design checklist for urban plaza, under the attributes of "boundaries", Marcus asked "do boundaries such as paving changes or planting define the plaza as a distinct space from the sidewalk without rendering the plaza visually or functionally inaccessible to passersby?" and "have the plaza's edges been designed with many nooks and corners, to provide a variety of seating and viewing opportunities?" (Marcus & Francis, 1990, p. 65). Here the objectives separately contribute to the strategy of creating accessible open space and supporting most desirable activities. Also, Marcus developed the checklist in a descriptive way. For example, when writing the design recommendations for plaza boundary, types of activities such as viewing are recognized, space design such as nooks and corners are identified and suggested to support the activities.

Urban Design Guidelines for High-Rise Housing in Ottawa are developed for planners and designers, Francis' open space design recommendation and Marcus's design checklists are mainly for urban open space designers. All of these design guidelines are composed of general goals, strategies and specific

objectives. The ways of writing objectives of open space guidelines are different: Marcus identified 7 types of social places and the developed place-based design checklist; Francis' design recommendations are general and are for all types of open space. Francis categorized objectives under different types of strategies while Marcus organized objectives in varied physical attributes, which is easier to understand the design for an area or design elements. Also, based on the site investigation and research of use of open space, Marcus developed the design checklist in a descriptive way, while Francis' recommendations are more general and prescriptive.

As it relates to the design guidelines of floating population community open space, to identify the potential users, we need to understand the organizations that support the floating population open space development. The marginalized living status and crime issues are the two major social problems of floating population and improving the groups' quality of life and raising the social capital are critical. The government usually develops solutions such as making policies in social welfare and labor rights, improving the living environment and constructing open space systems inside the floating population settlements. Different government departments are responsible for certain solutions. Usually constructing open space systems is the responsibility of the planning department. For planners, improving quality of life and social capital is the goal of open space system development. Strategies of creating open space systems inside the floating population community are developed. These strategies include identifying types and locations of open space that are beneficial towards the floating population community, appropriately distribute and design these open spaces to create the most social and health benefits. Usually planners are responsible for recognizing the typology and distribution of open spaces, while designers mainly design the

open space that responds to the floating populations' characteristics.

We already know the open space typologies and spatial distributions are critical for floating population's daily use and social familiarity. The existence of these types of open spaces is a perquisite of well-designed floating population open space. In the review of design guidelines, although Marcus identified 7 types of open space, and Ottawa urban design guidelines recognized places such as open space and pedestrian streets to develop specific design objectives, there is no discussion of the space distribution at planning level in either Ottawa, Francis and Marcus' design guidelines, and these guidelines are mostly written for designers.

In my research, design guidelines include two levels: the planning level and the site design level, and each level has its goals, strategies and objectives. At the planning level, benefits of open space will be discussed; types of open space and the distribution are introduced too. At site design level, place-based design guidelines are developed for the three categories of open space, in which most social and health benefits are created for the floating population community. Specific open space benefits are identified as goals for each open category's open space design. Open space qualities, discussed in chapter 4, which satisfy individual users' needs, corporate cultural issues, protect users' rights and generate certain benefits, will be identified as design strategies. Based on the former research of floating population's leisure characteristics, descriptive design objectives will be developed towards creating open spaces that carry these important qualities.

# CHAPTER 8: DESIGN GUIDELINES OF THE FLOATING POPULATION COMMUNITY OPEN SPACE

8.1 Planning Level Design Guideline

This chapter develops the floating population community open space design guidelines at the planning and design level. At the planning level, the goals are to create social and health benefits for the floating population community as suggested in chapter 4. The strategies are to identify typologies, and the spatial distributions of different types of open space, which is discussed in chapter 6.

At neighborhood level, neighborhood plazas/squares are often the central open space surrounded by communities. In the circumstance that plazas/squares are a linear space along the waterfront or considered as part of the greenway, plazas/squares might be on the side and connect a series of communities. Community plazas/squares are often located either around the center of a community or are part of waterfronts and greenways that are on the edge of a community. Neighborhood street open space located on the edge of communities is the major space that connects different communities. Commercial indoor places often take the first floor of buildings that are along the major neighborhood streets. Some commercial indoor places are located in or around the neighborhood plazas/squares.

At domestic level, the major street open space is the space that is mostly used for commuting. Street corners are at the intersections of different street. Commercial indoor places often take the ground floor of apartment buildings that are along the major community street or at the critical points such as the entrance to certain building clusters or at the street intersections. Sometimes these indoor places

could be around or inside the community plazas/ squares. The following diagrams illustrate the spatial distribution of both domestic and neighborhood open spaces.
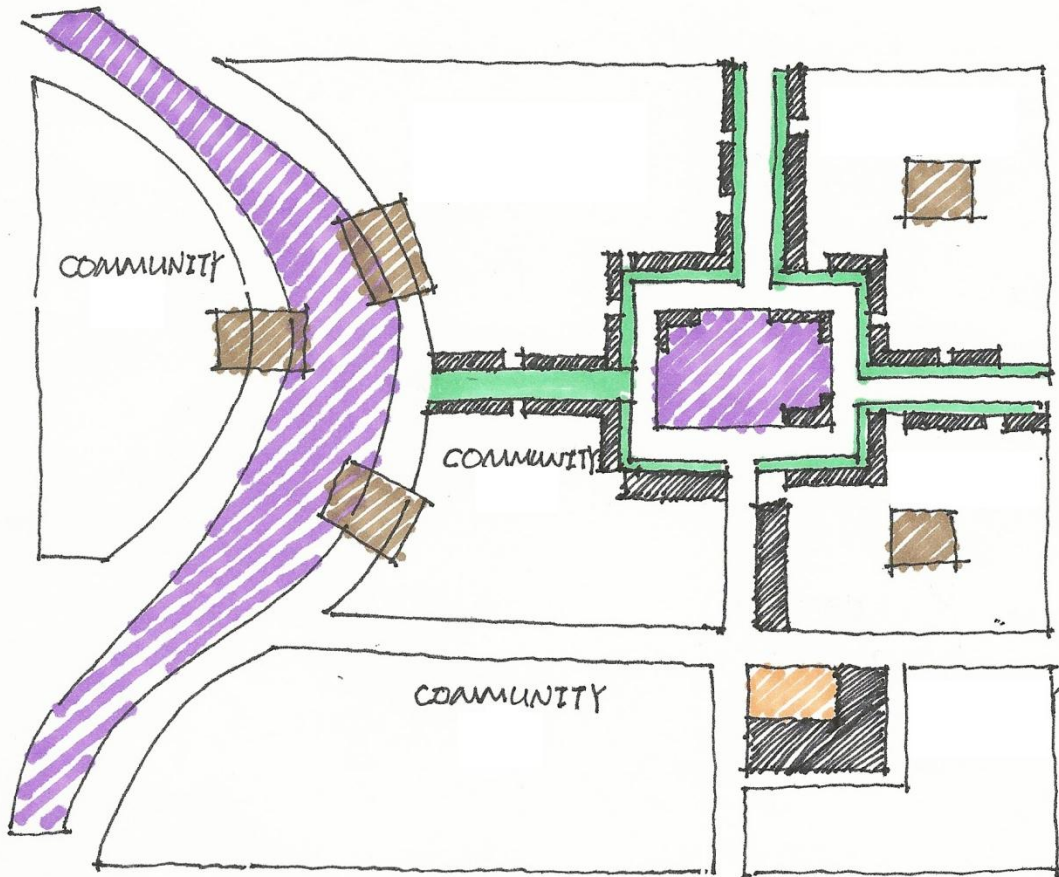
OUTDOOR PLACE

NEIGHBORHOOD PARK/PLAZA
COMMUNITY PARK/PLAZA
PEDESTRAIN SIDEWALKS
TRAFFIC RESTRICTED STREET
SCHOOL PLAYGROUND

INDOOR PLACE

RESTAURANT/TEA HOUSE
BOOKSTORE
GROCERY STORE
FARMER'S MARKET
WHOLE SALE MARKET
LAUNDARY ROOM
CHESS/CARDS ROOM
INTERNET ROOM
- PLACE OF ENTERTAINMENT

Figure 10:   Open Space Distribution at Neighborhood Level

DEWELLING UNIT

DEWELLING UNIT

DEWELLING UNIT

DEWELLING UNIT

DEWELLING UNIT

INDOOR PLACE

OUTDOOR PLACE

COMMUNITY PARK/PLAZA

PEDESTRIAN SIDEWALKS

TRAFFIC RESTRICTED STREET.

STREET CORNER

STEPS TO BUILDING

PASSAGEWAY

RESTAURANT/TEA HOUSE

BOOKSTORE

GROCERY STORE

FARMER'S MARKET

LAUNDARY ROOM

CHESS/CARDS ROOM

INTERNET ROOM

PLACE OF ENTERTAINMENT

Figure 11:   Open Space Distribution at Domestic Level

8.2 Site Design Level Design Guideline

At the design level, there are place-based open space design guidelines for three important open space categories: daily space around dwelling units, street open space and plazas/squares, which are identified in chapter 6. Social benefits such as passive recreation, community focus and cultural focus, health benefits such as mental health and physical health, are related to the goals of each open space category. Open space qualities, discussed in chapter 4, that satisfy individual users' needs, corporate cultural issues and protect users' rights are critical to create certain benefits of open space. Under each category, design strategies are suggested. Spaces for different activities are identified to satisfy individual user needs and address cultural issues, as well as to provide space to support users' rights, to meet individual users' needs and to build cultural connections. Because spaces for activities such as socializing and people watching are closely associated with spaces for shopping, games and amusement activities, as well as spaces for sitting/lingering, these activity spaces will be incorporated into common areas. For example, shopping activities and associated socializing and people watching are all included in the shopping areas; conversation between intimate groups, sitting/lingering in solitary status could be incorporated into quiet sitting/lingering area. Relationships between these areas will be discussed. Descriptive design objectives for these areas will be suggested at both domestic and neighborhood level.

Daily Space around Dwelling Units

Element:

Passageway, steps to the building, staircase platform, public facilities
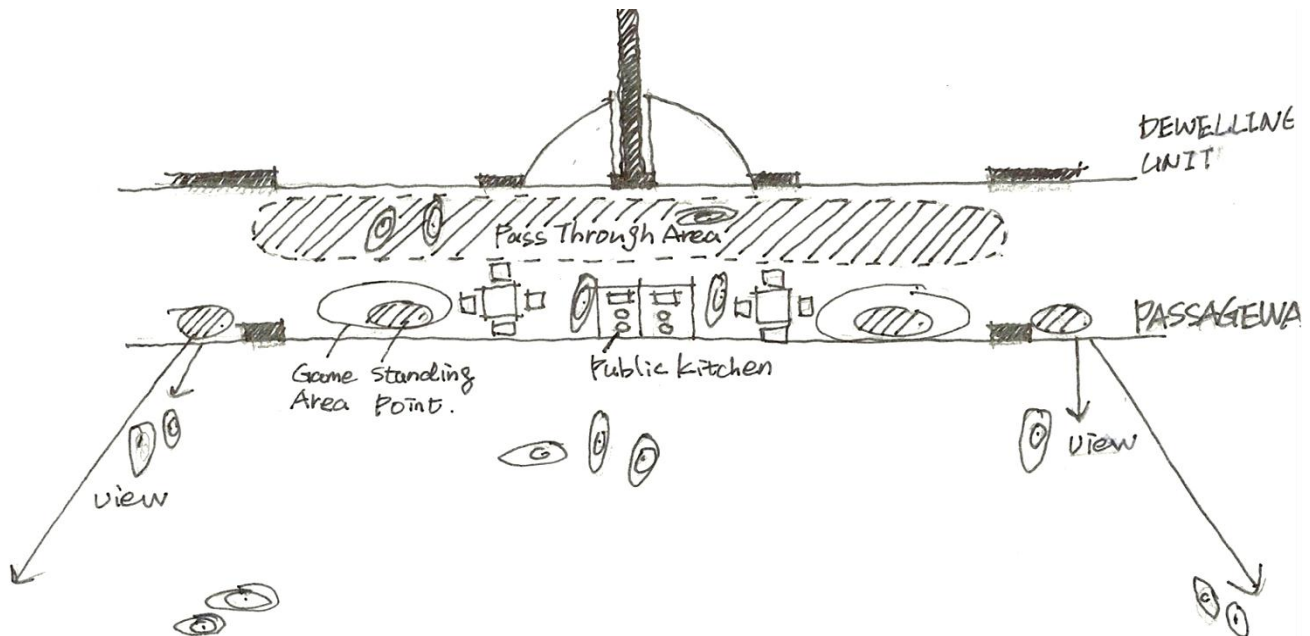
Level:

Domestic level

Figure 12: Spatial Diagram of Daily Space around Dwelling Units, as an example to demonstrate the location and relationship of different activity areas

Uses and Activities:

Passageways, steps to the building and staircase platforms are daily spaces around dwelling units. Passageways can provide sitting/standing areas for neighbors' nonsocial activities such as sitting, lingering around, reading books and newspaper. Passageways, steps to buildings and staircase platform can also provide spaces for social activities. Residents might watch the street's pedestrian traffic and observe nearby performances and other activities in the passageway. Encounters and casual greetings between neighbors could take place in the passageways and steps to buildings or platforms. Family members and neighbors might chat while doing housework around pubic water faucets and dining around outdoor tables/seats in the passageway. Neighbors could play chess/cards games in the passageway or stairs case platform and start conversations.

Goals:

To provide daily passive recreation opportunities, build connections between neighbors that provide community focus benefits and generate physical and mental health benefits for the floating population community residents.

Strategies:

■ Provide space for nonsocial activities such as passive rest activities (sitting, lingering) and self-improvement activities such as reading books and newspapers. These activities are important to satisfy residents' individual needs of comfort and passive engagement.

■ Provide space for social activities such as passive rest activities (people watching, performance watching and other activities), socializing between family members and neighbors, and chess/cards activities. These activities can satisfy individual users' needs of active engagement. Satisfying individual users' active engagement needs is also important in building connections between family members, neighbors that live in or around the same apartment buildings.

■ Allow different social and nonsocial activities such as passing by, sitting, socializing and game activities to take place. Allow users to claim the space, such as individuals or families' arrangement of tables in the passageway. Allow changes of space such as changing the furniture arrangement according to the family size.

■

Objectives:

Three types of areas are identified in the daily space around dwelling units:
■ Sitting/Lingering Area
■ Area Around Public Facilities
■ Chess/Cards Game Area

And the following are the design recommendation for these areas:

- Sitting/Lingering Area
  - ✓ *Seating/dozing*
  - ✓ *Watching nature features, people watching;*
    Observing performances and other activities
  - ✓ *Socializing between neighbors and family members*

    Locate sitting/lingering area in the passageway at a spot with a good amount of daylight, sunshine, and comfortable temperature. Provide enough space for residents' tables and seats which allow the changing of the arrangement. Leave standing space around tables and chairs. To provide views towards the pedestrian traffic along street and the nearby plazas is preferred.

- Public Facilities Area
  - ✓ *Socializing between neighbors and family members*
    Provide enough space around public facilities such as public water faucets and outdoor kitchens, which are located in the passage. Arrange the public facilities in a way that fosters interactions between neighbors.

- Chess/Cards Game Area
  - ✓ *Playing chess/cards games*
    Provide spaces for the game activities in the passageway or platform of staircases. These spaces could be either an area with seats and tables, or just a piece of ground.

- Relationship Between Different Activity Areas
  - ✓ *Multi-purpose areas*

Leave the passageway open for varied activities. Provide enough multi-purpose spaces, these subareas usually do not need much spatial definition. Standing areas and cards/chess game areas could use the same piece of ground. Besides the space for social and nonsocial activities, the design of passageways should guarantee enough space for people's passing through.

✓ *Subareas*

Subareas do not need much spatial definition in the passageway. Leave enough space for the arrangement of outdoor furniture. Provide subareas or structures for placing planting pots and hanging clothes.

Street Open Space

Elements:

Pedestrian sidewalks, traffic restricted street, street corner, and commercial indoor places

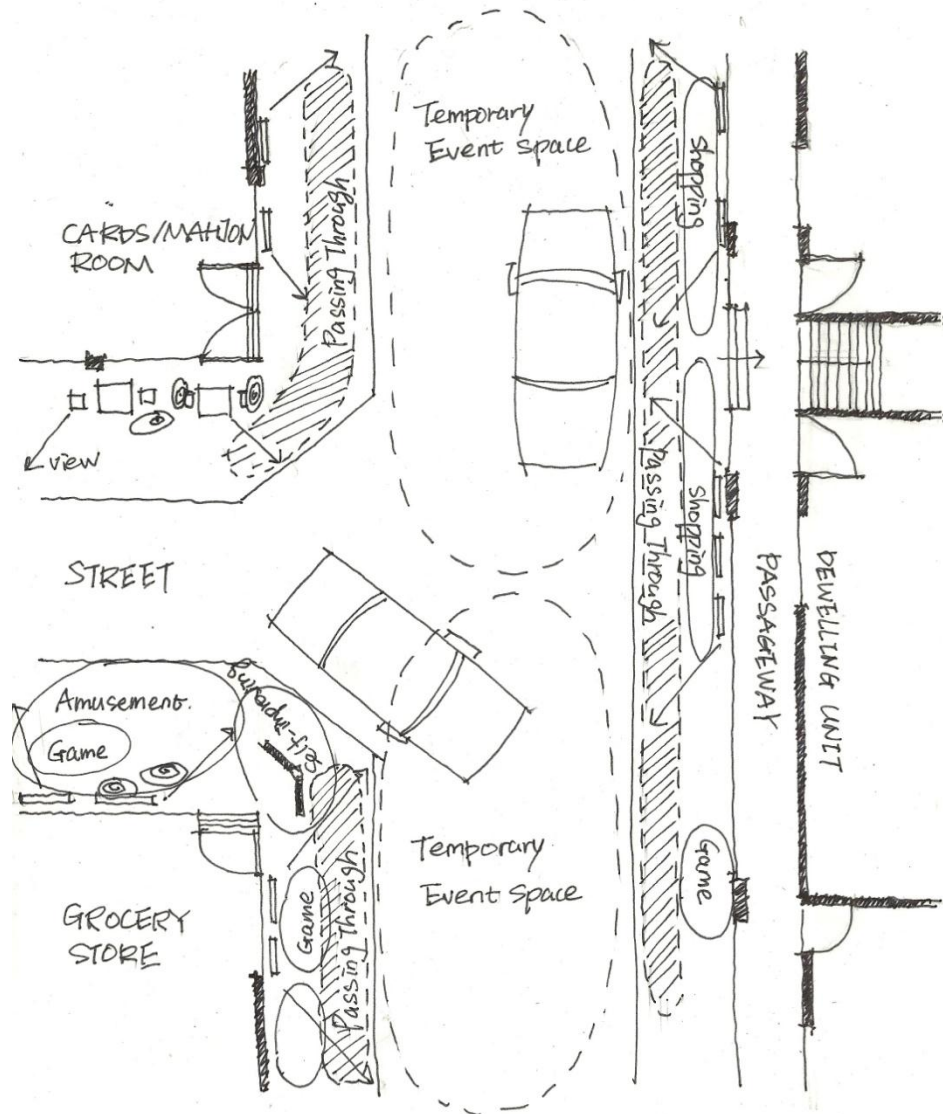*Level:*

Domestic level and neighborhood level

Figure 13:   Spatial Diagram of street open space, as an example to demonstrate the location and relationship of different activity areas

Use and Activities:

Pedestrian sidewalks, traffic restricted streets, and street corners are the busiest open spaces where everyday commuting happens. These places can accommodate nonsocial activities such sitting/lingering in quiet areas, reading books/newspapers, reading job information on the public board, as well as social activities such as people watching, observing performances or other activities like playing cards/chess games, amusement activities between neighbors or district cultural groups, shopping, and community fairs and cultural festivals. These places can also provide space for a wide range of socializing activities. On sidewalks, at street corners and non traffic spots, individuals often socialize at quiet sitting/lingering areas; neighbors might encounter and greet each other along pedestrian traffic; conversations could take place between neighbors, cultural groups through amusement activities, chess/cards game and community fairs or cultural festivals; acquaintances might come across each other at the shopping spaces such as stalls, grocery stores and farmers' market too. Around district culture restaurants or grocery stores that sell cultural districts' commodities, people from the same origin might meet and hang out. At bus stations on the neighborhood major street and at bike racks along community streets, neighbors might meet too.

Goals:

To generate passive recreation benefits, to build connections between neighbors and cultural groups and create community focus and cultural focus benefits. To create physical health benefits and mental health benefits for the floating population residents.

Strategies

- Provide physically, visually and psychologically accessible street open spaces for the floating population residents.

- Provide spaces for nonsocial activities such as passive rest (sitting, lingering around, watching nature features) and self-improvement activities. Space for these activities can satisfy residents' individual needs of comfort and passive engagement.

- Provide space for social activities such as passive rest (people watching or watching performances and other activities), socializing between neighbors, district cultural groups and professional groups, cards/chess games, amusement activities, shopping and community fairs and cultural events. Spaces for these activities can meet neighbors' individual need for active engagement. Satisfying these active engagement needs could also build connections between neighbors that live in the community or neighborhood, connections among people from the same cultural districts and same professions. There might be cultural conflicts between cultural groups so it's important to provide spaces that address different cultural groups' use of open space.

- Provide space that allows different types of social and nonsocial activities to take place which protect users' rights of action. Passive rest activities such as sitting, reading, watching nature often require quiet settings while others activities are often noisy. Street open space should accommodate both types of activities.

- Provide space that allows individuals or different sizes of user groups to claim

a particular spot or area for different activities. For example, small and big group users have different requirements for size of sitting area and types of seating arrangements.

■ Provide space that allows the temporary or permanent change and adaption according to residents' use. For example, street settings should adapt to temporary events such as community fairs, events or just everyday night shopping fairs.

Objectives:

9 Types of areas are identified in the street open space:

■ Quiet Sitting/Lingering Area

■ Sitting/Lingering Area Near Pedestrian Traffic

■ Stall Shopping Area

■ Store Shopping Area

■ Farmers' Market/Whole Sale Market Shopping Area

■ Chess/Cards Game Area

■ Amusement Area

■ Self-improvement Area

■ Festivals/ Events Areas

And the following are the design recommendation for these areas:

■ Accessibility

  ✓ *Physically*

  ✓ *Visually*

Street open space should be connected with the community or

neighborhood circulation system. Create a continuous pedestrian environment for street open space. For example, place a physical separation between sidewalk and roadway, traffic calming could be considered during the design too.

Place bike racks on the sidewalks where needed. Avoid visual barriers between pedestrian sidewalks and the surrounding settings. Besides space for social and nonsocial activities, provide enough space for pedestrians passing by.

- Quiet Sitting/Lingering Area
  - ✓ *Sitting/lingering/dozing*
  - ✓ *Watching natural views*
  - ✓ *Reading books, newspaper*

Locate quiet sitting areas on sidewalks, street corners or traffic-restricted areas that are away from pedestrians and noisy activities. Provide various nature features to attract people to stay. Design natural features such as vegetation and planters for people to be close to plants, trees, flowers and water.

Provide settings with a good amount of daylight, sunshine, and comfortable temperature. Design landscapes such as shelters, structures and natural features to create comfortable sunshine or shadow areas to sit and linger around.

Seating styles should be considered for comfortable postures.

Considering floating population's economic status, expense should be considered when choosing seating styles. For example, secondary sittings such as steps, ledges or even flat surfaces could offer certain amount of sitting space. Seating arrangements should satisfy users' privacy needs. Provide movable seating that allows individuals with intimate conversations and small group users to make their own arrangements.

- **Sitting/ Lingering Area Near Pedestrian Traffic**
  - ✓ *People watching*
  - ✓ *Watching performances and other activities*
  - ✓ *Socializing between neighbors*

Locate the area at a spot with a good amount of daylight, sunshine, and comfortable temperature. Design landscape such as shelters, structure and plant trees to create comfortable sunshine or shadow areas to sit, to linger around. Provide various nature features to attract people to stay. Design natural and artificial features such as vegetation, planters, public bulletin boards and newspaper kiosk.

Seating styles should be considered for comfortable postures. Considering floating population's economic status, expense should be considered when choosing seating styles. For example, secondary sittings such as steps, ledges or even flat surfaces could offer a certain amount of sitting space. Seating arrangements should satisfy users' privacy needs. Provide movable seating that allows individuals with intimate conversations and small group users to make different

arrangements. Arrangement of seats should foster the activities of socializing while doing housework, and conversations with acquaintances or strangers without making direct eye contact.

Physical separations such as terraces and tree lines should be designed to facilitate visual contact with people. Avoid landscapes that block views.

- Stall Shopping Area
  - ✓ *Shopping*
  - ✓ *Socializing between neighbors*
  - ✓ *People watching*

  Stall shopping areas are usually on sidewalks, at street corners or traffic restricted parts of major streets. Especially at the entrance or major intersections of the street, stall shopping should be considered. Provide enough space on sidewalks for stroll shopping along major community or neighborhood streets. Shopping space should be close to pedestrian traffic. Place lighting for night fairs.

  Provide sitting/lingering space at the spot with a good amount of daylight, sunshine, and comfortable temperature. Consider placing landscapes such as shelters, structures and natural features to create comfortable sunshine or shadow areas.

- Store Shopping Area
  - ✓ *Shopping*
  - ✓ *Socializing between people from the same cultural district*

- ✓ *Socializing between people from the same profession*
- ✓ *People watching*

Store shopping areas are usually around the grocery stores, bookstores, restaurants and teahouses. These stores are often located along major streets, especially around major intersections, entrances to communities and housing groups. Provide sitting/lingering areas around stores. Locate seats at spots with a good amount of daylight, sunshine and comfortable temperature. Provide features such as vegetation and planters to attract people to stay.

Seating styles should be considered for comfortable posture. Considering the floating population's economic status, expense should be considered when choosing seating styles. For example, secondary seating such as steps, ledges or even flat surfaces could offer a certain amount of sitting space. Seating arrangements should satisfy users' privacy needs. Provide movable seating that allows individuals with intimate conversations and small group users to make different arrangements.

- ■ Farmers' Market/Whole Sale Market Shopping Area
  - ✓ *Shopping*
  - ✓ *Socializing between people from the same cultural district*
  - ✓ *Socializing between people from the same profession*

Farmers' market and wholesale markets are often located along major community or neighborhood streets, especially around the intersections

and entrances along the street. Provide space for sitting/lingering. Locate seats at spots with a good amount of daylight, sunshine, and comfortable temperature. Provide features such as vegetation and planters to attract people to stay. Seat styles should be considered for comfortable posture. Considering floating population's economic status, expense should be considered when choosing seating styles. For example, secondary sittings such as steps, ledges or even flat surfaces could offer a certain amount of sitting space.

- Chess/Cards Game Area
  - ✓ *Playing chess/ cards games*
  - ✓ *Socializing between neighbors, friends*
  - ✓ *Watching activities*

  Space for cards/mahjong games could be either an area with tables and seats, or a piece of ground on sidewalks, street corners and traffic restricted areas. Locate pots with a good amount of daylight, sunshine, and comfortable temperature. Provide space for people to stand and watch the games.

- Amusement Area
  - ✓ *Dancing/Karaoke*
  - ✓ *Playing cultural amusement activities*
  - ✓ *Socializing between neighbors, friends*
  - ✓ *People watching*

  Amusement areas could be a piece of ground on sidewalks, street

corners and traffic-restricted areas. Locate the area close to pedestrian traffic and people sitting around. Provide shades for performers and watchers. Provide sitting/standing space at outdoor amusement areas and around indoor entertainment places. Outdoor lighting should be considered.

■ Self-improvement Area
  ✓ *Reading newspaper*
  ✓ *Reading job information*
  ✓ *Socializing between neighbors*

  Provide sitting/standing areas around the kiosk, bulletin and job information board on sidewalks, at street corner and traffic-restricted areas.   Provide shades for people's stay.

■ Festivals/Events Area
  ✓ *Community festivals*
  ✓ *District cultural fairs*
  ✓ *Job fairs*
  ✓ *Watching performances and other activities*
  ✓ *People watching*
  ✓ *Socializing between people from the same cultural district*
  ✓ *Socializing between people from the same profession*

  Traffic could be temporarily closed for large events such as ceremonies, celebrations and festivities. Design streets with enough width for the

events. Provide large gathering spots for people to watch performances.

- Relationship Between Different Activity Areas
  - ✓ *Multi-purpose areas*

    Provide multi-purpose areas for varied activities to take place. Stall shopping areas, cards/games areas and amusement areas could use the same piece of ground at different times.

  - ✓ *Combined areas*

    Encourage the combination of these areas to form activity nodes. For example, stall shopping areas, sitting /linger areas and self-improvement areas could be combined at an important street corner.

  - ✓ *Well-defined subareas*

    Design elements such as planting, small structures and paving patterns to define subspaces or focal points for the individuals or different size groups' spatial claim.

Plaza/Square Open Space

Elements:

Plazas/Squares/Commercial Indoor Places

Level:
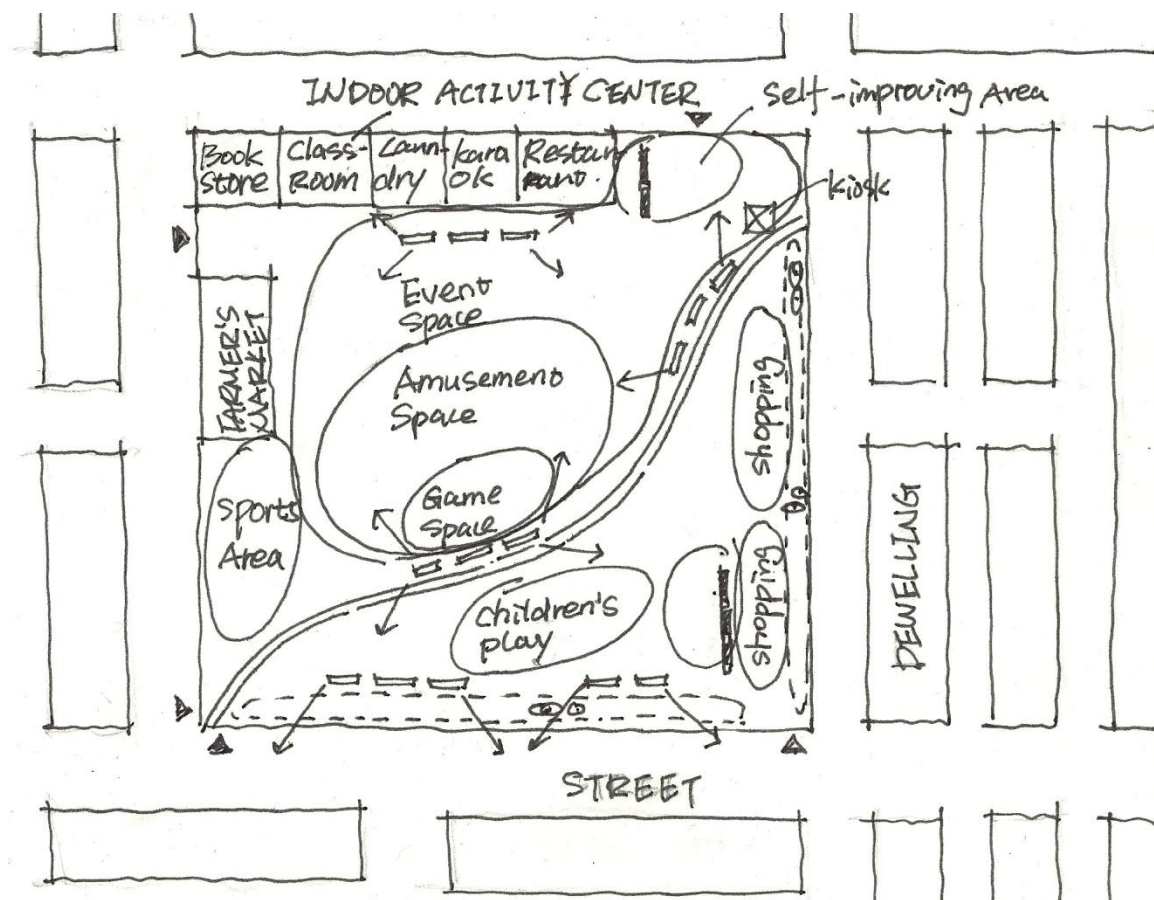
Domestic level and neighborhood level

Figure 14:   Spatial Diagram of plaza/square open space, as an example to demonstrate the location and relationship of different activity areas

Use and Activities:

Squares and plazas are the central open space inside a community or neighborhood and can provide space for a wide range of social or nonsocial activities. Nonsocial activities such as sitting/lingering in solitary status might take place in quiet areas that are away from pedestrian ones; reading newspapers or job information happens usually around newspaper kiosks and public information boards. A wide range of social activities often occurs on the edge or inside plazas/squares. Chess/cards games, neighbors and district cultural groups' amusement activities often take place on a piece of ground or places with seats and tables, which not only provide recreation opportunities, but also foster socializing activities. Neighbors often watch people or other activities along the pedestrian traffic or around game areas and amusement areas; casual conversation might occur along the pedestrian traffic and in or around plazas/squares too. The stalls space, public laundry rooms, commercial indoor places and open farmers' market and whole sale markets are usually located along the edge of squares/plazas can accommodate not only shopping activities, but also socializing activities. At stalls and farmers' market/whole sale markets, neighbors might meet and greet. Around public laundry rooms and commercial indoor places such as entertainment places, grocery stores, restaurants and teahouses, if sitting or staying areas are provided, neighbors might hang out too. Especially around the stores/restaurants that provide cultural district commodities, sitting/staying space could offer a chance for people from the same hometown to get to know each other. On the open areas inside plaza/squares, community/neighborhoods events, job fairs and cultural festivals might take place frequently. Especially, cultural fairs on neighborhood plazas might offer opportunities for large groups of people from the same cultural origin to meet and socialize.

Goals:

To generate passive recreation benefits, to build connections between neighbors and cultural groups and create community focus and cultural focus benefits. To create physical health benefits and mental health benefits for floating population residents.

Strategies

- Provide physically, visually and psychologically accessible street open space for floating population residents.

- Provide space for nonsocial activities such as passive rest (sitting, lingering around, watching nature features) and self-improvement activities. Space for these activities can satisfy residents' individual needs of comfort and passive engagement.

- Provide space for social activities such as passive rest (people watching or watching performances and other activities), socializing between neighbors, district cultural groups and professional groups, cards/chess games, amusement activities, shopping, and community fairs and cultural events. Spaces for these activities can meet neighbors' individual need of active engagement. Satisfying these active engagement needs could also build connections between neighbors that live in the community or neighborhood, connections among people from the same cultural district and the same professions. There might be cultural conflicts between cultural groups', so it is important to provide a space that address different cultural groups' use of open space.

- Provide space that allows different types of social and nonsocial activities to take place which protects users' rights of action. Passive rest activities such as sitting, reading, watching natural features often requires quiet settings while other activities are often noisy. Street open space should accommodate both types of activities.

- Provide space that allows individuals or different sizes of user groups to claim a particular spot or area for different activities. For example, small and big group users have different requirements for size of sitting areas and types of seating arrangements.

- Provide space that allows the temporary or permanent change and adaption according to residents' use. For example, street settings should adapt to temporary events such as community fairs, events or just everyday night shopping fairs.

Objectives:

Nine types of areas are identified in the street open space:

- Quiet Sitting/Lingering Area
- Sitting/Lingering Area Near Pedestrian Traffic
- Stall Shopping Area
- Farmers' Market/Whole Sale Market Shopping Area
- Areas Around Public Laundry Room and Other Commercial Indoor Places
- Chess/Cards Game Area
- Amusement Area
- Self-improvement Area
- Festivals/Events Areas

And the following are the design recommendation for these areas:

- **Accessibility**
  - ✓ *Physically*
  - ✓ *Visually*

    Plaza/squares should be connected with the community or neighborhood circulation system, such as major streets and bus stations. Place bike racks on the sidewalks where needed. Avoid visual barriers at edge of plaza/square open space; create an inviting image at major entrances and the edge of plazas.

- **Quiet Sitting/Lingering Area**
  - ✓ *Sitting/lingering/dozing*
  - ✓ *Watching natural views*
  - ✓ *Reading books, newspaper*

    Locate quiet sitting areas away from major pedestrian ways and noisy activities. Provide various nature features to attract people to stay. Design natural features such as vegetation and planters for people to be close to plants, trees, flowers and water.

    Provide settings with a good amount of daylight, sunshine and comfortable temperature. Design landscape such as shelter, structure and natural features to create comfortable sunshine or shadow areas to sit, to linger around.

    Seating styles should be considered for comfortable posture. Considering floating population's economic status, expense should be considered

when choosing seating styles. For example, secondary seating such as steps, ledges or even flat surfaces could offer a certain amount of sitting space. Seating arrangements should satisfy users' privacy needs. Provide movable seating that allows individuals with intimate conversations and small group users to make different arrangements.

- Sitting/ Lingering Area Near Pedestrian Traffic
  - ✓ *People watching*
  - ✓ *Watching performance and other activities*
  - ✓ *Socializing*

  Locate the area at the near the pedestrian traffic at edges of plaza/square or along the circulation trails inside plaza/square. Locate the area at a spot with a good amount of daylight, sunshine, and comfortable temperature. Design landscape such as shelters, structures and plant trees to create comfortable sunshine or shadow areas to sit, to linger around. Provide various nature features to attract people to stay. Design natural features such as vegetation, planters, public bulletin, and newspaper kiosk.

  Seating styles should be considered for comfortable posture. Considering floating population's economic status, expense should be considered when choosing seating styles. For example, secondary sitting such as steps, ledges or even flat surfaces could offer a certain amount of sitting space. Seating arrangement should satisfy users' privacy needs. Provide movable seating that allows individuals with intimate conversation s and small group users to make different arrangements. Arrangement of seats

should foster the activities of socializing while doing housework, conversation between acquaintances or strangers without direct eye contact.

Physical separations such as terrace, tree lines should be designed to facilitate visual contact with people. Avoid landscapes blocking views.

■ Stall Shopping Area
   ✓ *Shopping*
   ✓ *Socializing*
   ✓ *People watching*

Stall shopping areas are often located on the edge or along the circulation trails of plazas/squares. Provide enough space on sidewalks for stroll shopping along major communities or neighborhoods streets. Shopping space should be close to pedestrian traffic. Place lighting for night fairs.

Provide sitting/lingering space at a spot with a good amount of daylight, sunshine, and comfortable temperature. Consider placing landscapes such as shelter, structure and natural features to create comfortable sunshine or shadow areas.

■ Areas Around Public Laundry Room and Other Commercial Indoor Places
   ✓ *Socializing between neighbors and friends*
   ✓ *Socializing between people from the same cultural district*
   ✓ *People watching*

The areas are usually around the public laundry room, entertainment places and Internet rooms, grocery stores, bookstores, restaurants, teahouses and other commercial indoor places. These indoor places are often on the edge or along the circulation trail of the plaza/squares and are close to pedestrian traffic. Provide sitting/lingering areas around stores. Locate seats at spots with a good amount of daylight, sunshine, and comfortable temperature. Provide features such as vegetation and planters to attract people to stay.

Seating styles should be considered for comfortable posture. Considering floating population's economic status, expense should be considered. For example, secondary sittings such as steps, ledges or even flat surfaces could offer a certain amount of sitting space. Seating arrangement should satisfy users' privacy needs. Provide movable seating that allows individuals with intimate conversations and small group users to make different arrangements.

- Farmers' Market/Whole Sale Market Shopping Area
  - ✓ *Shopping*
  - ✓ *Socializing between neighbors and friends*
  - ✓ *Socializing between people from the same cultural district*

Farmers' market and wholesale markets are often located on the edge of plaza/squares and are close to pedestrian traffic too. Sometimes farmers' market and wholesale markets are close to plaza/square entrances. Provide space for sitting and lingering. Locate seats at spots with a good amount of daylight, sunshine, and comfortable temperature. Provide

features such as vegetation and planters to attract people to stay. Seating styles should be considered for comfortable posture. Considering floating population's economic status, expense should be considered when choosing seating styles. For example, secondary sitting such as steps, ledges or even flat surfaces could offer certain amount of sitting space.

■ Chess/Cards Game Area
  ✓ *Playing chess/cards games*
  ✓ *Socializing*
  ✓ *Watching activities*

Space for cards/mahjong games could be either an area with tables and seats, or a piece of ground on the edge or inside plaza. Locate pots with a good amount of daylight, sunshine, and comfortable temperature. Provide space for people to stand and watch the games.

■ Amusement Area
  ✓ *Dancing/Karaoke*
  ✓ *Playing cultural amusement activities*
  ✓ *Socializing*
  ✓ *People watching*

Amusement area could be a piece of ground on the edge or inside plaza. Locate the area close to pedestrian traffic and people sitting around. Provide sitting/standing space at outdoor amusement area and around indoor entertainment places. Provide shade for performers and watchers.

Outdoor lighting should be considered.

- Self-improvement Area
  - ✓ *Reading newspaper*
  - ✓ *Reading job information*
  - ✓ *Socializing*

  Provide sitting/standing areas around the kiosk, bulletin and job information board on the edge or inside the plaza. Provide shade for people's stay.

- Festivals/Events Area
  - ✓ *Community festivals*
  - ✓ *District cultural fairs*
  - ✓ *Job fairs*
  - ✓ *Watching performances and other activities*
  - ✓ *People watching*
  - ✓ *Socializing between neighbors and friends*
  - ✓ *Socializing between people from the same cultural district*
  - ✓ *Socializing between people from the same profession*

  Provide enough space to accommodate festivals/events. Provide large gathering spots for people to watch a performance. Consider sitting/standing space. Provide shade for performers and watchers.

- Relationship Between Different Activity Areas
  - ✓ *Multi-purpose areas*

Provide multi-purpose areas for varied activities to take place. Stall shopping areas, cards/games areas and amusement areas could use the same piece of ground at different times. Events areas could be used for other activities on a daily base.

✓ *Combined areas*

Encourage the combination of these areas to form activity nodes. For example, stall shopping areas, sitting/linger areas and self-improvement areas could be combined at an important circulation spot, such as entrance places on the edge that are close to heavy traffic.   .

✓ *Well-defined subareas*

Design elements such as planting, small structures and paving patterns to define subspaces or focal points for the individuals or different sizes of groups' spatial claim.

CHAPTER 9: RESEARCH CONCLUSION

This thesis research develops open space design guidelines for government sponsored floating population settlements, with the goal of providing social and health benefits through open space system development. As most current research on the floating population has concentrated on making political policy such as improving labor payment rights, social welfare rights and helping build self-managed organizations, this research fills a gap in addressing social issues of the floating population through open space development, and argues that open space can enhance the quality of life and social capital of the floating population community residents.

This research provides a methodology for the design of open space development in urban areas. The open space qualities that respond to user characteristics and create social and health benefits are studied to set the design criteria; types of open space are also identified for the further design. In this thesis research, characteristics of the floating population user groups are studied. The population's constitution, social-economic status and living environment were examined to reveal their general characteristics. The group's existing and potential outdoor activities and spaces were examined to identify their leisure characteristics. The criteria for the open space system development are discussed. Responding to the users' characteristics, the criteria is developed to create the open space qualities that satisfy individual needs, address cultural issues and protect users' rights. Corresponding social and health benefits for floating population residents are related to these open space qualities. Experienced-based open space typologies were indentified to present places can contribute to the community residents' quality of life and social interaction. The identification of these places offered

physical location for the discussion of the design guidelines.

The open space design guidelines provide Chinese urban planners and site designers with an effective tool to determine the distribution and design of open space systems inside floating population communities. On the planning level, the guideline identifies and locates types of open spaces in the community. Under each open space category, the goals are closely related to open space's social and health benefits. The site design strategies identify types of activities and relationships between these activities that can satisfy individual needs, address cultural issues and protect users' rights. Design objectives examined these activity areas and suggested corresponding design recommendations.

The research has certain limitations. Little existing research provides information on the leisure activities and leisure places of sub user groups such as varied vocation groups and district cultural groups. These design guidelines are based on the characteristics common to floating population users. Also, because there are limited studies on the leisure time distribution of floating population, the guideline does not discuss the time when activities occur or the possibilities for time sharing activities.

Continued research on the leisure characteristics of different professional groups and district cultural groups within the floating population is necessary for the development of more detailed and site specific open space design guidelines. For the city planners and site designers, creating and using guidelines that are based on specific floating populations will be essential to the development of successful open spaces in every different case.

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