

TRANSFORMING DANWEI HOUSING

How can the old residential courts from the 1980s to 1990s in Guangzhou respond to diversified demands in urban renewal?

Master thesis

Xin Huang

June 2017



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Transforming Danwei housing:

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Keywords

Danwei housing, urban renewal, industrial transformation, livable city, social changes, Guangzhou

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fig1. Danwei housing, Source: author

CHAPTER 1

Introduction

1.1 Typical Danwei housing from the 1980s' to 1990s'

After the Second World War, it had been a global trend to build massive housing for the booming demand. As a tool to relieve housing shortage in a short time, the post-war housing was designed following the modernism principle of functionality and standardization, and fit economic feasibility and affordability.

Before the housing reform in 1998, all the residential buildings built in China are public housing owned by the state or Danwei (单位 work unit). These buildings were normally built by the Danwei close to the workplace in the form of a gated community with supply a full set of facilities including housing, schools, a canteen medical care, etc. After the housing reform, most of the housing was privatized by selling to the employees of the Danwei, and the real estate market began blooming at the same time.

The photos showed the typical Danwei residential environment. Until now, it still constitutes the largest proportion of housing stock in Chinese cities. Due to the lack of maintenance, the environment is not satisfying as in the past. However, it is still highly valued by residents for diversified reasons. Old people prefer to live in the city center and close to their old neighbors rather than moving out. Young graduates prefer to rent Danwei housing for their central location, convenient public transport and affordable price. Core family prefers the school districts. Visitors enjoy the abundant choices of small restaurants, markets and sense of local atmosphere.

Meanwhile, because the market is taking the leading role in redeveloping and urban renewal projects now. Many Danwei housing and early 1990s' commodity housing become hot spots for redeveloping because of their good location. The worsening environment has then become the excuse for the government to push forward the redevelopment projects. Therefore in China, there is a strange phenomenon that buildings of only 20 to 30 years being demolished. Most of them are still in quite good condition. To a certain extent, making decision to demolish these residential buildings seems quite convincing. For Danwei housing, strictly saying, there are hardly any historical or cultural values to be preserved, and the physical environment is deteriorating. Rapid urban redevelopment upon these areas have renewed the urban image and improved the living quality of a certain group of people in some sense. The consequences of intensive gentrification, unbalanced work-housing relationship, and social-spatial segregation are seldom considered in the urban regeneration scheme. What has been long ignored in the argument are the value of Danwei housing as affordable housing stock and the narrative of local life of a certain period of time.

Danwei system at planned economy period

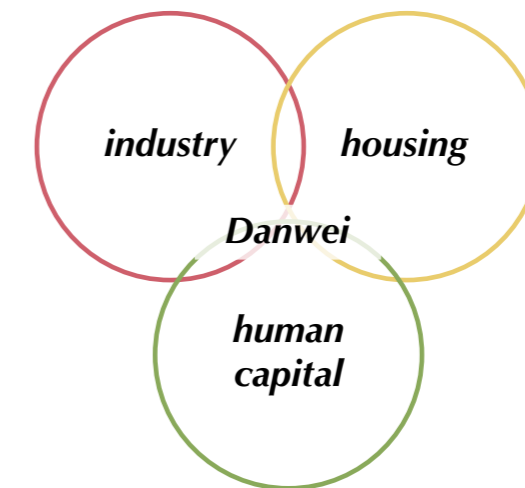


fig2. Danwei system, Source: author

Housing policy history

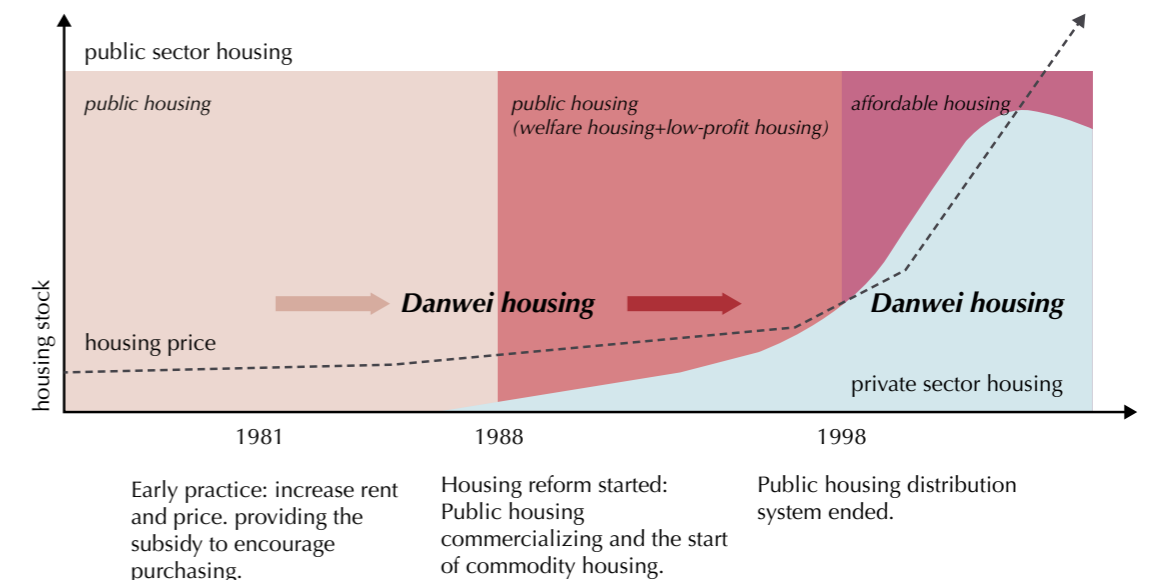


fig3. housing policy history, Source: adapted from Lin Haotian, 2014

1.2 Guangzhou-an attractive migrant city



fig4. typical Danwei housing
Source: author

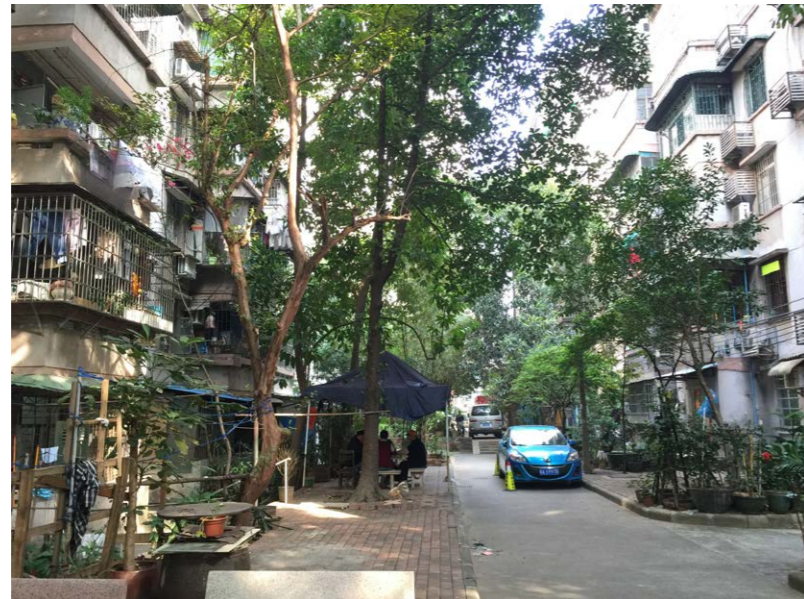


fig5. typical Danwei housing
Source: author

location of Guangzhou in Pearl River Delta



fig6. location of Guangzhou in Pearl River Delta, Source: author

The motivation of this thesis started from the interest of Danwei housing. Such phenomenon can be commonly seen in any Chinese cities. It is important to choose a city that can be analyzed as a representative of Chinese cities. Therefore, Guangzhou is chosen as the research city for more comparability and relevance than other Chinese first-tier cities-Beijing, Shanghai, and Shenzhen. These cities are distinctive in China for their political, economic, and cultural background. While Guangzhou can be more treated as a benchmark for most provincial capital cities as the research subject.

Guangzhou is located in the Pearl River Delta of China, which is one of the most densely urbanized regions in the world. It is a typical Chinese big city with a historic city center, several new towns, large development districts and massive housing areas. However, Guangzhou is a global city and migrant city, that means the capital and population that accumulate in Guangzhou are enormous. The mature industry chains and abundant job opportunities have attracted young people to live and work in Guangzhou. More importantly, pioneering industrial transforming is happening in this city every day, where new businesses with new techniques are exploited or applied to traditional industries. Brand new industries and market have been explored by groups of creative people. It is a popping up phenomenon that is more observed in the Pearl River Delta region and other leading coastal regions in China.

It is not hard to find out that in the Danwei residential courts old people are enjoying their twilight years. If you walk out to the streets, you are immediately immersed in the vitality of countless young people. The data showed that in central districts of Guangzhou, the percentage of old people over 65-year-old has been around 12%-15%(fig8). Meanwhile, the percentage of floating population in Guangzhou has constituted 37% of the permanent population, and some data showed even higher figure, which means the city is already a migrant city(fig10). Diversified groups of people spatially live together, while socially rather segregated. This can be observed from their distinctively different lifestyle. Relating to the Danwei housing that they are living and working, interests were aroused on how to understand these phenomena and the rapid developing contemporary Chinese cities.



fig7. old people playing Mahjong in the Danwei housing
Source: author

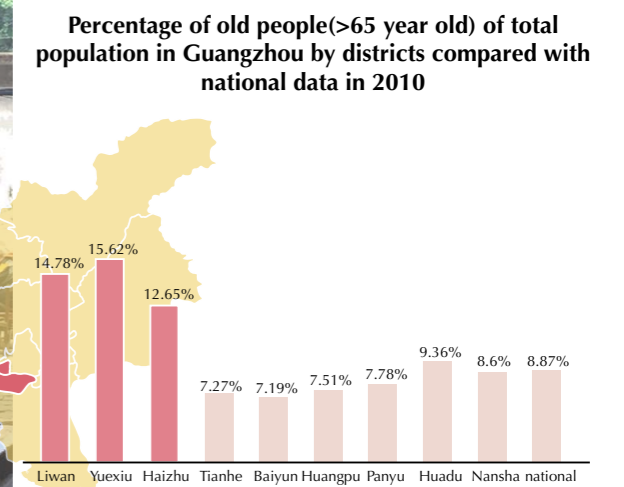


fig8. Source: China National Bureau of Statistics



fig9. a lively street life full of young migrants
Source: author

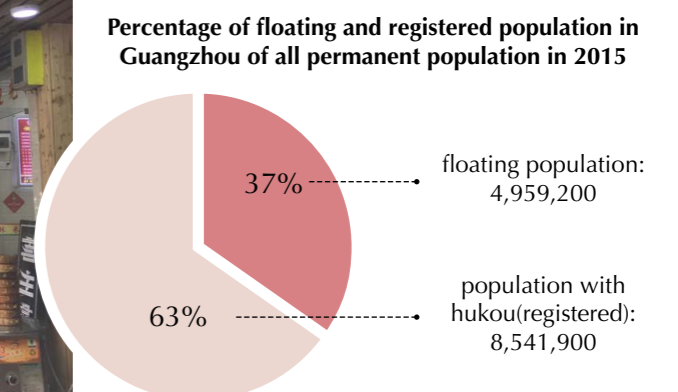


fig10. Source: Guangzhou Bureau of Statistics

1.3 Chinese real estate market and housing

Another unavoidable phenomenon is the red-hot real estate market and frighteningly high housing price in big cities, especially the first-tier cities. After the housing reform in 1998, real estate in China has been explosively developing and become one of the main industries that are driving Chinese economy. Companying with the flourishing real estate market, the climbing housing price and the homogeneous urban image have been largely criticized. The overheated real estate market is acting extremely powerful in urban development projects, seeking for exorbitant profits, regardless of the affordability of home buyers.

The state has been carrying on several waves of measures to curb the overheated real estate market and overpriced housing price, however, they are not yet very effective. So long as the local government still relies on land economy, the situation cannot be changed overnight. According to Numbeo data from 2016 mid-year, 5 cities in China ranked in top 10 high price-to-income price ratio (figure). This data indicated the affordability level is the lowest globally. In the index price-to-rent ratio in city centers, 5 Chinese cities (Shenzhen, Hongkong, Shanghai, Guangzhou) ranked top 10, that means in these cities it is better to rent a house or apartment rather than buy one (table 1). It is noticeable that majority of house renters are young starters and migrant workers. The media called those people in debt "Mortgage slaves" (fig 11), and those low-income young graduates who live together in a small room "ant tribe". The pressure

of living and the pursuit of a fortune have squeezed them to lower their living quality. Even for people with a good salary, without owning a property and a hukou (residential permit), they cannot take root in big cities.

Correlatively, another figure showed that the average living area in city had reached the standard level as in developed countries, which is 32m² (National Statistics Bureau, 2012). However, the reality is not revealed in this number. One middle-class family buy 2 to 3 properties for living and investment purpose. Young starters have to take the loan to buy an apartment. For the low-income group, it is even harder for them to afford a decent apartment in the city. The hope for a better living condition is universal, however, the demand is far from satisfactory for young people and low-income people struggling in big cities. The speculation in the housing market has driven the price even higher and decreased the affordability of the group with real demands.

China Daily reported that, according to a survey of 2000 people who were either currently or had previously worked or studied in first-tier cities about their plans, more than 70% had left or were planning to move away because of high cost of living (46.9%), poor air environment, hard work, difficulty getting a hukou, traffic congestion and other reasons (chinadaily.com.cn, 11, April 2017). However, the population of Guangzhou has increased by over half a million in 2016, ranking the top of population influx in China. Despite the high pressure of living in big

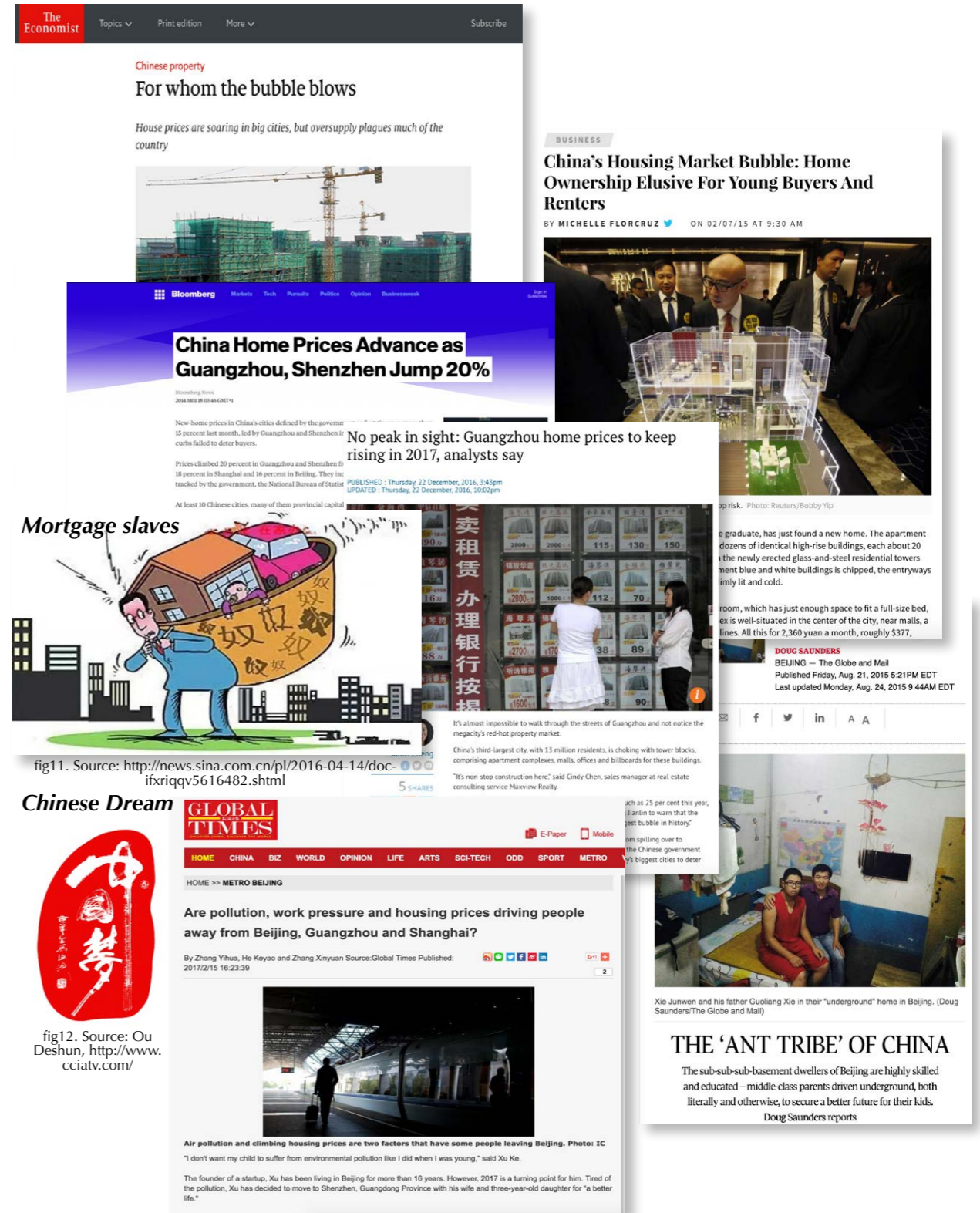


fig11. Source: <http://news.sina.com.cn/pl/2016-04-14/doc-ixriqqv5616482.shtml>

fig12. Source: Ou Deshun, <http://www.cciatv.com/>

cities, they are still highly attractive options for young starters.

Looking from the national strategy perspective, Chinese President Xi Jinping came up with the dream of the Chinese nation's rejuvenation in 2012 and said: "The Chinese dream is a dream of national strength prosperity and people's happiness." (Xi, 2012). For each individual, the happiness can be understood as the wish to have better education, more stable jobs, more income, greater social security, better medical and healthcare, improved housing conditions and a better environment. Among these, the capability of living decently is fundamental. Chinese people attach great importance to family, and we always hear the Chinese idiom "settle down and start one's career" quoted to describe the long perceived value by Chinese people. From one aspect, this reveals the thriving demand for housing in China at present. From another aspect, this demand has pushed the housing price to an excessively high level to a certain extent.

This partly explains that although many young people have realized that renting an apartment might be more economical than buying a property, they still prefer to buy one owing to the unstable rental policies. Besides, the low-income groups are even further from owning a property. The high proportion of housing expenditures in total income have determined that lower income people are more sensitive to the housing and renting price, which influence the living quality of these people.

Spontaneously, the pursuing of so-called luxury and modernity that is highly promoted have led the residential building design to a strange hybrid of Western and Chinese style, which can hardly be perceived as aesthetically beautiful. The consequences are revealed in the urban landscape that is reshaped by real estate development—a dull and repetitive urban image lack of identity. Meanwhile, security and privatization are also appreciated selling point of new residential courts advertised by real estate companies. All the phenomena and particular contexts have pushed Chinese real estate market into a complex dilemma for the state as well as the people.

A famous Chinese real estate magnate REN Zhiqiang said that Chinese dream cannot be achieved without housing market (Ren, 2013). He represented the interest of the real estate market, while reflecting the current conflict between the market and home buyers because of the unaffordable high price. Although the housing price is determined by the status of demand and supply, it should fit the housing affordability of households in the long term (Xiang, Long, 2007). The growing and huge demand of is not yet satisfied at present, especially for young people and middle to low-income people.

Property Prices Index of 2016 Mid-Year

Rank	City	Price To Income Ratio	Gross Rental Yield City Centre	Gross Rental Yield Outside of Centre	Price To Rent Ratio City Centre	Price To Rent Ratio Outside Of City Centre	Mortgage As A Percentage Of Income	Affordability Index
1	Shenzhen, China	38.36	1.54	1.56	64.83	64.12	313.71	0.32
2	Mumbai, India	37.67	1.84	2.60	54.20	38.48	447.08	0.22
3	Hanoi, Vietnam	35.86	3.72	5.70	26.91	17.54	377.99	0.26
4	Hong Kong, Hong Kong	34.95	2.21	2.21	45.25	45.29	218.31	0.46
5	Beijing, China	33.32	2.65	2.84	37.78	35.21	273.58	0.37
6	Shanghai, China	30.91	2.16	2.44	46.26	40.94	249.78	0.40
7	London, United Kingdom	30.88	2.25	3.03	44.53	33.00	213.89	0.47
8	Lviv, Ukraine	28.10	5.19	5.66	19.29	17.67	658.92	0.15
9	Kiev, Ukraine	25.96	5.02	5.73	19.93	17.44	626.54	0.16
10	Guangzhou, China	25.85	2.22	2.60	44.95	38.52	221.20	0.45
11	Tokyo, Japan	23.65	1.68	1.98	59.35	50.50	137.80	0.73
12	Ho Chi Minh City, Vietnam	23.62	5.91	7.10	16.93	14.09	260.09	0.38
13	Odesa, Ukraine	23.09	4.56	4.99	21.94	20.02	413.45	0.24
14	Kharkiv, Ukraine	22.92	6.67	6.40	15.00	15.62	554.91	0.18
15	Moscow, Russia	21.35	4.21	4.60	23.78	21.73	307.76	0.32

table1. Property Prices Index of 2016 Mid-Year, Source: <https://www.numbeo.com/property-investment/rankings.jsp?title=2016-mid>

In conclusion, the research was conducted in the Guangzhou case, starting from the commonly seen Danwei housing and people living, working in the surrounding areas. How to understand these phenomena as a whole in the fast developing Chinese context? What is the future of the Danwei housing? How can we live better, decent and affordable?



fig13. parking mess in Danwei housing, Source: author

CHAPTER 2

Problem definition

2.1 Residential environment deteriorating

Most people have a collective memory of living in the Danwei housing, the residential housing system that was adopted and implemented in all Chinese cities until the housing reform—a new era of commodity housing system from early 1998. The core of reform is the change of ownership from collective owned housing to private housing. At the socialistic time, Danwei was the basic unit of the society, where people live and work closely, had an intimate social bond and relatively average income. The environment was maintained by all residents in the residential court. Famous Chinese sociologist FEI Xiaotong pictured Chinese traditional society as a face-to-face, or an acquaintance society, which is a society with no strangers (Fei, 1947). The intimacy was derived from a long-time, all aspects, and frequent contact between people. Danwei society at that time is a typical acquainted and relatively closed society. Everyone knows each other in a Danwei, thus cultivated a mutual trust among residents. Putnam (in Svendsen 2010) described social capital as outward-looking open networks that encompass people across diverse “social cleavages”. In contrast, “bonding” social capital as consisting of inward-looking networks that tend to reinforce exclusive identities and homogeneous groups (A. Friedman, 2014). The maintenance mechanism by all residents reflected perfectly the close bonding social capital in a Danwei court, which is inward and intimate.

We live among strangers, among whom we are strangers ourselves (Z. Bauman,

2001). Modern society is a stranger society. This transformation is closely linked to modernization. The ideology of collective economy and Danwei community were gradually taken place by commercialization and individualization. Some people moved out from Danwei housing to new commodity residential courts. The stable and closed community transformed with residents come and go, which formed a highly mixed residential space. In new commodity residential courts, real estate company arranges property management company to manage the security and daily maintenance. However, Danwei courts do not have this management scheme. Strictly speaking, the public space is collectively owned and should be maintained by all residents. In a residential court with complex local residents and tenants, self-organized maintenance is hard to realize.

Moreover, the ambiguous attitude of the redevelopment of old residential areas from the government has exerted much pressure on people living in Danwei neighborhood. They are either looking forward to housing removal and compensation to buy a new apartment or worried that someday they will have to leave the neighborhood they love even if they don't know when. In this context, it is not hard to understand the lack of motivation to maintain the residential environment in Danwei housing.

Correspondingly, top-down maintenance by the government is also hard to be carried out. No matter it is redevelopment

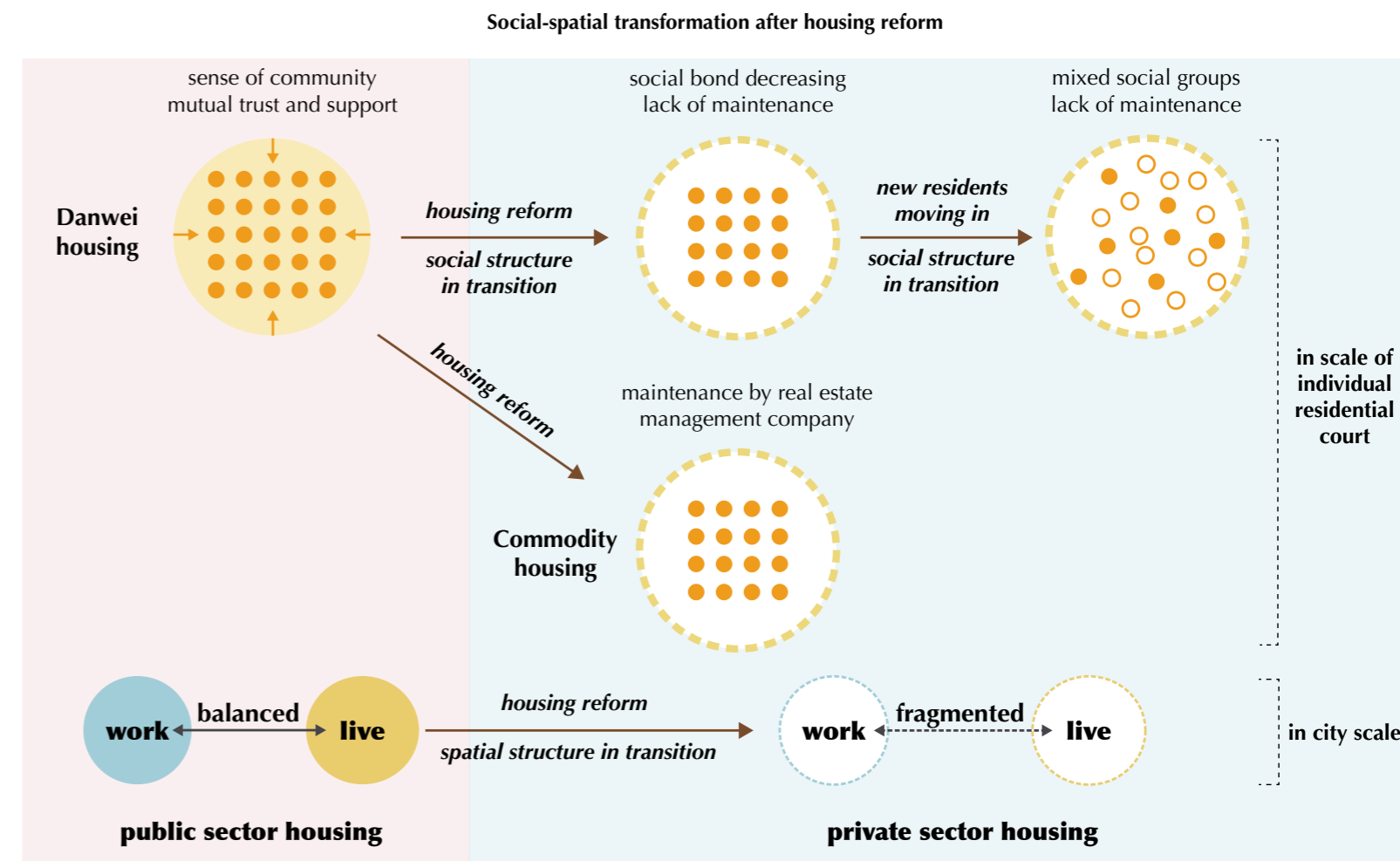


fig14. Social-spatial transformation after housing reform, Source: author

projects or maintenance of pavement and sewerage system, the complex ownership rights condition has resulted in the arduous negotiation of any intervention, therefore increasing the transaction costs in urban renewal(Zhao, 2014).

Moreover, Danwei housing is also naturally aging in its lifespan. Lack of maintenance has worsened the condition to a certain extent.

In conclusion, the changing social structure, urban renewal pressure, complex ownership rights and building lifespan have caused the gradually deteriorating residential environment in Danwei housing. An essential consequence of the above is the mismatch and conflicts of different residents' spatial demand. For example, the growing number of elderly people is in great demand of installing elevators, while practically the agreement is hard to make among residents having different concerns and interests. The installing

fee is also a big issue in the argument. Casual parking and enclosing public space have reflected the invisible spatial conflicts among residents. In maintaining the public environment in Danwei housing, residents might not want free-riders to take advantages if they made efforts in it. The prisoner's dilemma has trapped the Danwei housing in a vicious circle.



fig15. public green space filled with old furniture and random parking
Source: author



fig16. public space blocked with construction waste
Source: author

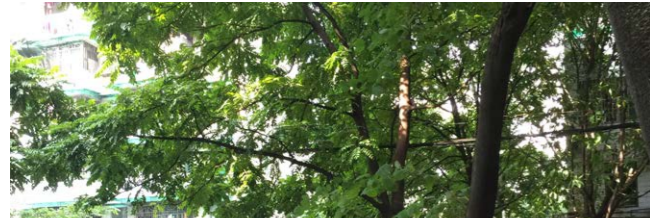
2.2 Diversified social groups and demands

With the deepening of economic and institutional reform, social differentiation has been intensified. We have witnessed the society towards diversification and openness over 30 years of reform, while one of the most distinctive consequences is the social differentiation, due to which hierarchical income, social inequality, and social segregation have been gradually worsening in Chinese society(Zhu, Chen, 2008). The segregation has produced a force of scattering, which leads to urban expansion and internal restructuring(Zhang, 2001). People of similar income and classes would be more likely to live in the same residential courts. Correspondingly, in Danwei housing, the social structure is much more complex. Elderly groups, core families and young graduates share same residential environment. To a certain extent, a mixed social group is appreciated in a livable city. Compared with new residential courts which are more monofunctional and enclosed, the Danwei housing area has cultivated better eye-level scale experience, walkable streets, food markets and plentiful small stores and restaurants. The vitality it creates is irreplaceable in our city.

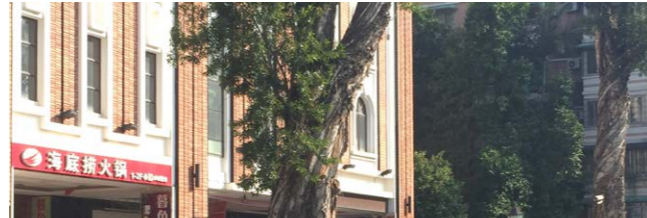
Despite for the convenience and vitality, the lifestyle of different age groups and classes have become increasingly different in radical social changes, which reflected on their distinctive demands in the urban environment and especially residential environment. Local residents are aging, having children or grandchildren. They need space for parking and kids to play. Elderly people would enjoy

more open space for resting and socializing. Young people prefer convenient commuting more than any other demands. Small children would enjoy safer open space and sports facility that they could play with their friends. At present, Danwei housing is not capable of satisfying such diversified demands, spatially and socially. Conflicts have shown in the use of space in residential areas and public areas, while meanwhile, urban vitality and local identity are cultivated. Therefore, questions are aroused on how to improve the situation in the context that this residential environment is valued and treasured.

Elderly people



taking rest and socializing in residential courts



supervising grandchildren in public square



fig17. Source: author

fig18. Source: author

the pattern of daily activities

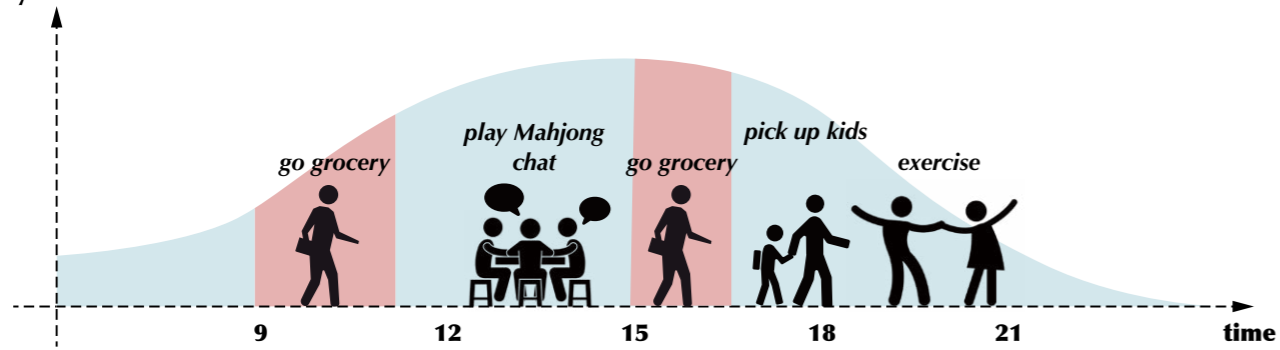


fig19. the daily pattern of elderly people, Source: author

Young people



commuting by metro



fig20. Source: <http://gz.leju.com/news/2016-12-22/07046217474663271154151.shtml>



eating out with friends



fig21. Source: <http://www.starlight-walk.com/>

the pattern of daily activities

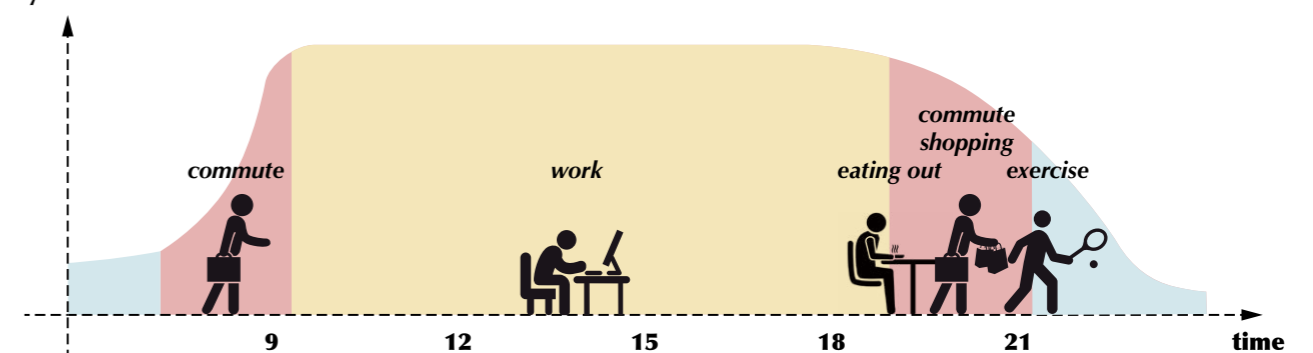


fig22. the daily pattern of young people, Source: author

2.3 Intensifying urban renewal pressure

Urbanization and economic development are the essential assignments for the state to achieve modernization and prosperity. During the process of urbanization, urban planning and governance by different level of government have been the most powerful force. Theoretically, the spatial structure of urban built environment is shaped by three forces “private”, “public” and “civil society” together, while practically the civil society is playing a much weaker role in urban development decision making than the other two forces. Since the economic reform, land-economy has been the main source of fiscal revenue, which is represented in a way that market is holding too much power over urban development. The government and private sectors are working in close cooperation, even if their interests and goals are different, the implementation route is relatively identical. In a top-down governing system, the process of public participation encompasses many operational difficulties, therefore individual residents’ interests can hardly be conveyed in urban development.

In this context, the *collaboration* of local government and market have triggered many social problems in the last decade. One of the most discussed hot issues is the radical housing removal and wholesale redevelopment named as “拆迁 Chaiqian”. It is actually a name gained from the public to describe the Chinese mode of urban renewal. In the process of housing removal, the social force is nearly ignored. In these urban renewal projects, the market and local government had concordant interests. The

chase for efficiency, achievement and profits ignored the interests of local residents and in some sense sacrificed the social justice. Although the principle of urban renewal is to improve living quality, the essence is to target the economic value and beautification of city image. New commodity housing, fancy shopping complex and high-end office buildings were built in cost of displacing initial residents in designated urban renewal areas, mostly in strategic and central locations in the city center. As a consequence, a diversity of urban identity, social network and local economy that was embedded in these areas disappeared.

Taking Guangzhou as an example, in 2006 the “中调 Zhongdiao Strategy”(concentrate on developing central districts) was released, which directly influenced the developing principle of Guangzhou central districts. With the coming Asian Games in 2010, improving the urban image and raising land use efficiency in central Guangzhou became the essential assignment. The Publishing of *Suggestions on Promoting Sanjiu Gaizao*(urban redevelopment of old towns, old villages and old factories)in 2010 was one of the pioneer actions in Chinese cities focusing on urban renewal. Since then, over a decade of urban renewal has begun. The famous cases of Liede village and Enning Road were once heated discussed topic because of the huge social, cultural and economic conflicts behind it. Liede Village is the representative of urban villages in city center. Villagers have all become millionaires overnight, and the tenants had

History of urban renewal in Guangzhou

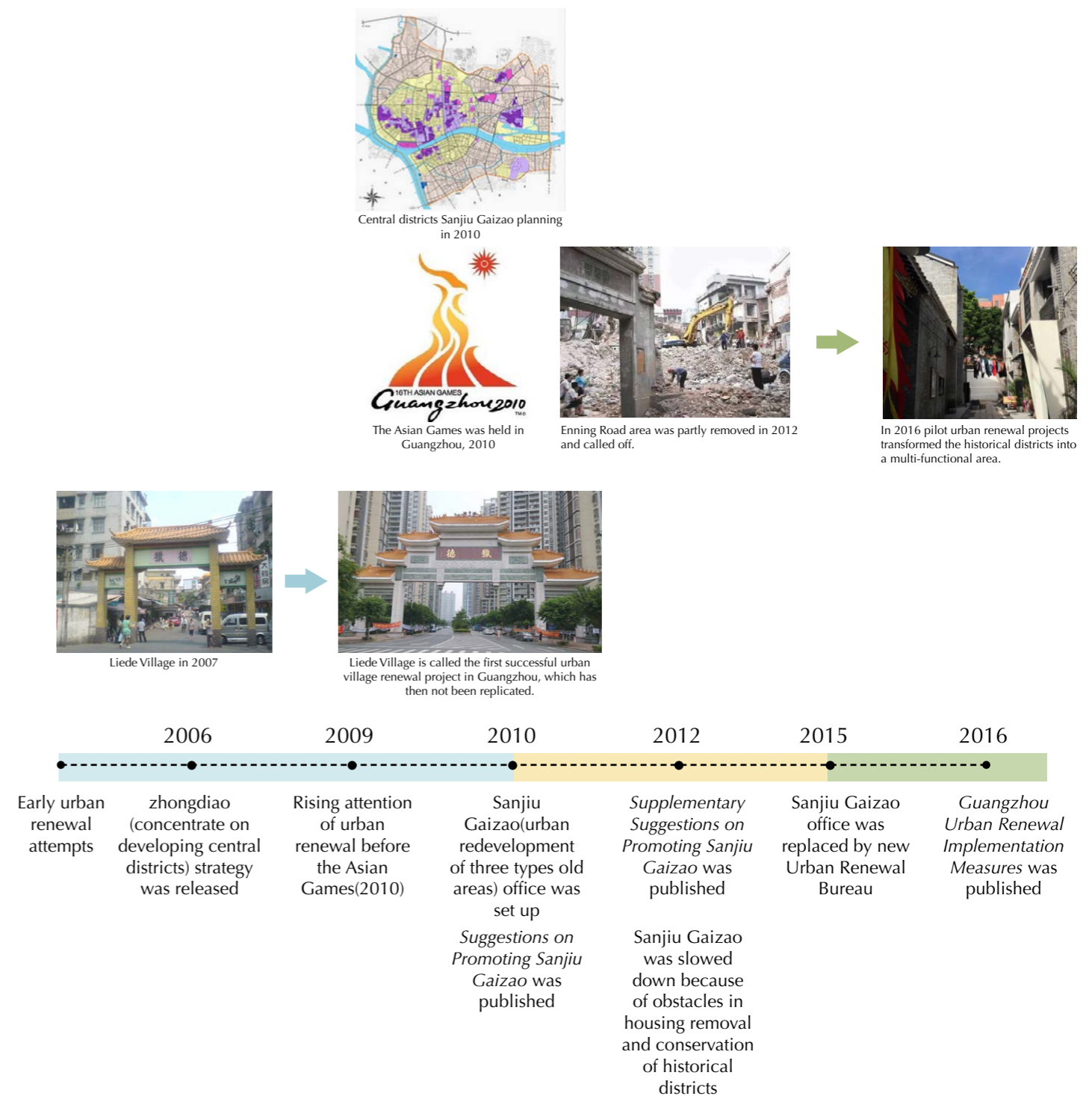


fig23. History of urban renewal in Guangzhou, Source: author

always been out of the conversation during the whole time. In Enning Road, the historical districts were once partly removed in 2010, and fiercely objected by the public. The removal was stopped then and was renewed by famous real estate company Vanke in 2016 as a pilot project of historical districts conservation. However, for numerous renewal projects in Danwei housing, it is even impossible to find a well-known case. They are not on the table of discussion because they are not perceived as either a conflicting area, nor an area of cultural or historical value. From local stakeholders to ordinary residents, the government, the media, and academics of different realms, urban renewal has then become the prolonged subject. An essential reason is the unbelievable speed of implementation, which has caused inevitable radical gentrification and social segregation.

To conclude, the urban renewal now in Chinese cities is a market-driven process based on the economic life of buildings. A plot has its opportunity cost. Only if the buildings on it were demolished, could the value be achieved.

The condition for residential courts built from the 1980s to 1990s is slightly different. In the potential urban renewal areas, Danwei housing is situated in an ambiguous position. There is no clear message from the government to confirm which areas are going to be redeveloped or not, either there are no assessment criteria on it. Only the urban renewal pressure is clear owing to the central location of most Danwei housing.

And even if now the government is investing more in the old neighborhood, the Danwei housing has to stand in line after more urgent areas in the historical center. This means the current deteriorating condition will not be alleviated in a short time. Most residents in Danwei housing believe that someday the place they live will be redeveloped even if they do not know an exact date. It is true that a good location has determined the value of the plot and possibilities of being redeveloped. The market is naturally benefit-driven. However, this also depends on how much profits the developers can gain. In fact, to redevelop a Danwei housing takes a lot of effort to negotiate with property owners and the developer will have to pay an incredible amount of compensation fee, which is nearly infeasible in most cases, unless they can ensure that the new development can earn a great profit. From another angle, in order to guarantee it, developers will certainly increase the density and plot ratio to realize their expectation. As a result, intensive gentrification, high housing price and restructuring of social structure are foreseeable.

Meanwhile, for the local government, urban renewal is more important than in the past, which mainly focused on improving the urban image and stimulating urban development. Correspondingly, urban planning was made as a guide to motivate economic growth and urban expansion, while other issues such as environment, social and livability are of less concern. The constantly expanding urban built-up area has



fig24. rendering image of the south section of Guangzhou new central axis
Source: <http://www.gznews.gov.cn>, 2010



fig25. housing removal in Guangzhou
Source: <http://storage.slide.news.sina.com.cn/slidenews>, 2015



fig26. Guangzhou new central axis
Source: <http://www.cantontower.com>

reached a limit, urban renewal is now the main strategy that the state is promoting to utilize the land resources in a more efficient and sustainable way. The government is expecting more, to treat urban renewal as an exceptional opportunity to target multiple goals, improving living quality, leaving space to the natural environment and motivating the industrial upgrade. Therefore, for Danwei housing, on the one hand, it might be removed and redeveloped into completely new high-end areas, while on the other hand, if conceived as potential affordable housing and part of the history of the city, the actions might be completely different.

2.4 Missing housing options

During the big wave of urban renewal and overheated real estate market, what we have lost is a diversity of housing options. New commodity housing is built in homogeneous typology, mono-functional, modern, enclosed and pricey. It seems that the contemporary city only welcomes a simple type of housing typology. The other answers are unappreciated and gradually removed from the picture. However, in reality, the demands for diversified residential environment come along with the diversified social structure. There is no doubt that the demand for housing is diversified. American designer Daniel Parolek raised a concept of “missing middle housing”(fig29), referring to “...a range of multi-unit or clustered housing types compatible in scale with single-family homes that help meet the growing demand for walkable urban living” that is missing from the housing stock. In China, the “missing middle” can represent the housing typology that is not promoted by the real estate market, but still in huge demand by the public(fig30).

On typical real estate advertisements all over Chinese cities, most used keywords are modern, luxury and comfort. Preference of residential environment also changes with the rise of new commodity housing courts. Strict housing management, larger dwelling size, parking lots and more public space are the main reasons why many families move out from Danwei housing to new residential courts. It also means the lift of living quality for one family. Interestingly, the Danwei housing has then undertaken new responsibilities, as one of the most

important housing stock in the secondhand housing market and rental market. It can be understood as a change of target group from core family 20 years ago to elderly people and young starters at present.

In the context that affordable housing is in great demand, the Danwei housing is once again playing an important role in alleviating the affordable housing shortage. In the first place, an attractive city should be inclusive, where people of different social classes and income could find a place to live, which means the city should provide diversified housing options for them, at least include these options in the city. In reality, the action of rapid housing removal and redevelopment are just shifting the problem from one place to another. We should leave some space and time for the city to take smarter decisions in consideration of the interests of more residents. No matter what interventions to take, the goal of housing should always be improving living quality and satisfying more demands.

Typical typology of commodity housing



fig27. Zhujiang Dihao residential court in Guangzhou
Source: <http://img8.zol.com.cn/bbs>

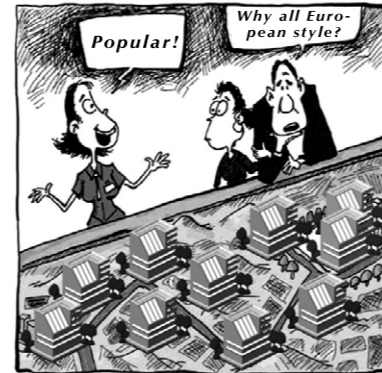


fig28. caricature of homogeneous commodity housing
Source: translated from work of Qi Shimin, www.shenyang.com

"Missing middle housing" in the USA



fig29. Daniel Parolek's illustration of "Missing middle housing"
Source: <http://missingmiddlehousing.com>

Narrowing housing options in Guangzhou

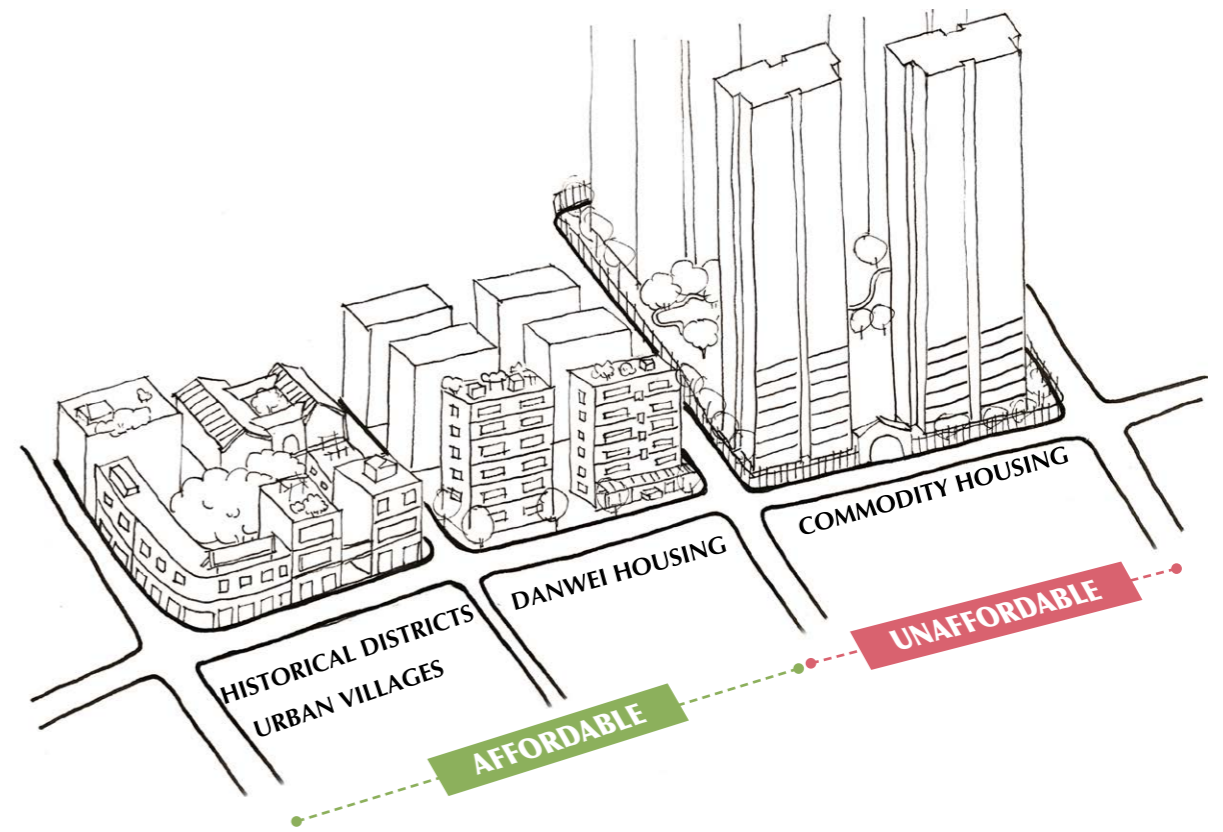


fig30. Narrowing housing options in Guangzhou, Source: author

2.5 Problem statement and research questions

Problem statement:

The old residential courts from the 1980s to 1990s comprised a large proportion of housing stock in Chinese cities. The most significant feature of housing from the 1980s to 1990s is the typical 8-storeys slab-type typology. During this time, most of them were built by Danwei as employee welfare and the rest were early commodity housing. After the introduction of housing commercialization mechanism, commodity housing replaced Danwei housing as the housing supply.

Currently, lack of maintenance has led to environment deteriorating in most Danwei housing. Meanwhile, central location and affordable price have attracted new social groups, mostly young starters, to move into Danwei housing, which has brought in new lifestyle and new spatial demands into these old residential areas. Conversely, the worsening physical environment and high land value of Danwei housing have been argued as reasons to be redeveloped in the rapid urban renewal in the last decade. The result is cities with homogeneous urban tissues and modern urban images, in which residents' diversified demands are ignored from the top-down planning vision.

Aim of the project:

Improve the living quality of old residential courts from 1980s to 1990s for diversified residents living and working in surrounding areas by urban renewal strategies in the rapid urban development context.

Research question:

How can the old residential courts from the 1980s to 1990s in Guangzhou respond to diversified demands in urban renewal?

Sub research questions:

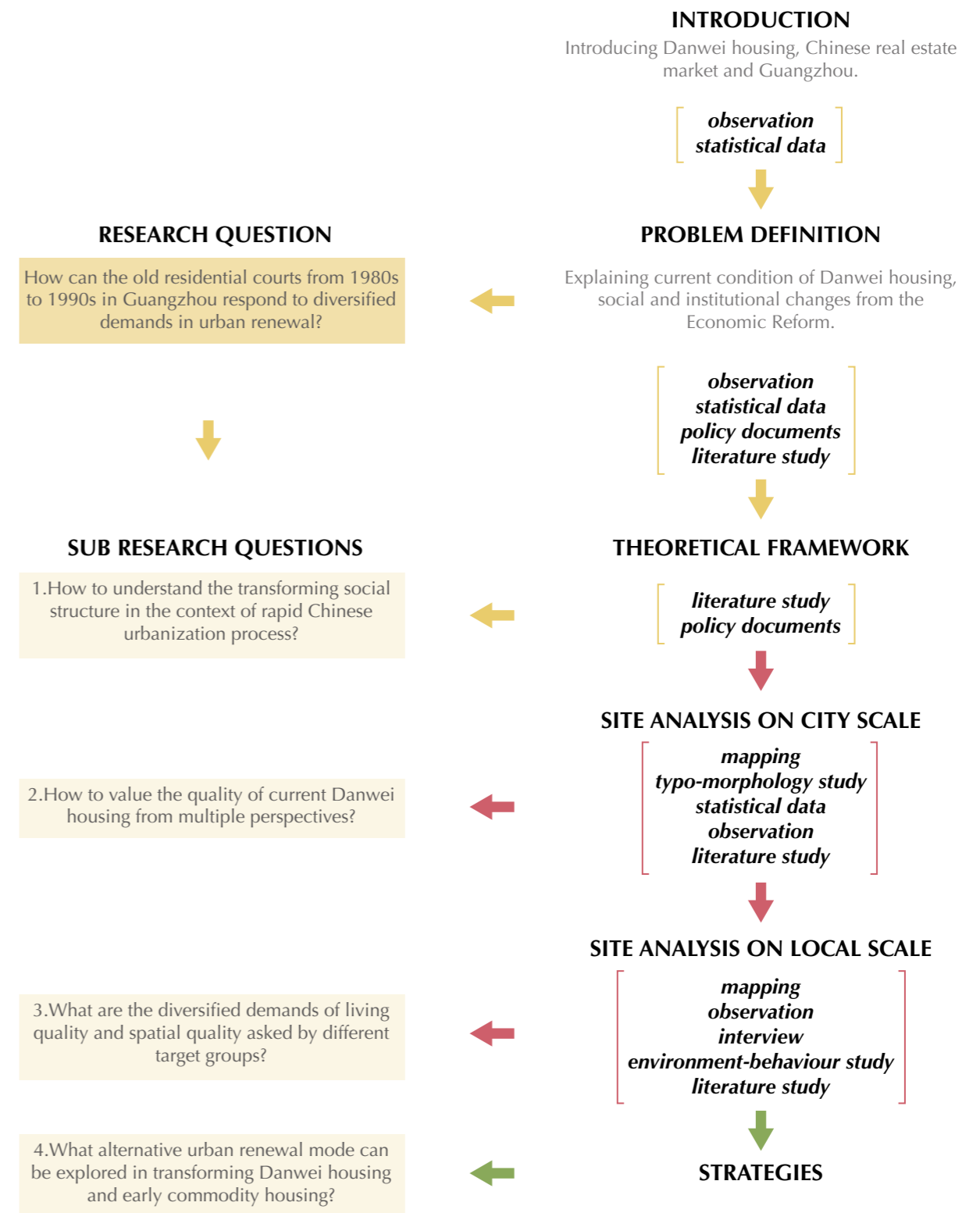
-How to understand the transforming social structure in the context of rapid Chinese urbanization process?

-How to value the quality of current Danwei housing from multiple perspectives?

-What are the diversified demands of living quality and spatial quality asked by different target groups?

-What alternative urban renewal modes can be explored in transforming Danwei housing and early commodity housing?

2.6 Methodology



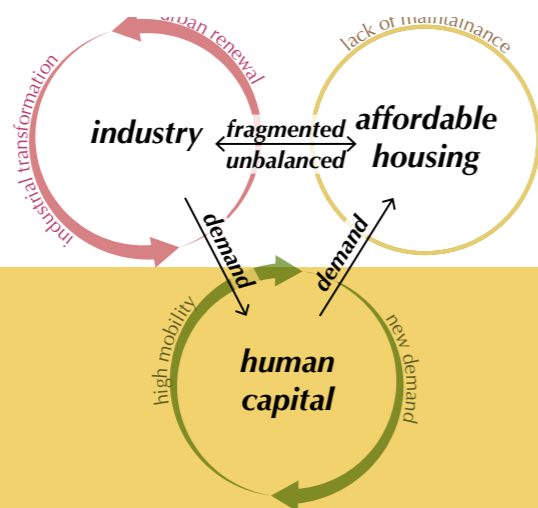


fig31. Industry-housing-human capital conceptual model, Source: author

CHAPTER 3

Theoretical framework

3.1 Chinese modernization and urban planning

Chinese society has been changing radically since the 19th century. Modernization was the core concept that was brought to China as a representative of westernization. From a historical point of view, modernization is about urbanization and industrialization, which has summarized exactly the history of China's urban restructuring from last century. The definition of modernization refers to a model of progressive transition from a "traditional" to a "modern" society, which is characterized as western society. Therefore, as Wu and J.C Ma (2005) stated, the concept of "...'transitional cities' is meaningful because the processes of change never stop... and because the pre-existing historical, institutional and local contexts continuing interacting with the growing ideological thinking of 'neoliberalism' brought about by economic globalization that generates hybrid urban processes and multiple spatial forms'. Although the concept is about westernization, Chinese "modernization" is not simply a one-way process and imposition from outside (Hui, 2013). Rather, many transition processes are indigenously driven (Wu and J.C Ma, 2005). Therefore the institutional and local context, which is the Chinese character is important in defining the Chinese modernization path.

Reviewing the history of Chinese city planning and construction, we know that the spatial manifestation of contemporary Chinese cities have their root in the traditional city making ideology (such as Fengshui) as well as modernist planning concept. The introduction of planning

concept since last century has perfectly reflected the modernization idea of "scientific" analysis and "administrative efficiency" (Wu 2015). Through constant urban renewal and expansion towards modernization, contemporary cities are built right upon traditional cities. This is manifested in the transformation from traditional city to socialistic city, and contemporary city.

What is operating through urban planning and urban development is the central-local administrative hierarchy. As a tool for the government to balance and distribute resources in a sustainable way, urban planning system follows similar top-down hierarchy (see). After economic reforms, the central government decided to motivate economic development and urbanization whatever it took. Up till now, we have witnessed rapid urbanization and economic growth, which is partly driven by achievement competition among local government. Overall, pursuing of modernization in a fast and efficient way has led to the spatial configuration now. It can be concluded as mixed land use, compact urban morphology in the inner city, which leads to decreasing living quality.

The fundamental element of a city is the residential space as shown in the figures. Comparing three major periods of Chinese city, the traditional city, planned socialistic city and contemporary modern city, we will identify the influence of traditional city making ideology easily, as well as the modernization ideology. Traditional cities

URBAN PLANNING SYSTEM

Urban master plan

Detailed development control plan

Detailed construction plan

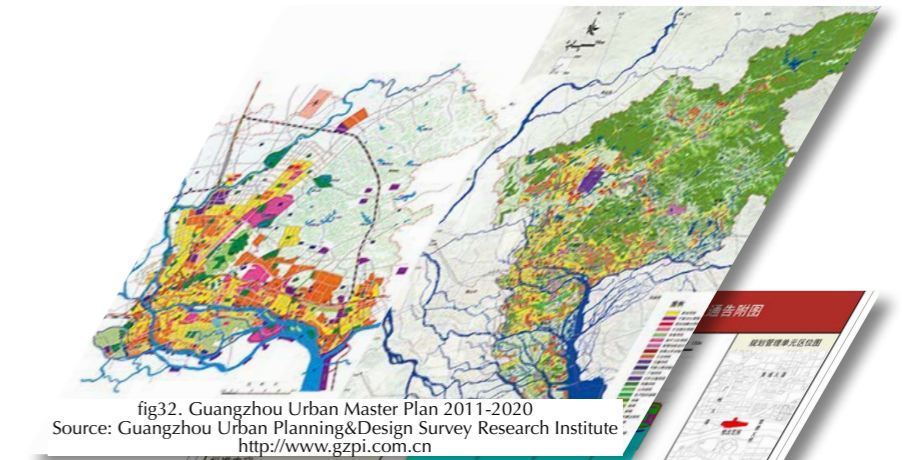


fig32. Guangzhou Urban Master Plan 2011-2020
Source: Guangzhou Urban Planning&Design Survey Research Institute .
<http://www.gzpi.com.cn>

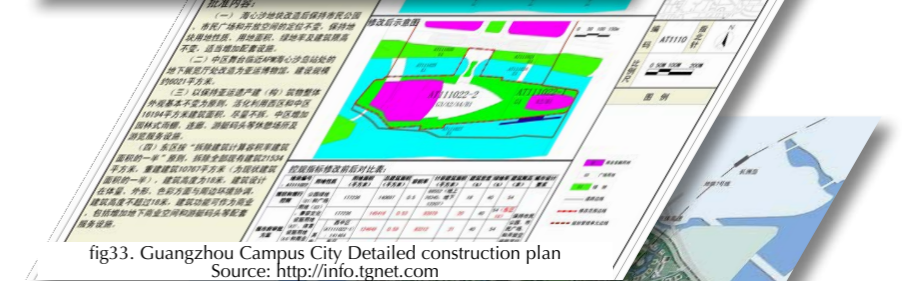


fig33. Guangzhou Campus City Detailed construction plan
Source: <http://info.tgnet.com>



fig34. Haixingsha Detailed development control plan
Source: Guangzhou government <http://www.gz.gov.cn>



Homogeneous urban image
fig35. Guangzhou central axis
Source: www.nipic.com



Lively urban life and local industry
fig36. lively life in Guangzhou
Source: author

Actors



Local government



Urban planners



Developers/investors



Local residents



Local economy

are strictly planned and constructed as the emperor's palace in the strategic location surrounded by grid roads and walled residential buildings. It shows the absolute order in space. The planned socialistic city is formed based on Danwei units, which are gated residential area with amenities inside or nearby. After the Second World War, the housing shortage urged countries to house the booming population in a short time, which was the time that modernization had a great impact in restructuring traditional cities towards modernity. The contemporary city has been gradually formed after the Economic Reforms. Commodity housing, as the spatial representation of capital, began replacing the previously dominant residential space. New residential space was created, differentiated from the old, and fragmented into the fabric of the urban structure (Wu and J.C Ma, 2005).

The modernization idea has been deeply embedded in urban development. Criticism from the public and reflection from the state focused on the homogeneity urban landscape of contemporary Chinese cities. We see rounds of grand master plans made to depict future as the modern metropolis. What should be critically rethought is the practices in Chinese urban renewal to sweep away the old urban tissues, and replace them with the "new" one, which refers to the commodity housing and big complex that are designed regardless of the initial urban form around it. Historical buildings, old residential areas were demolished in order to build "modern" buildings despite

the local residents, history and culture. It can be understood as ideology following modernization. However, the "new" buildings are actually following the same principles of modernity and functionality. The history of urbanization is telling us the transformation toward modernity can never be completed and satisfied. But a one-way ideology marching to a "perfect answer" and replace the previous one turns out to be only temporary remedy. The history, emerging new industries, urban vitality and housing options that we have lost and might be continuously losing in the process need to be treasured more in completely new ideas for urban development.

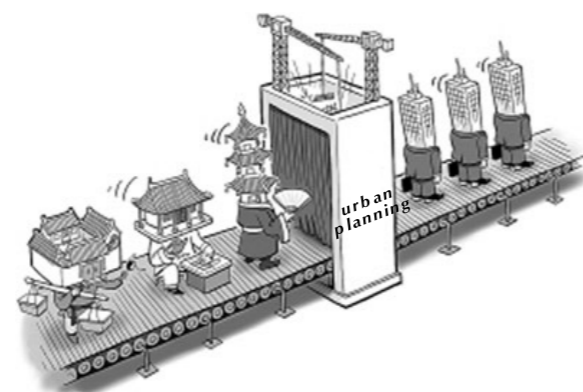


fig37. caricature of Chinese urban planning creating homogeneous "modern" urban image
Source: People Daily, 19.06.2014

3.2 Industrial transformation and rising of new social groups

How people work and live determines their lifestyle. The rising of new social groups are closely linked to the social changes overtime and ongoing industrial transformation. The Danwei system and Danwei housing also represents the relationship of work and live. Currently, a new relationship was formed, in which the industrial transformation is an essential driving force.

Responding to the current social and environment problems, the central government first raised the concept of "New Urbanization" in the 16th National People's Congress, accompanied with the "New Industrialization" strategy, which aimed at urban-rural integration by industry convergence (Shan and Huang, 2013). The concept was well-known by the public since the 18th National People's Congress. The Congress framed "New Urbanization" as "a process integrating ecological civilization, which is compact, smart, green, low-carbon". The biggest transition of the interpretation is the emphasis on sustainability in urban development and industrial transformation (table 2). Industrial development is the backbone of economic prosperity and social stability. Thus, industrial transformation and upgrade have been key issues for the government global-wide to keep economic growth and competitiveness.

China has long been called the "World Factory", and Pearl River Delta district has epitomized the phenomenon, which was partially built on the labor-intensive industries. Nowadays, not only

in the manufacturing industry, but also in agriculture and service industry, new techniques and cross-industry cooperation have been changing the traditional industry sectors. Challenges and opportunities are right upon them in the new economic and industrial norm. For instance, e-commerce has become a bridge among all sectors of industries, which is assisting a higher level of integration, domestically and continentally. Specialized industry chain has been lengthened, integrating new industries and service. These are only part of the story. Jeremy Rifkin said, "...the great economic transformations in history occur when new communication technology converges with new energy systems. (J. Rifkin, 2011)" From a certain extent, the achievement and problems we have witnessed in the city are the results of the industrial development path that we have taken.

Meanwhile, what comes along with the industrial transformation is the emerging new social group, that are working in new industries, or having embraced new lifestyle. One of the representatives of people working in new patterns is the creative class, which is based fundamentally on human intelligence, knowledge and creativity (R. Florida, 2004). Richard Florida framed their values in four main aspects, individuality, meritocracy, diversity and openness. In a certain sense, these values are the values increasingly obtained among young people of this generation, which reflects the ideological and social transformation presented in contemporary Chinese society. "Places

Industrial upgrading strategy and implementation guidelines of New Urbanization

Core strategy	Implementation guidelines
Overall coordination strategy	Equalization of urban-rural public services; rural migrants citizenization
	Differentiation of urban-rural and regional industries
Industrial upgrading strategy	Low-emission, low-pollution and low energy-consuming in agriculture, industry and modern service
	Upgrade of agriculture modernization, industry agglomeration and modern service scaling
	Agriculture scaling up, industries agglomerated in industrial park; modern service agglomerated in all levels of town center.
Ecological civilization strategy	Motivate green architecture, community, streets and towns
	Motivate resource conservation by exploiting new energy sources and materials
	Maintain ecological structure by raising admittance threshold, supervisory institution
Agglomeration and compact strategy	Agglomeration of industry and towns
	Achieving polycentric, group and network mode of land use by TOD

table2. Industrial upgrading strategy and implementation guidelines of New Urbanization
Source: adapted and translated from Shan, Huang, 2013

that are open and tolerant have an edge in attracting different kinds of people and generating new ideas.(R. Florida, 2004)” This explained why big metropolises are still attracting migrants including young graduates, skilled and unskilled workers to live there besides the existing amenities, which is always important elements for an attractive city. These cities have a huge accumulation of human capital from different industrial sectors that support mutual knowledge learning and information exchange. There is a saying that in any cafe or restaurant in Guangzhou and Shenzhen, you can hear people talking about new business opportunities and people selling their ideas to investors to found their own businesses. Besides, people working in traditional manufacturing and service industries are also experiencing new lifestyle because of new social and living pattern. Working place can be mobile, and they can start up their own businesses easily instead of working in big companies. Storper and Scott(2009) stated in their article that the discussion on urban growth and dependent elements have become a chicken and egg question. “...It is production and jobs that above all driven urban prosperity, then it follows that the supply of social, material and economic amenities will be very largely endogenous to the urban growth process rather than an exogenous driver(M. Storper, A J. Scott, 2009)”. The ultimate engine of urban growth is prosperous industries, which should be healthy and self-updating.

Thanks to the information-based society, the spatial form of the new industries are

becoming lighter, smarter, greener, and more flexible. And we see first-tier cities are leading the trend in the big wave of industrial transformation. For example, A takeaway restaurant can open in a residential block, which relies on the people working and studying in the surrounding area. A fashion design studio can be sited in a vacant factory, branding themselves online, even to the international platform. A clothes manufacturing factory may cooperate with the fashion design studio, while their employees would possibly order their lunch from the takeaway restaurant. The limit of workplace has been broken. Many small businesses would choose their working space where they can get in touch with related industry chain at an affordable price. To cut the cost, idle factories, residential buildings are all possible options. In the local scale, individual businesses can vary from a big company to small street vendors, which seemingly have no connection with each other, while all together they have formed an invisible economic network in a tangible space. We can conclude that behind the scene is a complex cross-industrial economic network, where economic activities of different sectors are collaborating with each other, driving bottom-up industrial transformation, contributing to the urban prosperity and vitality. The real attractiveness of a city has reflected on the human capital it has accumulated.

Therefore, we should notice that these industries are sensitive to rent price and vulnerable to institution changes. Decisions



fig38. clothes manufacturing factory
Source: <http://www.denengmall.com/Article/5bm%2F5bee6Z%2Bp54m15pyN6KOF5Y6C.html>



fig39. fashion design in creative industry park
Source: www.ctrip.com/

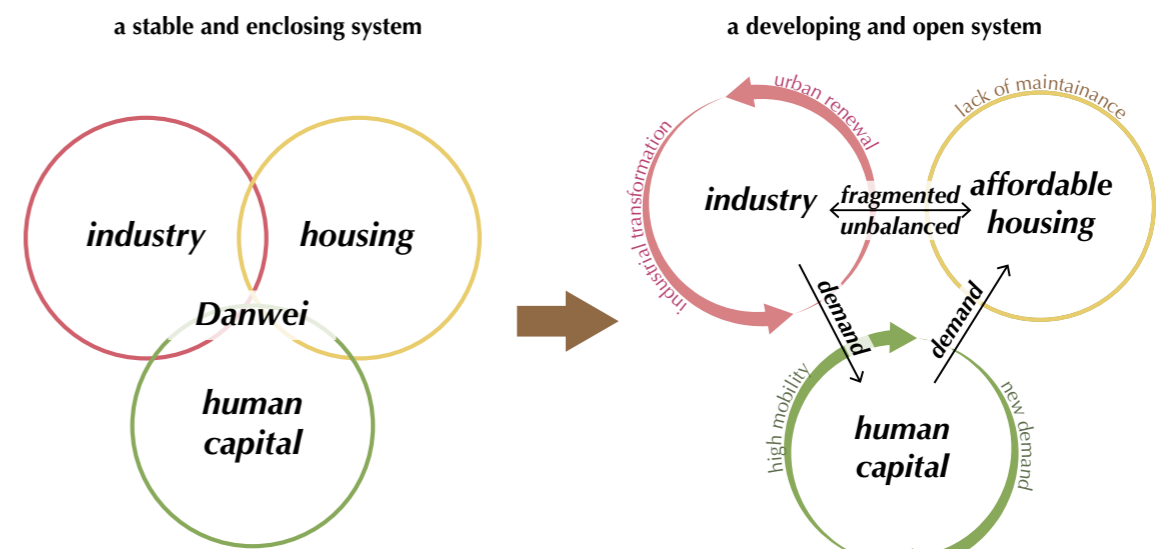


fig40. industry-housing-human capital in Danwei system
Source: author

fig41. contemporary industry-housing-human capital system
Source: author

of urban redevelopment based only on the physical quality of an area can easily sweep away these active, but inconspicuous local businesses. The conflicts between new industries and intensive urban renewal are hidden behind the scene.

To conclude, from the planned economy to market economy, the relationship between industry, housing and human capital has transformed from a stable and enclosing system to a developing open system. In the planned economy time, job and housing were assigned and provided by the Danwei. The “spatial bond” that existed between jobs and housing during the socialist period and through much of

the 1980s has dissolved and been replaced by a prominent “spatial mismatch” when the jobs-housing relationship becomes increasingly imbalanced in space in the time of new economic norm(Wang Enru *et. al*, 2011). Traditional industries are confronting industrial transformation. Obsolete factories are being transformed and reused for new demands. The dynamic balance is built up between industries and human capital. On the contrary, affordable housing is decreasing, and the bond between industries and housing is lost.

3.3 Livable city

The livable and harmonious city has always been the ideal expectation of future city. In another word, it is also the reflection and criticizes to the urban development in the past. Rapid urbanization has caused series of urban problems, pollution, traffic congestion, lack of infrastructure, the disappearance of history and cultural identity and social segregation in Chinese cities. These “urban sicknesses” have reminded us of the importance of livability. In the “New Urbanization” strategy, building the harmonious and livable city was listed as an important goal. On the Central Urban Work Conference in 2015, the central government laid out the guiding plan for urban development, in which many key elements of a livable city were included, as well as important operational principles.

- Improve the quality of urban environment, the quality of life and urban competitiveness.
- Build harmonious, livable, lively modern city. Keep the distinctive landscape and cultural and architectural identities of cities.
- The people-oriented principle is essential in urban development. The city belongs to all residents.
- Keep the urban expansion within planned boundaries, improve the land use efficiency of existing urban built-up areas, and lift the quality to build smart and compact cities.
- Improve the legal system of decision-making scheme, and include public participation, professional consulting and risk assessment. The Conference is a signal of transforming urban development idea. An explicit set of criteria and operational strategy is needed to achieve this goal in practices.

In China, the idea of livable city can be traced back to the Zhou Dynasty(1046BC-221AD), which was closely related to the origination of traditional Chinese gardening, Taoism, Fengshui. Internationally, it can be dated back to the Ancient Greece(800BC-146BC). In the Republic, Plato stated his idea that the goal of city is to make all the citizens living there happy. From the end of the 19th century, contemporary study of livable city emerged. The famous early practice was the Garden City Movement initiated by Ebenezer Howard in 1898, which aimed at solving the residential crisis and urban problems in the UK. After the Second World War, the livable city concept was raised in response to the booming housing demand and improving living quality. In 1961, Jane Jacobs’ influential book *The Death and Life of Great American Cities* was published, in which she argued that the city should be more livable for city dwellers. The UN Conference on Human Settlements and Sustainable Urban Development (Habitat) in 1976,1996 and 2016 has pushed forward the extensive study and wide range of attention to livable city in different realms. The study of livable cities in China began from the early 1990s. In 1993, Wu Liangyong, Zhou Ganzhi and Lin Zhiqun raised the concept of “Sciences of Human Settlements”, which has triggered the rapid development of research in livable city theory and multidisciplinary integration in China. Nowadays, the livable city theory framework in China is still being studied and built up by academics in different fields.

Definitions of livability include an array

of different issues that are underpinned by a common set of guiding principle (V. Timmer, N.K. Seymoar, 2006). However, the definition is meaningful only if it is placed

in the specific context the study is focusing. Therefore, a context-based understanding of livability is fundamental. Here, some definitions were listed as important reference.

The livable city as a link between the past and the future: the livable city respects the imprint of history (our roots) and respects those who are not born yet (our posterity)... A livable city is a city where common spaces are the centers of social life and the foci of the entire community. A livable city must be built up, or restored, as a continuous network – from the central areas to the more distant settlements – where pedestrian paths and bicycle-paths bind together all the sites of social quality and of the community life.

-E. Salzano, 1997. “Seven Aims for the Livable City”

We must treat the city like a living organism... the urban phenomenon then, like life, is founded on a subtle balancing act. If we want a city to function properly as a society, then that balance must not be upset.

-B. Cools. 1997. “The Future of the City”

Level of cultivation, social environment, ecological environment, residential environment, infrastructure.

-Livable city valuation criteria by Chinese Academy of Social Sciences

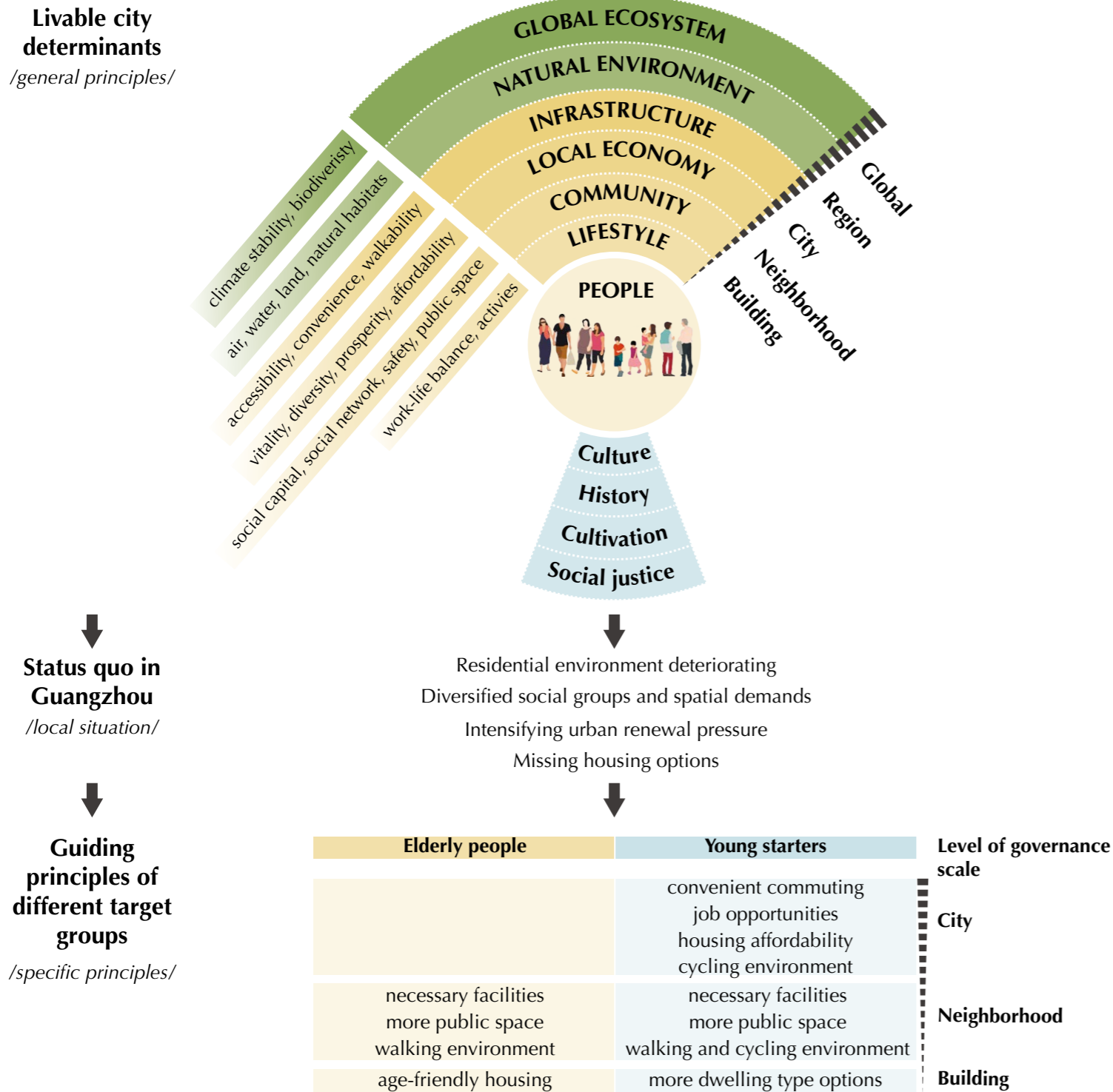
Human settlements are where human live in the natural environment. The essence of human settlements is to satisfy the demand of living, in which the core is people-oriented approach.

-Wu Liangyong, 2001. “The Exploration of Human Environments”

The coin of livability has two faces. Livelihood is one of them. Ecological sustainability is the other. Livelihood means jobs close enough to decent housing with wages commensurate with rents and access to the services that make for a healthful habitat. Livelihoods must also be sustainable. If the quest for jobs and housing is solved in ways that progressively and irreparably degrade the environment of the city, then the livelihood problem is not really being solved. Ecological degradation buys livelihood at the expense of quality of life, with citizens forced to trade green space and breathable air for wages. To be livable, a city must put both sides of the coin together, providing livelihoods for its citizens, ordinary as well as affluent, in ways that preserve the quality of the environment.

-P. Evans, ed. 2002. *Livable Cities? Urban Struggles for Livelihood and Sustainability*

3.3 Livable city



Therefore, to understand what is a livable city is to find out what is a city, and what qualities need to be valued in the local context. The listed quotes are illuminating ideas to Chinese cities, especially relating to problems defined in the Guangzhou case. Wu has emphasized the essential idea that the study of human settlements or rephrased as built environment, should always start with the demand of human being. Salzano stated the importance of city as the narrative of the past and the future. Each period of time should be respected and preserved as part of the city. Correspondingly, Cools' idea of the city as a living organ responded to this concept, which also reflected the latest studies of complexity and sustainability. To understand and accept the complexity and dynamics of city is an important perspective to regard scattered urban components as a unity. The current study of livability in China is more focusing on the physical level, subjective experience and satisfaction of residents are of less concerned. Different determinants are treated as individual goals rather than an interacting framework. Different government departments have then made plans based on their management realm, such as green space system plan, sponge city plan, old neighborhood renewal plan, small businesses motivation plan, metro system plan. Lack of necessary collaboration has resulted in low efficiency and difficulty in implementation. Moreover, Evans conceived the goal of livability as two aspects, livelihood and ecological sustainability. Here a commensurate level of income, living expenditure, housing and

service is highlighted, which pointed out that individual's affordability is the basic demand.

To sum up, the figure shows the conceptual model of livable city determinants defined in this thesis. The model shows a brief scheme of applying livable city principles to specific local case. First of all, the general principles are raised based on a multi-scale perspective. Three main sections are included, which are the quality of life(lifestyle, community, local economy and infrastructure), ecological environment(natural environment and global ecosystem), and intangible social determinants(culture, history, cultivation and social justice). Integrated with the status quo of Guangzhou defined in the thesis, relevant principles can be extracted corresponding with different target groups. Here, two representative groups are presented. Overall, it is a process of narrowing down from a theoretical guideline to operational strategies.



fig42. New Central Axis
Source: <http://www.bigpixel.cn/>



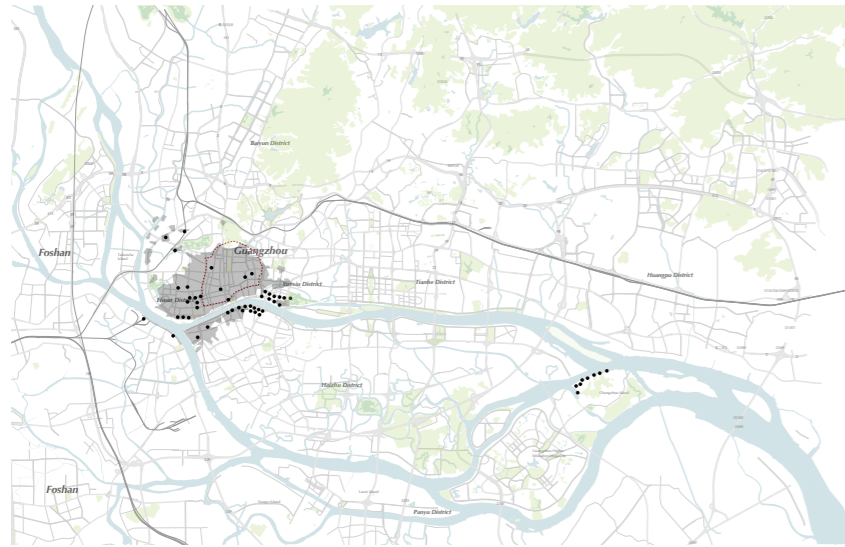
fig43. Haizhu District
Source: <http://www.bigpixel.cn/>

CHAPTER 4

Site analysis on city scale

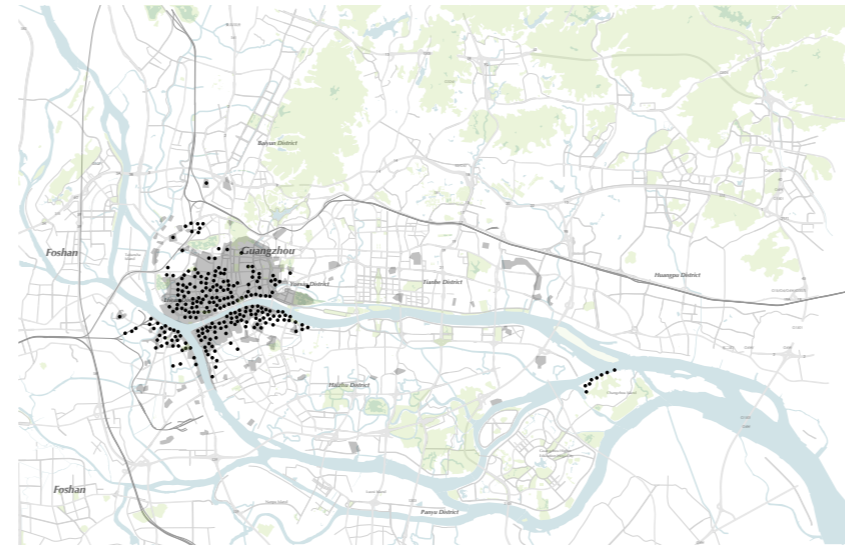
4.1 Industry distribution and urban development

Industry distribution and urban development in Guangzhou central districts from 1911



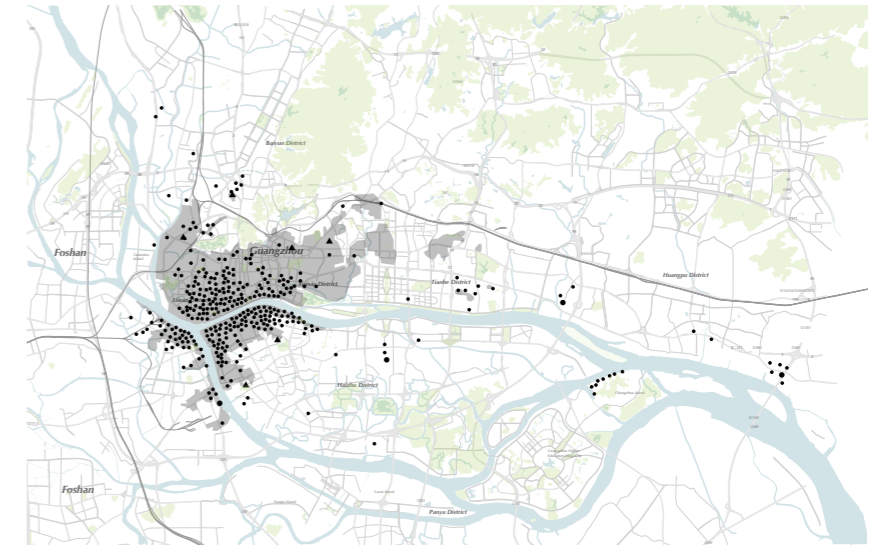
until 1911

Early industrialization appeared before the Revolution of 1911.



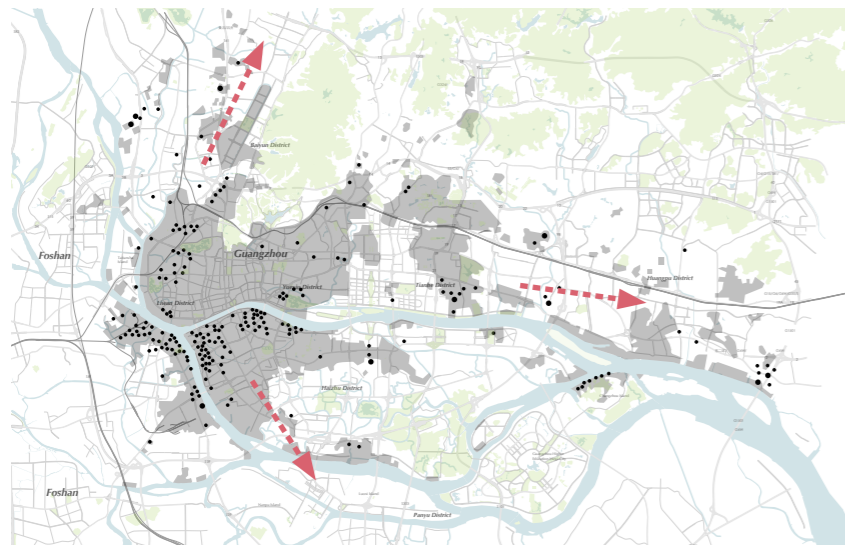
1911-1949

Industrialization started growing before war.



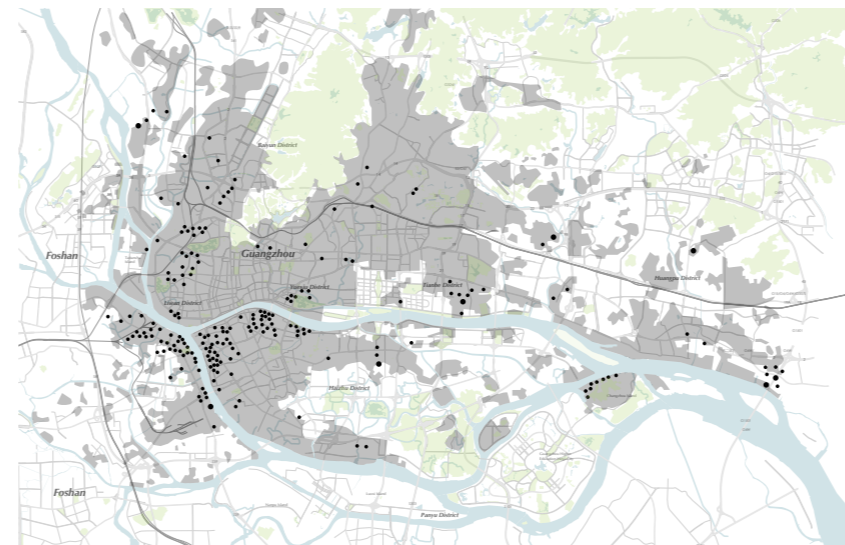
1949-1978

Industrialization started flourishing during the early days of new China. Urban structure was influenced by industrial distribution.



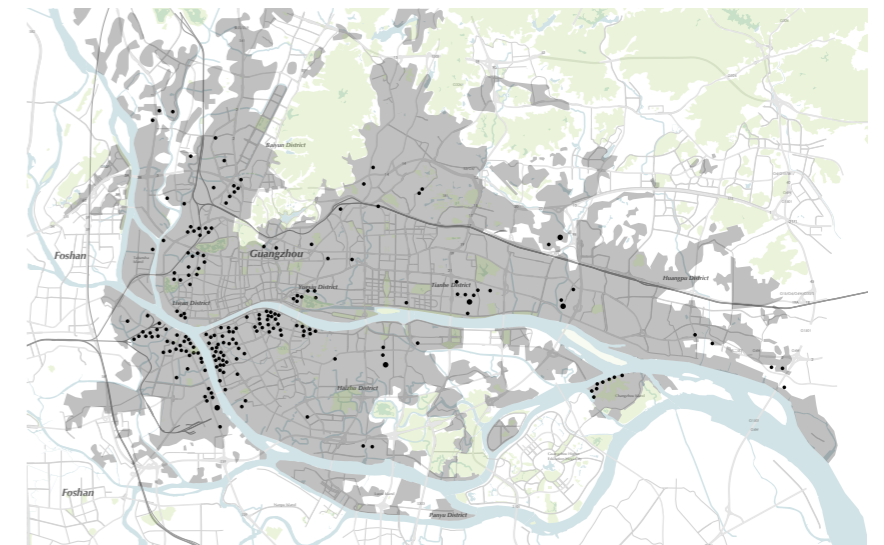
1978-1984

New industries appeared during the first 5 years of economic reform(Opening-Up). Urban structure was gradually formed.



1984-1991

Industrial park started blooming.



1991-2000

Manufacturing industries gradually move to urban suburban areas. Current Guangzhou urban structure was formed.

Legend

- urban built area
- second industry
- city wall of Qing Dynasty
- urban expansion tendency

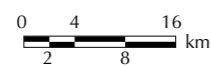
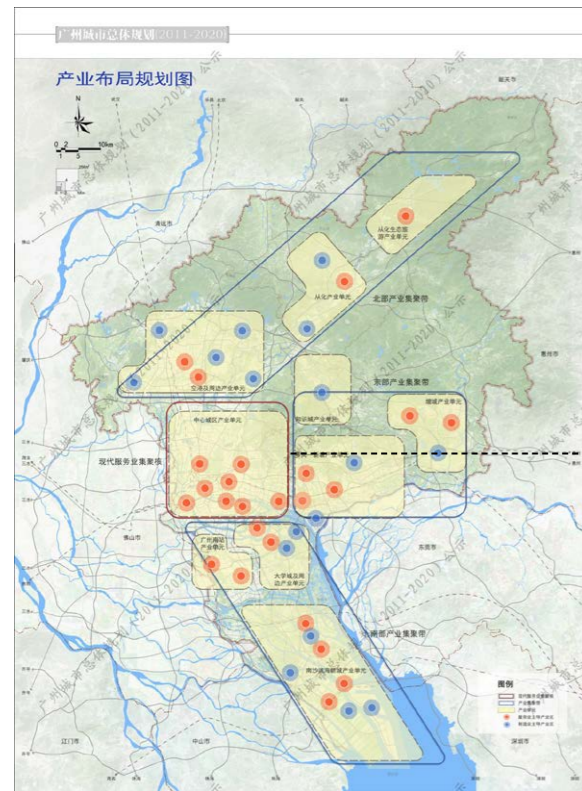


fig44-49. Industry distribution and urban development in Guangzhou central districts from 1911
Source: Zhou, 2014

4.1 Industry distribution and urban development

Guangzhou Master Plan-Industry Distribution Plan(2011-2020)



central district-modern service industry agglomeration

Legend

- ▭ modern service industry agglomeration
- ▭ industry agglomeration belt
- ▭ industry unit
- service industry oriented area
- manufacturing industry oriented area

fig50. Guangzhou Master Plan-Industry Distribution Plan(2011-2020)
Source: Guangzhou Government, 2016

Guangzhou is one of the most important industrial bases in China. The series of mappings have shown the urban expansion of Guangzhou from 1911 to 2000, in which we found that the urban spatial structure of Guangzhou is largely influenced by industry development. The relocation of industry is always accompanied with the emerging of new housing. The mutual development of industry and housing have then determined the tendency of urban expansion. It is also noticeable that the scattered dots shown on the map represent the distribution of the second industries, which are mostly Danwei

back to the planned economy time.

In Guangzhou Industry Distribution Plan(2011-2020), manufacturing industries are further guided to suburban districts. The central districts will focus on developing modern service industry and upgrading manufacturing industry. Therefore, further industrial transformation and function replacement are inevitable. Urban renewal is taking the lead in implementing this plan as both the spatial strategy and institutional guidance.

4.2 Housing distribution and urban development

Housing distribution and urban development by period

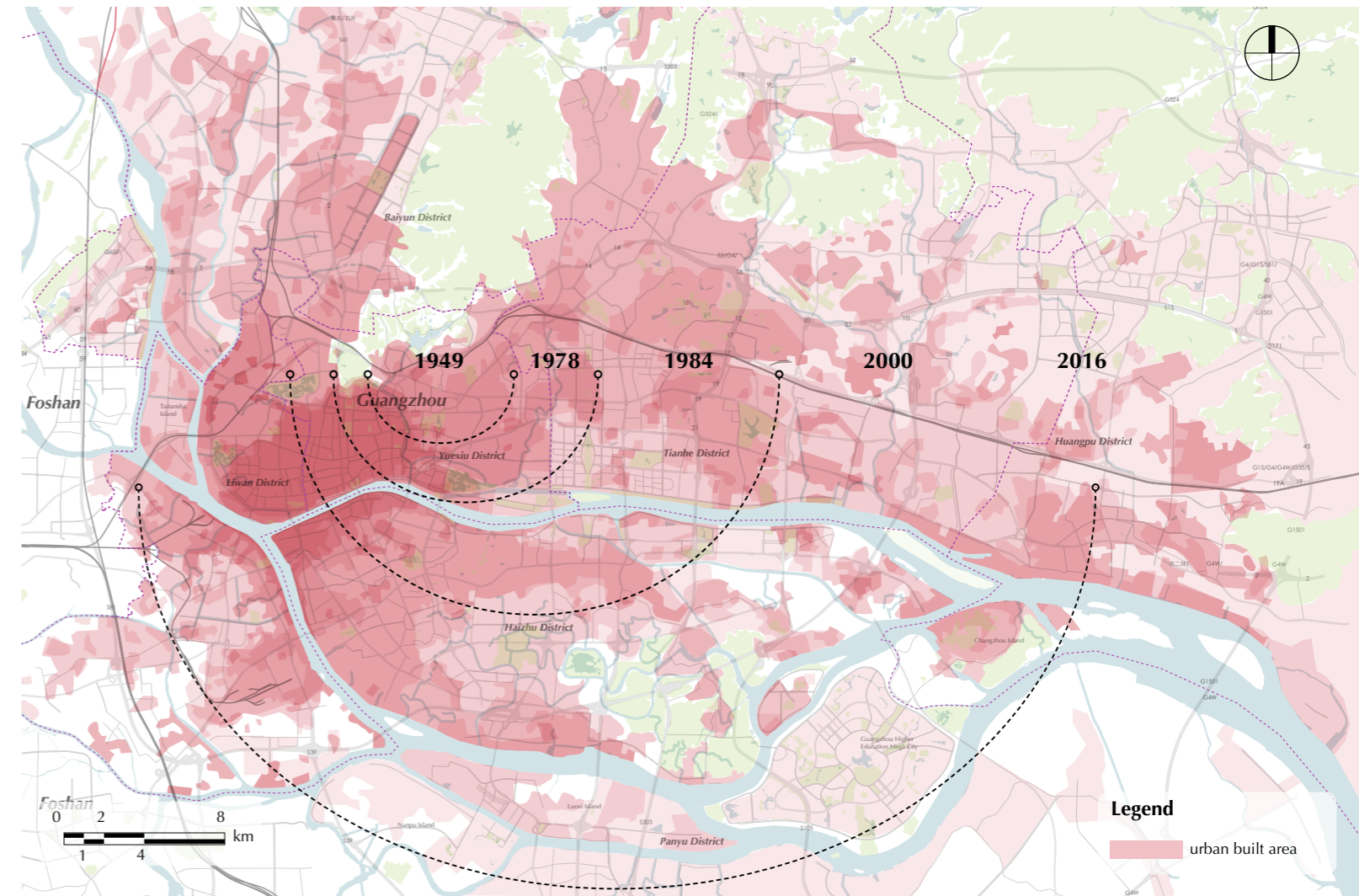
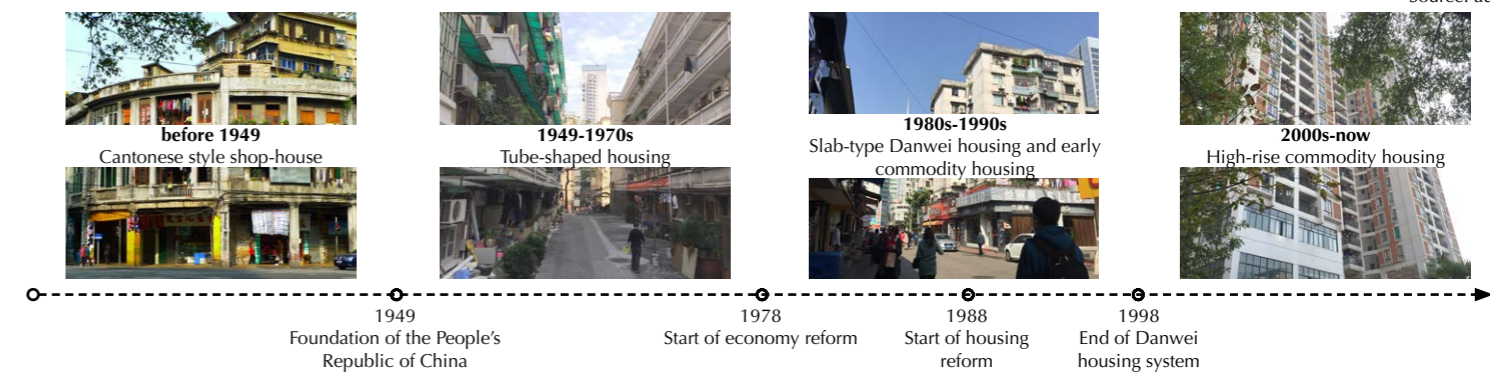


fig51. Housing distribution and urban development by period
Source: author



Source: figure52,53. <http://ww2.sinaimg.cn/>, figure53,54. author

4.2 Housing distribution and urban development

As the mapping shows, the housing distribution has reflected the corresponding relationship with industry expansion in space. As we see, in each of the four main historical periods, the housing typology is different. Before the establishment of the People's Republic of China, historical city center was mostly formed by the Cantonese style shop-house. From 1949 to 1990s, the housing typology studied the Soviet Union style of slab-type standardized housing type, and in early time the tube-shaped housing was also very common. Housing from this period was built under the Danwei housing system. After the housing reform, commodity

housing has become the main typology. With the densifying urban central areas, the commodity housing gradually transformed from slab-type to high-rise tower-type.

The tendency of densification and compact urban development can be interpreted from the housing price as well. The Danwei housing is located in the districts of highest housing price. Compared to old housing and urban villages, Danwei housing is one of the best options for people with a limit budget. Meanwhile, this also shows the high land value of Danwei housing area.

Average house price by districts

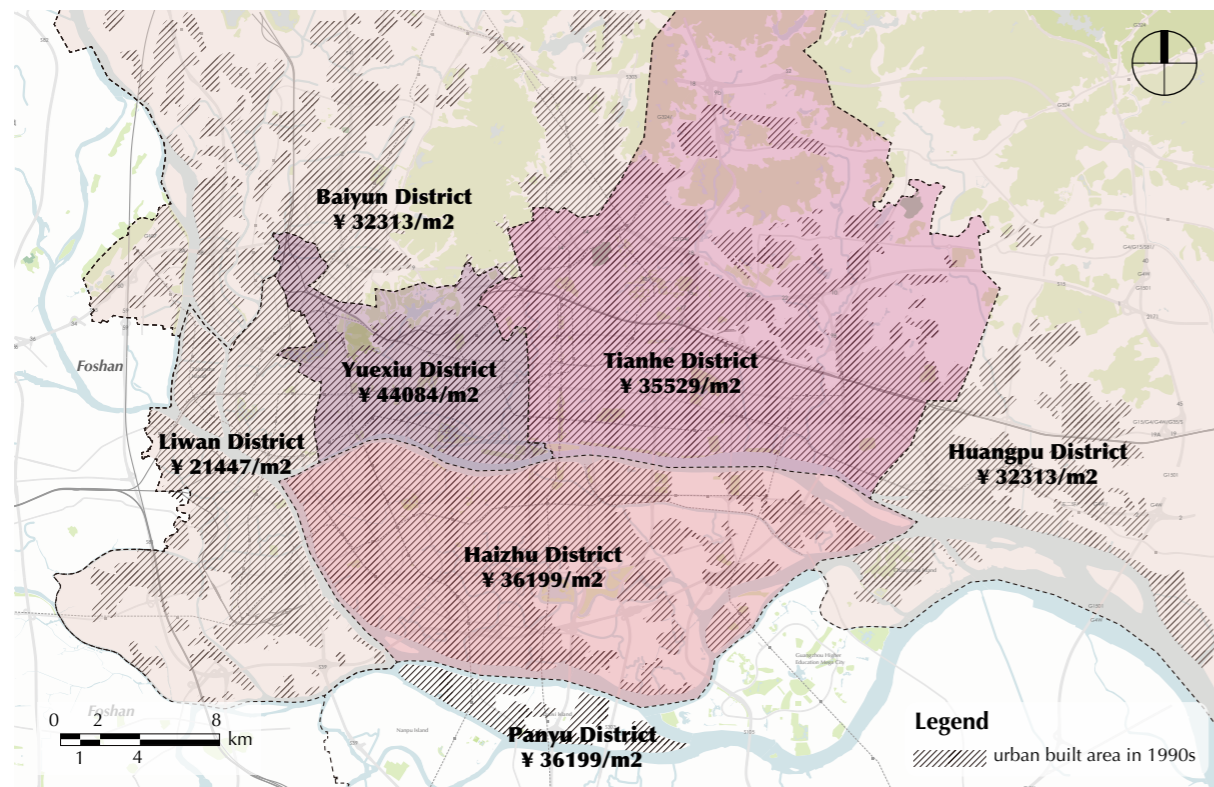
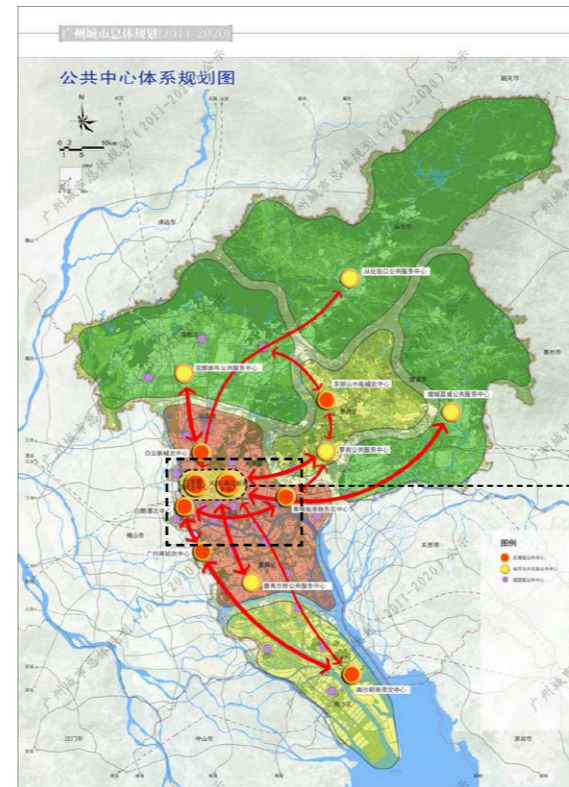


fig55. Average house price by districts
Source: <http://gz.house.sina.com.cn/>

4.3 Institution condition

Guangzhou Master Plan-Public Center System Plan(2011-2020)



Central districts-two main city centers

Legend

- regional scale public center
- city and district scale public center
- neighborhood scale public center

fig56. Guangzhou Master Plan-Public Center System Plan(2011-2020)
Source: Guangzhou Government, 2016

In the latest Guangzhou Master Plan(2011-2020) released in 2016, Guangzhou has determined the urban development structure in the next 5-10 years. The listed are some highlights from the Plan.

- Emphasize the central position of central districts, and further develop the historical center and modern center.
- Promote industrial transformation.
- Urban renewal should be the key measure to improve land use efficiency and spatial quality.
- Urban renewal should aim at shaping the city image and cultural identity.

Furthermore, the Guangzhou Public Center System Plan has explicitly stated that the functional structure would be consisted of two main centers in regional scale, six sub-centers in city and district scale, and multiple neighborhood scale centers. The main centers are the traditional center in historical city center and the new city center, which are the Historical Central Axis and the New Central Axis. One of the major implementation project is the south extension of the New Central Axis, which plans to extend the grand vision to the Haizhu District.

4.4 Development of central axis

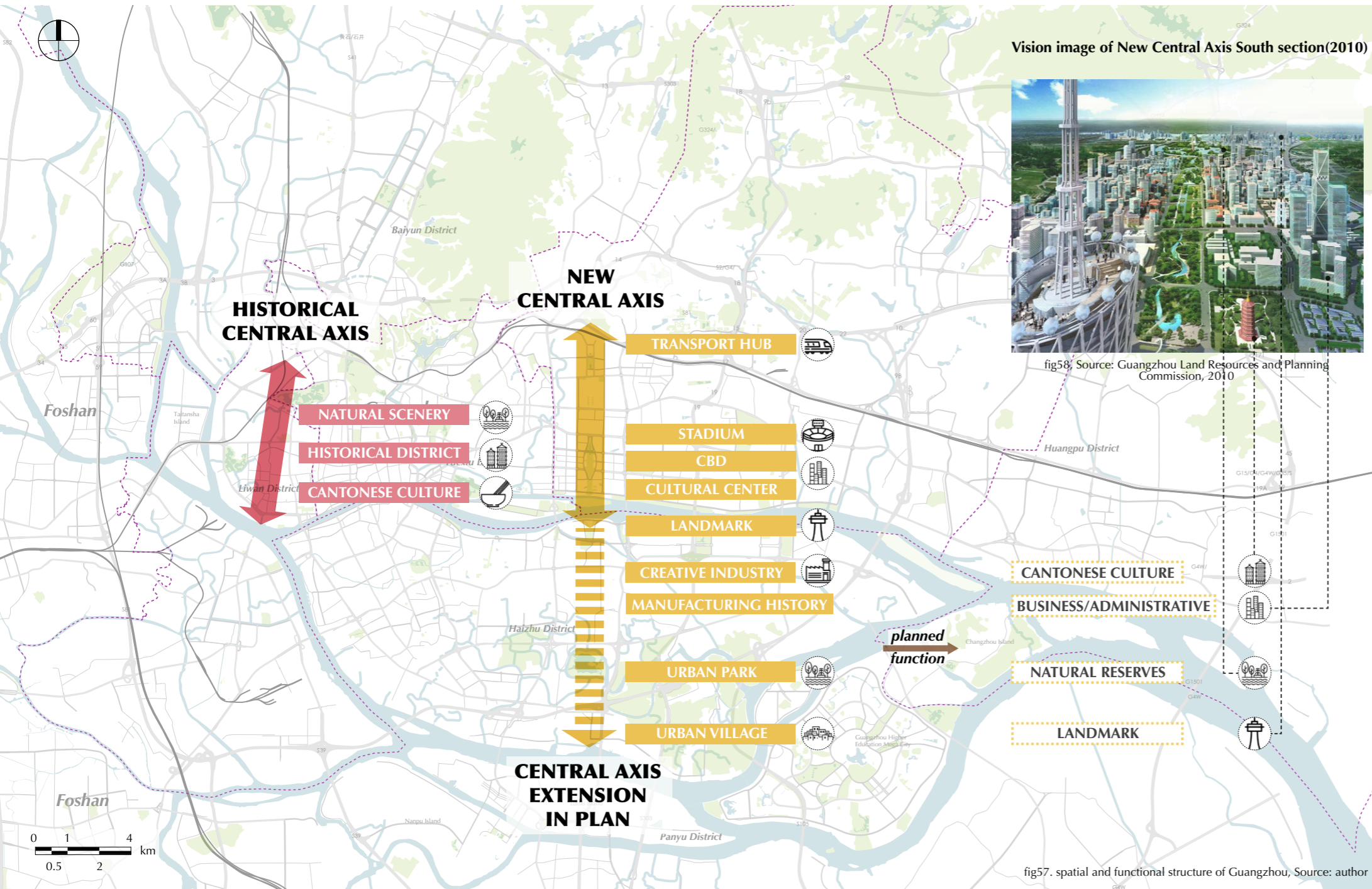


fig58. Vision image of New Central Axis South section(2010)



fig58. Source: Guangzhou Land Resources and Planning Commission, 2010

Guangzhou New Central Axis South Section Detailed Controlled Plan(2010)



fig59. Source: Guangzhou Land Resources and Planning Commission, 2010

The New Central Axis has been built since the 1990s. Compared to the Historical Central Axis, the New Central Axis has built a global city image with high-speed train station, stadium, CBD, cultural facilities and landmarks. The function plan of south section is a new city center with Cantonese culture, CBD, natural reserves and landmark, which resembles the north section. In fact, the south section of the New Central Axis in Haizhu District had a rich history of manufacturing industries. Many state-owned factories were located there. Several of these Danwei factories have been successfully transformed into commercial area, creative office area or residential area with the industry theme. The unique history has become the brand of Haizhu. Therefore, to rebuild the whole area regardless of the initial local history and identity is doubted, because many of these buildings are being used and valued by visitors and local people.

New Central Axis north section



fig60. Bird-eye view of New Central Axis north section
Source: <http://www.bigpixel.cn/>

Haizhu District-planned area for New Central Axis extension



fig61. Bird-eye view of Haizhu District
Source: <http://www.bigpixel.cn/>

4.4 Development of central axis

Urban morphology in New Central Axis



fig62. Urban morphology in New Central Axis
Source: author

Site location

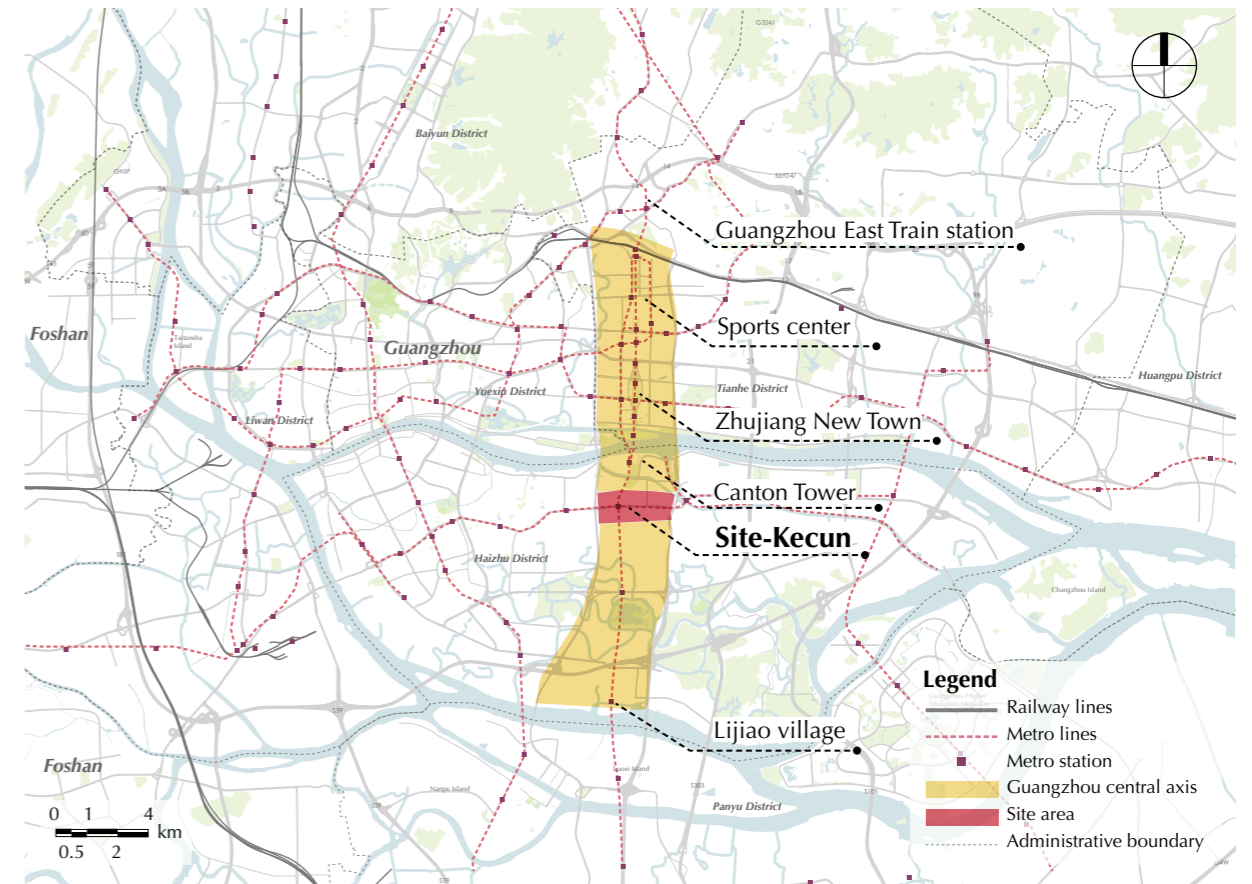


fig63. Site location, Source: author

If we take a look at the urban tissue of the Central Axis, we can easily find the difference between the north section and the south section. The north section was built towards a global grand image. It is composed mostly of big urban tissues of big commercial, business complex and high-end housing. While across the river, in the south section, a variety of urban typologies can be found, including slab-type housing, factory, urban village and high-rise commodity housing or office buildings. If the plan was realized, these buildings will be all replaced by a homogeneous typology, where no local

identity can be then found.

In this context, the site area is chosen at the south section of New Central Axis. It is not only a strategic location near the Canton Tower, where two metro lines join, but also an area with a diversity of urban typologies. Therefore, the site is a good example representing the typical and common urban area in Chinese cities with fading Danwei factories, Danwei housing, local activities, while under huge urban renewal pressure because of its good location.

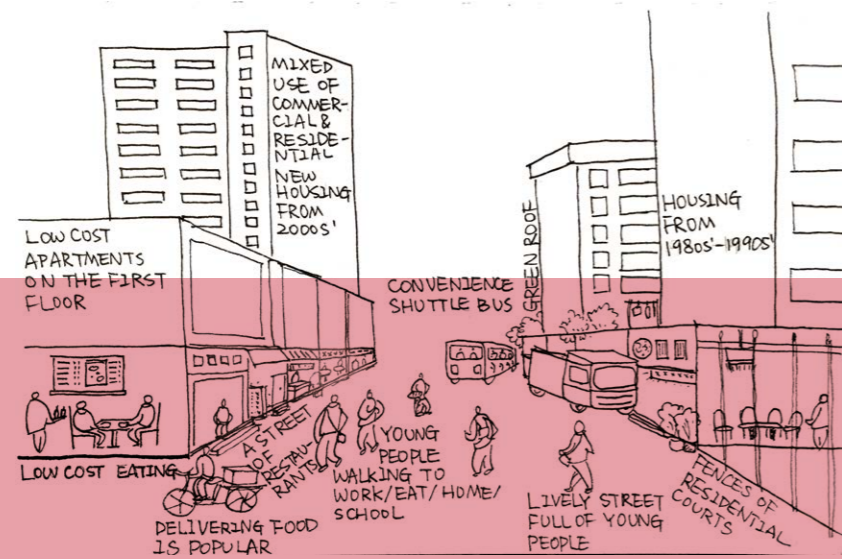


fig64. sketch of a street by the Danwei neighborhood in Guangzhou
Source: author

CHAPTER 5

Site analysis on local scale

5.1 Main industries around site area

Former Guangzhou Textile Machine Factory



fig65, Source: <http://www.cntit.com.cn>

TIT Creative Industry park



fig66, Source: Author

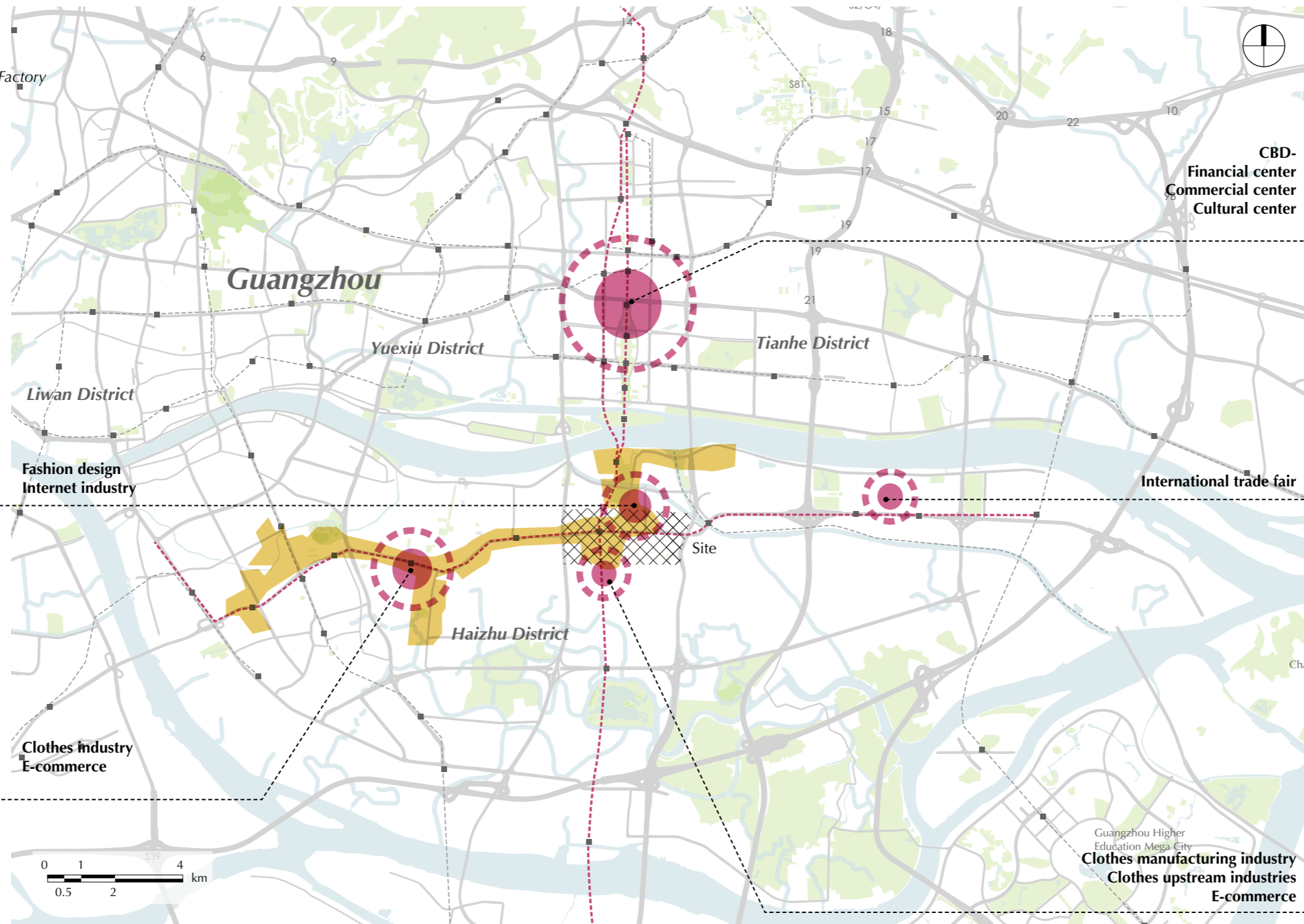
Guangzhou Textile Trade Fair



fig67, Source: http://news.ifeng.com/a/20151230/46891287_0.shtml

Legend

- Metro line
- Metro station
- main industry agglomeration
- creative&clothes related industry agglomeration



CBD-
Financial center
Commercial center
Cultural center

Zhujiang New Town



fig69, Source: www.redocn.com

China Import and Export Fair



fig70, Source: <http://www.gzshbzl.com/>

E-commerce industry park



fig71, Source: Author

Clothes manufacturing factories



fig72, Source: Author

Guangzhou Higher
Education Mega City
Clothes manufacturing industry
Clothes upstream industries
E-commerce

fig68. Main industries around site area
Source: Wu, 2015

5.2 Relationship of industry and housing in site area

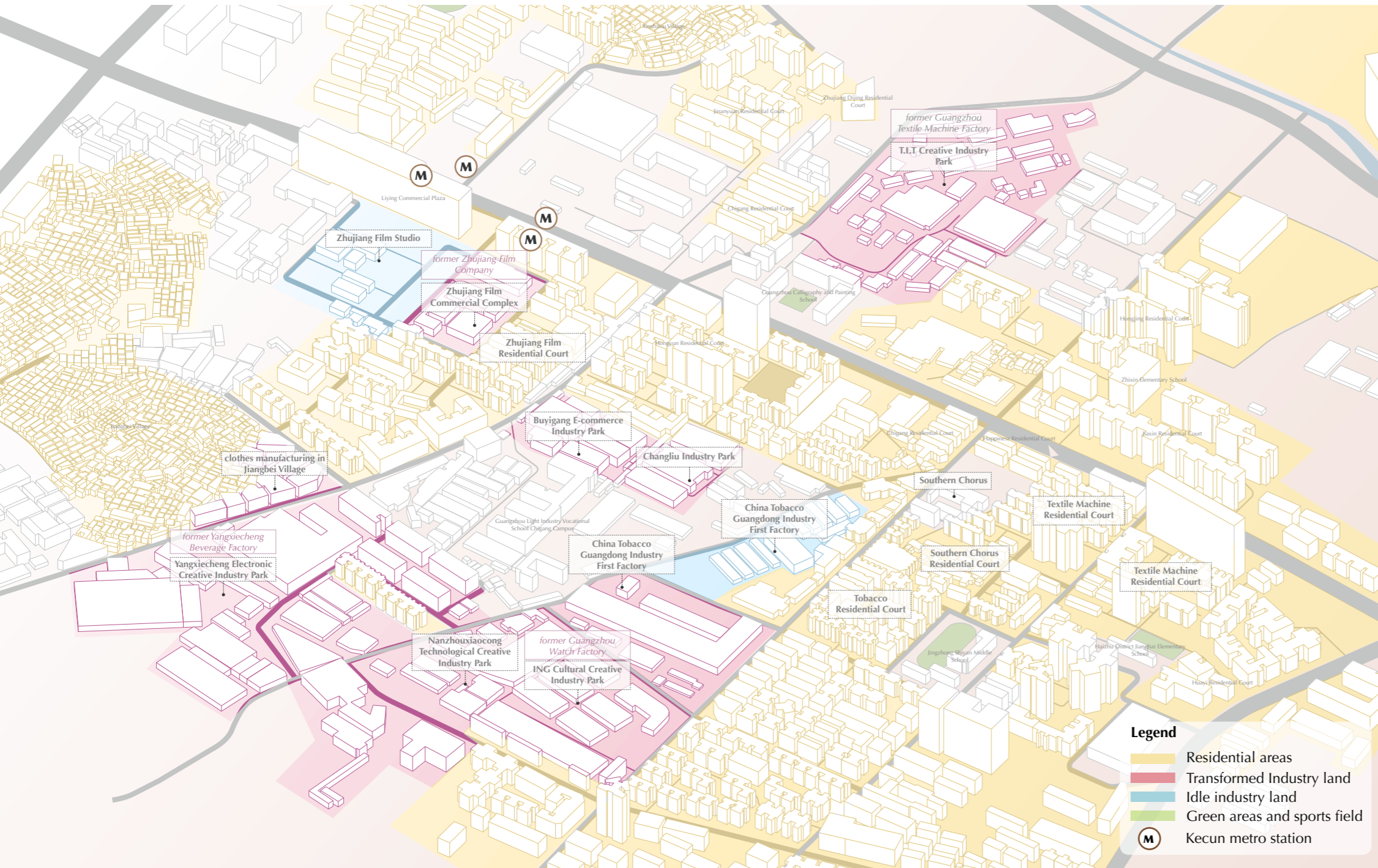


fig73. current condition of Industries and housing distribution in site area
Source: author

Conceptual network of industry transformation in site area

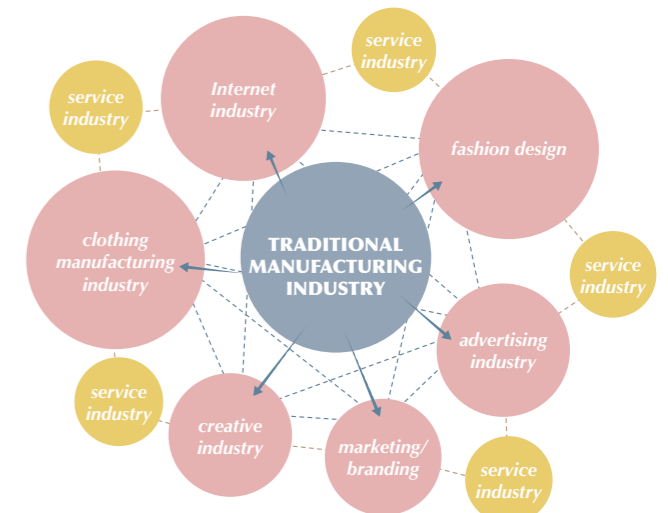
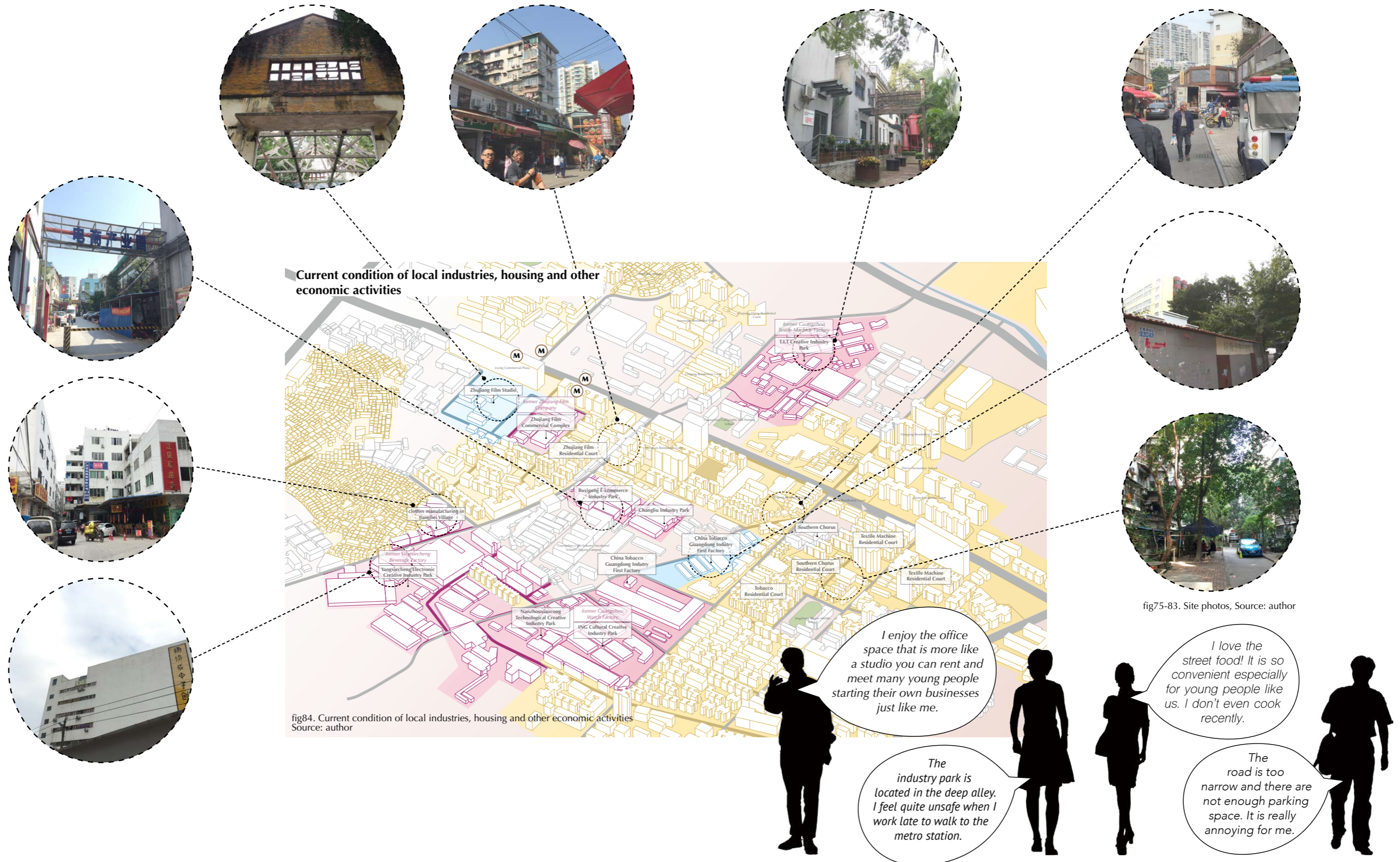


fig74, Source: author

Clothes manufacturing industry has been one of the traditional mainstay industries in Guangzhou. The site area is currently the center of clothes trading, manufacturing and upstream industries.

There were textile machine factory, watch factory, tobacco factory, beverage factory and private factories operated by the villages in the site. In recent years, many of them have been transformed by bottom-up mode responding to the national strategy of “upgrading second industry to third industry” by self-investment or cooperation with investors. Now, main industries in the site area include internet, creative industry, fashion design, clothes manufacturing and service industries. Service industry(the third industry) is the basic supporter to other industries.

5.2 Relationship of industry and housing in site area



5.3 Transformation mode, ownership rights and management rights condition

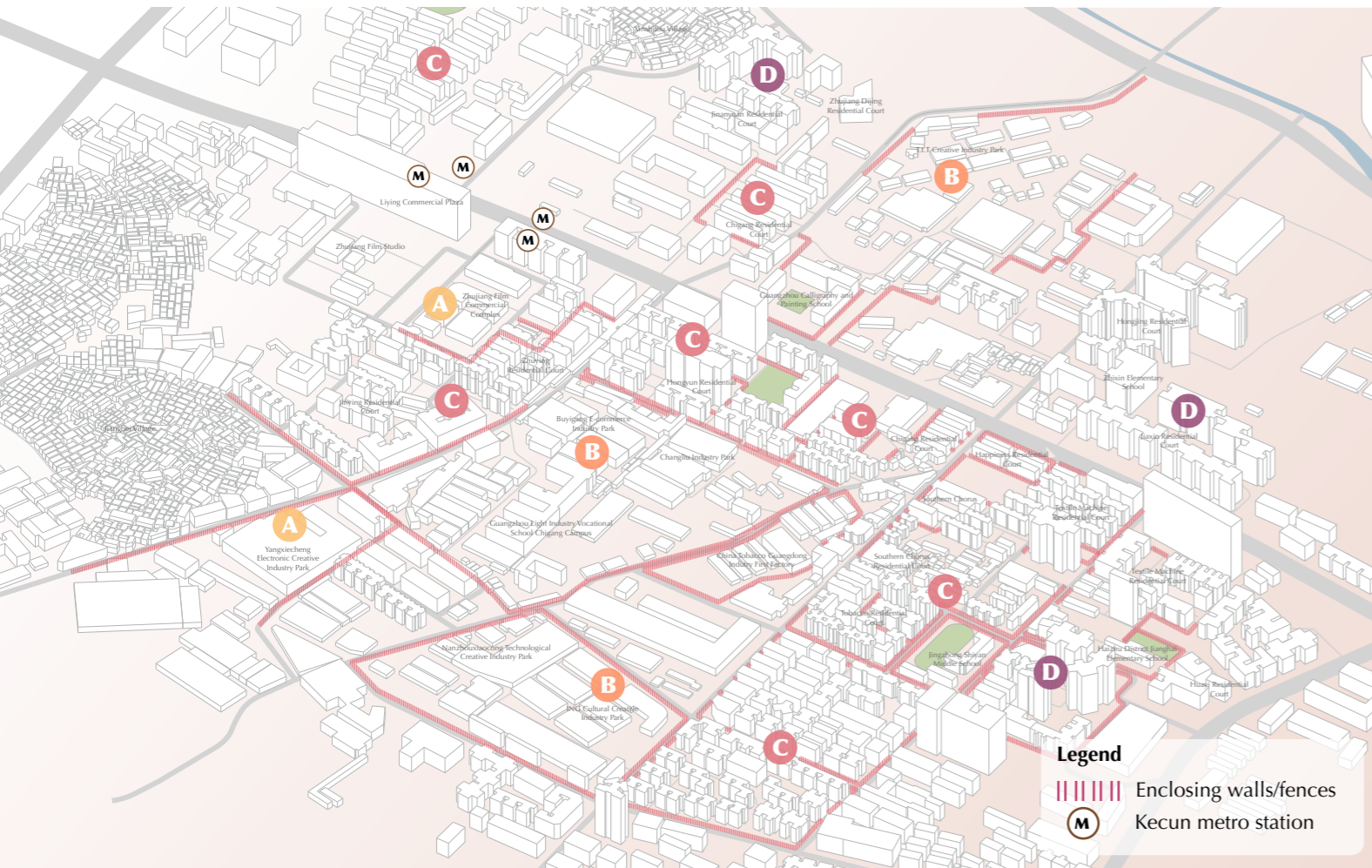
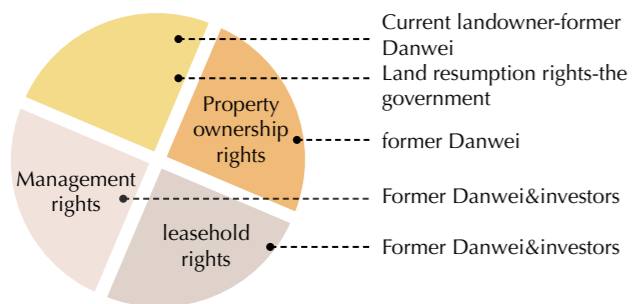
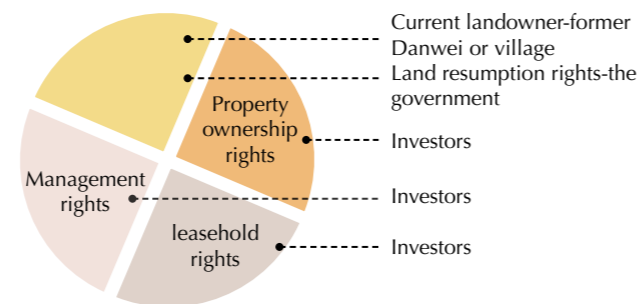


fig85. management rights revealed by enclosing fences in site area, Source: author

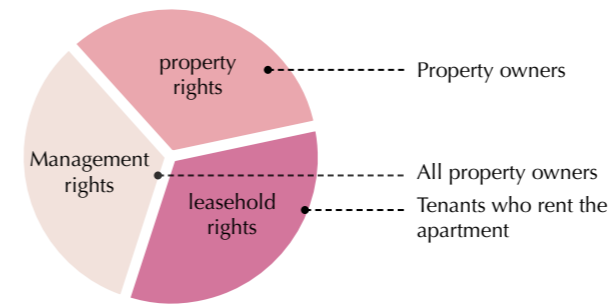
A. Initial property owner involves in investment and management during transformation



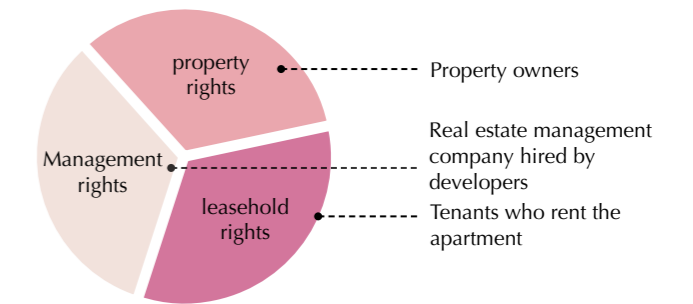
B. Initial property owner only shares the revenue from the lease during transformation



C. Ownership and management rights in Danwei housing



D. Ownership and management rights in commodity housing



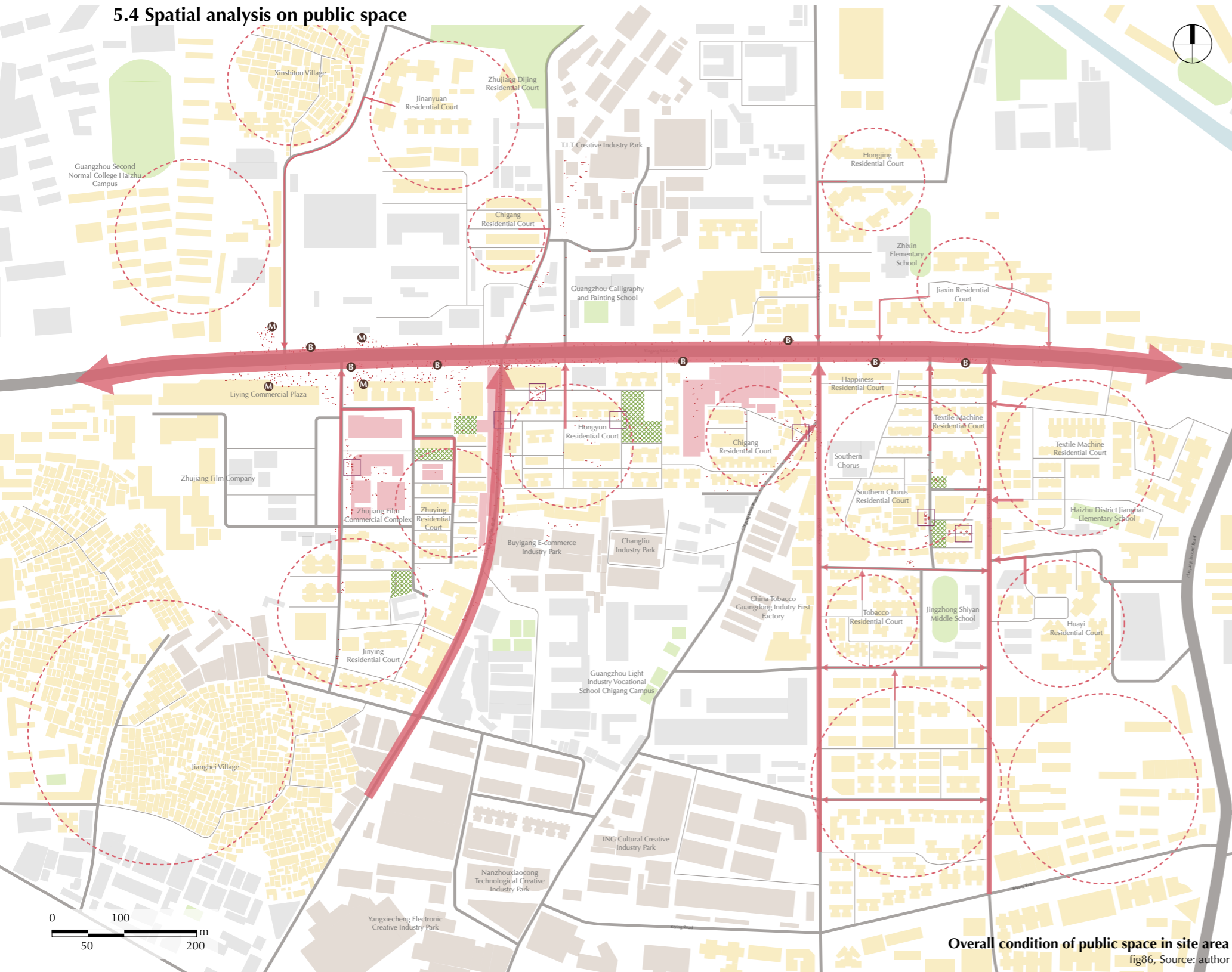
The previous page showed the current condition of local industries and other economic activities. Part of the factories are former Danwei properties, and the others are village-owned properties. Except for two idle factories, the others have transformed function from manufacturing to third industries in the form of industry parks. Main business types include E-commerce, logistics, fashion design, branding and restaurants. Most of them are located in the deep allies as shown on the map. Although not far away from the main street, reviews from Baidu Map and Dianping (top consumer guide website in China) revealed that people working in these areas have generally good opinion on the physical environment inside the industry park. Most negative feedbacks focused on the lack of connection to public transport, safety issue and lack of parking space. Deficiency of early plan and enclosed land use have resulted in the current situation. Improving connections from the main street to these industry parks can largely alleviate the current problems.

There are four typical types of property in

the site area, which have different ownership rights, management rights and different transformation mode. It is important to clarify the context in order to raise feasible strategies for them respectively.

For industry land, there are two modes. In Mode A, the initial landowner is involved in operating, leasing and developing the project. In Mode B, the initial landowner is not capable of managing the project, therefore investors get involved and they only share the revenue from the lease. For residential areas, the difference between Danwei housing (C) and commodity housing (D) is the management rights, in which Danwei housing does not have a management company as commodity housing. Therefore, it is important to find strategies to solve the conflicts in management that residents would like to participate into.

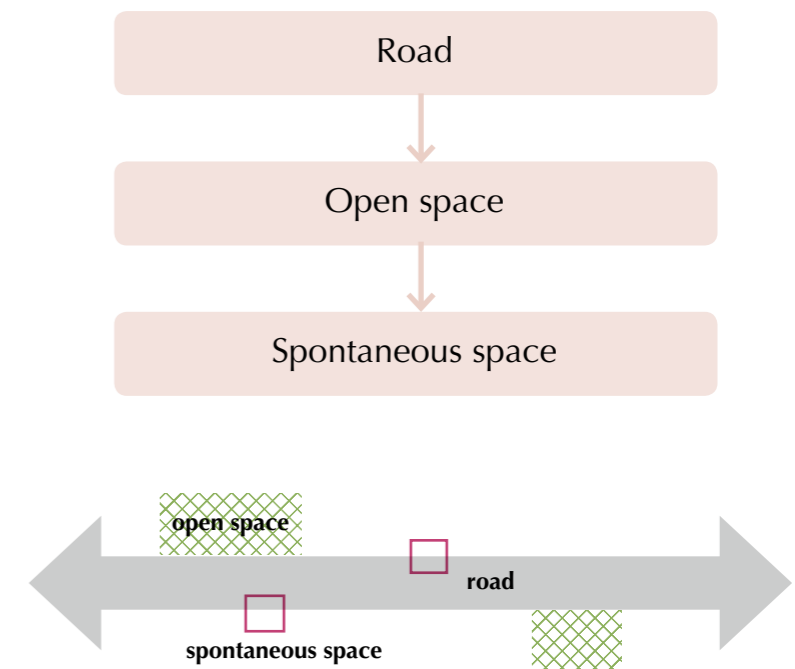
5.4 Spatial analysis on public space



Overall condition of public space in site area
fig86, Source: author

PUBLIC SPACE

Is the space that can be publicly used, and mostly publicly owned.



5.4.1 Spatial analysis on public space-roads

Urban roads

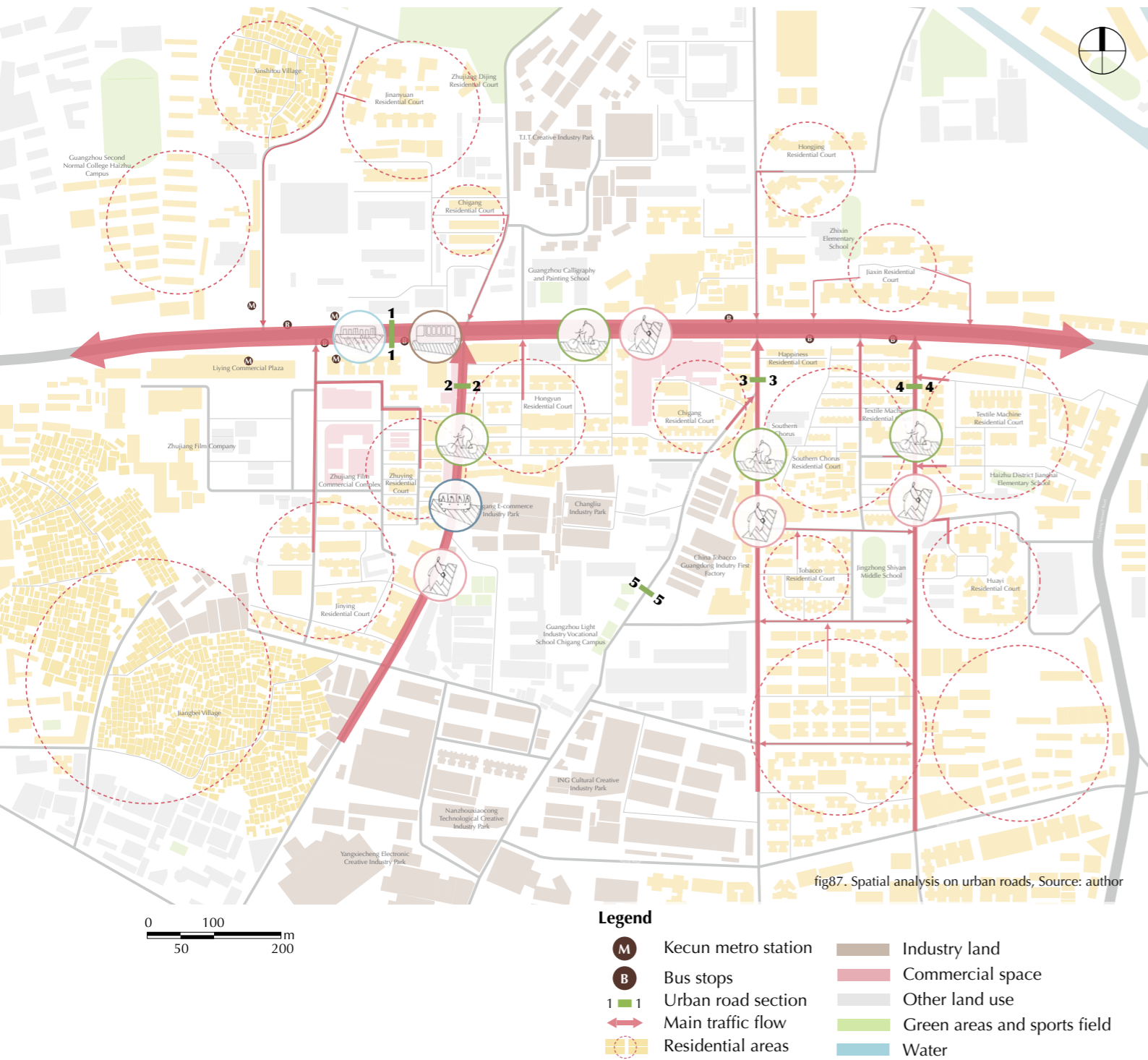


fig87. Spatial analysis on urban roads, Source: author



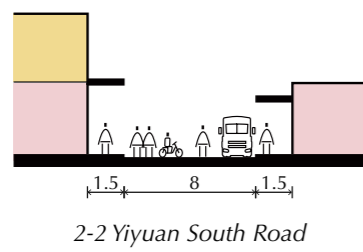
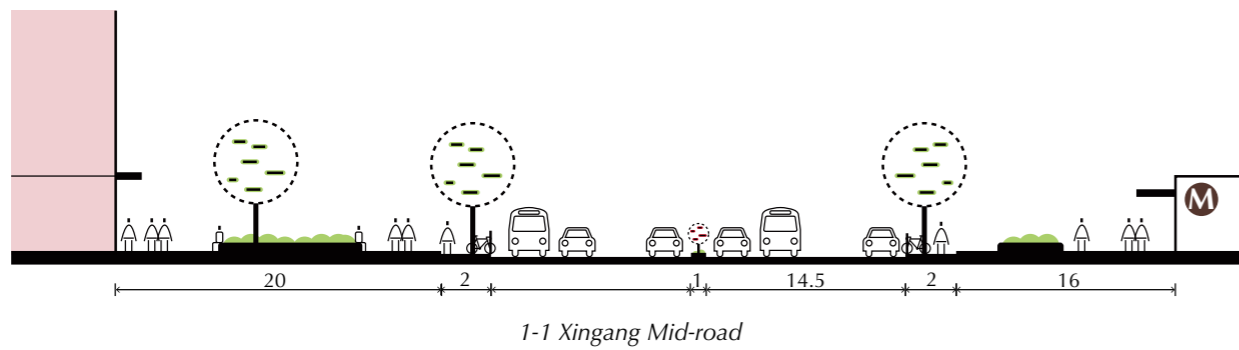
fig88-91 (up, middle). Source: author
fig92 (down left). Source: <http://map.baidu.com/>



The traffic flow mainly comes from residential areas and people working in this area. Five traffic means are taken in this area, metro, shared bicycle, walking, shuttle bus and bus. The busiest one is the Kecun metro station, which was reported as one of the most crowded metro station in Guangzhou, because it is the joint station of the north-east New Central Axis line and west-east Haizhu line, and it is a popular area for living, working and shopping. It is worth mentioning that the shuttle bus emerges as a bottom-up measure to connect the deep area where many industries and an urban village are located.

5.4.1 Spatial analysis on public space-roads

Urban roads



Legend
 commercial
 residential
 Unit: meter

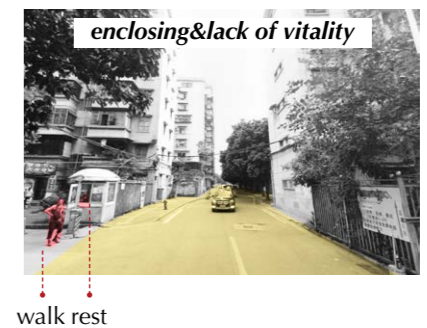
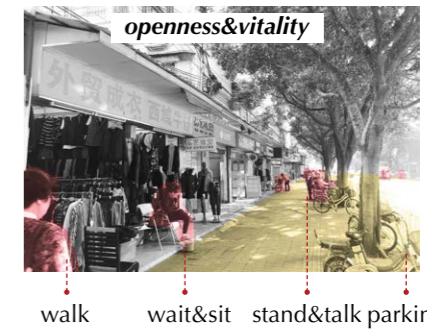
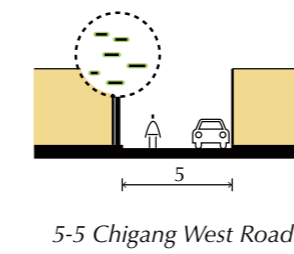
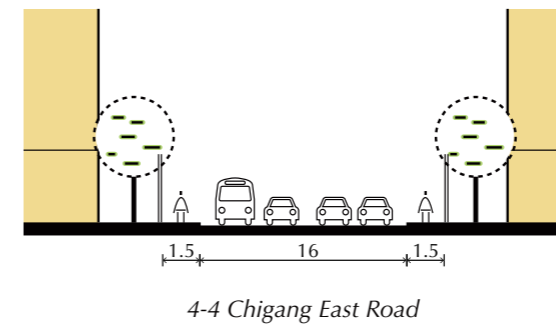
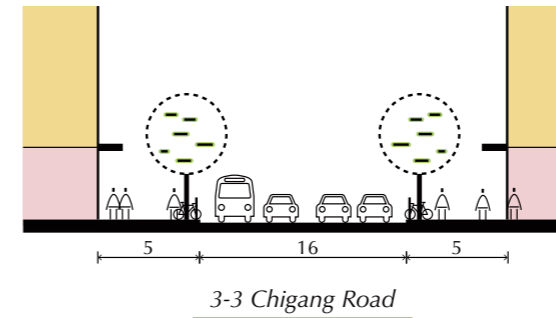


fig93-102. Road sections and photos, Source: author

Main urban road(1-1) is always lively and crowded in the site as shown on the left page. On Yiyuan South Road(2-2) there are also a lot of people walking and eating in the restaurants on the side. Although it is not wide, the street becomes popular because it is the most important connection between the main road and the industries and residential areas deep inside. Meanwhile, because this road does not have clear zones for pedestrian, parking and cars, traffic congestions are quite often.

seen road type. Both of them are roads between residential courts, while the first one has shopfronts on the ground floor, and the latter one is fenced by the walls. Moreover, the Chigang West Road(5-5) is a typical alley in the industry area with walls and parking at road site. Nearly no pedestrians can be spotted in this type of alley, which gives a sense of insecurity when you walk along it. To conclude, the examples above have shown that ground floor openness is an essential element for a lively, walkable and safe street.

Secondary roads like Chigang Road(3-3) and Chigang East Road(4-4) are most commonly

5.4.1 Spatial analysis on public space-roads

Residential roads

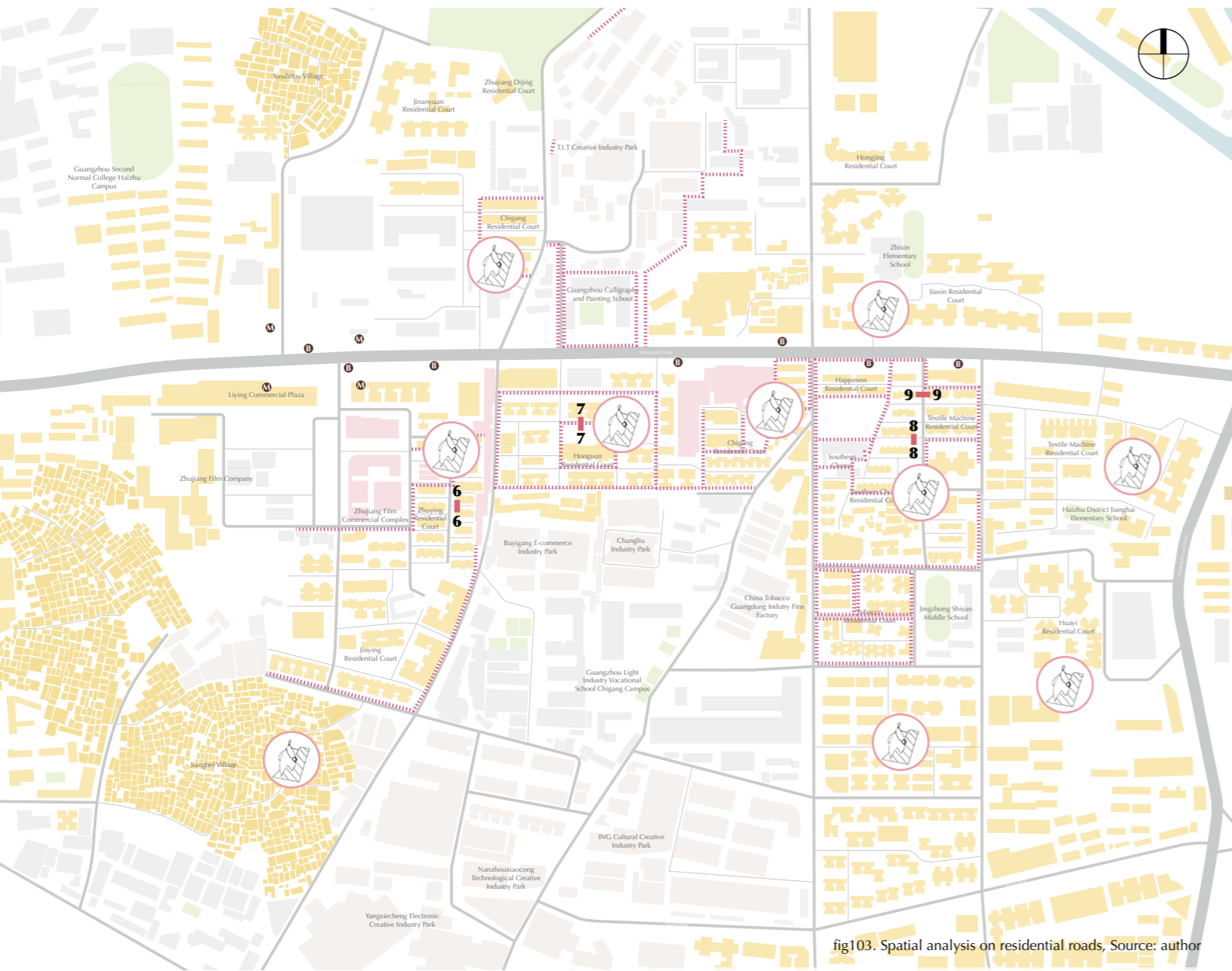
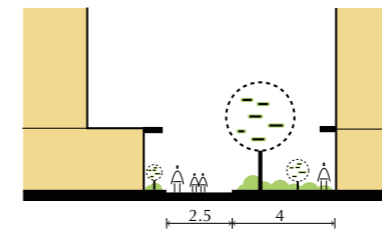
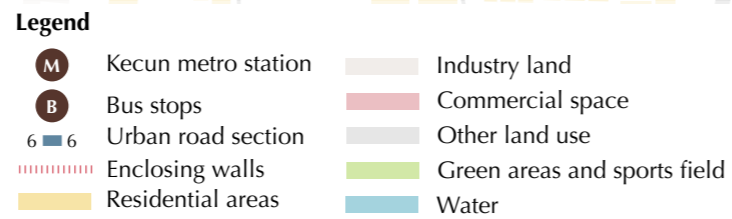
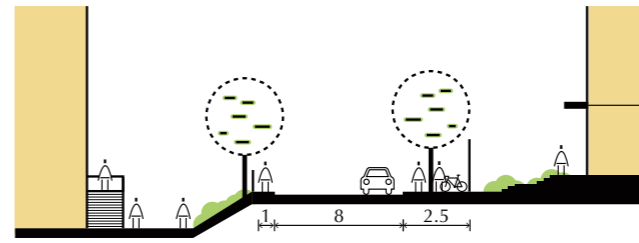


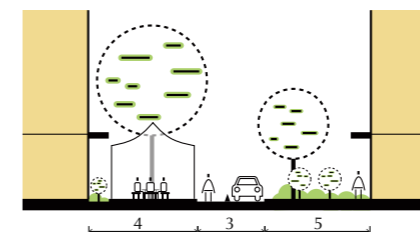
fig103. Spatial analysis on residential roads, Source: author



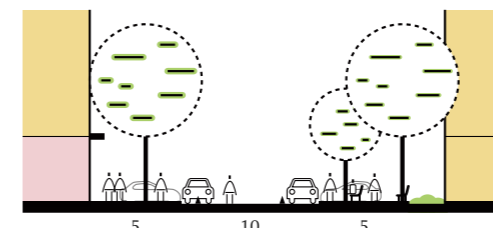
6-6 Zhuying Residential Court



7-7 Hongyun Residential Court



8-8 Textile Machine Residential Court



9-9 Textile Machine Residential Court



play walk



walk stand talk parking



play stand parking



stand enclosing space walk parking

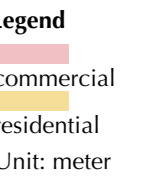


fig104-111. Road sections and photos, Source: author

The above has shown four typical roads in residential courts. Generally, roads in Danwei residential courts are relatively similar. The level of maintenance and physical environment might differ from one to another. For example, Zhuying Residential Court(6-6) and Hongyun Residential Court(7-7) are

better maintained than Textile Machine Residential Court(8-8, 9-9), where in the latter many pedestrian ways are barred by old furniture or parking. The conflicts of elderly people taking rest, pedestrians walking and parking is apparently manifested in the use of public space.

5.4.2 Spatial analysis on public space-open space

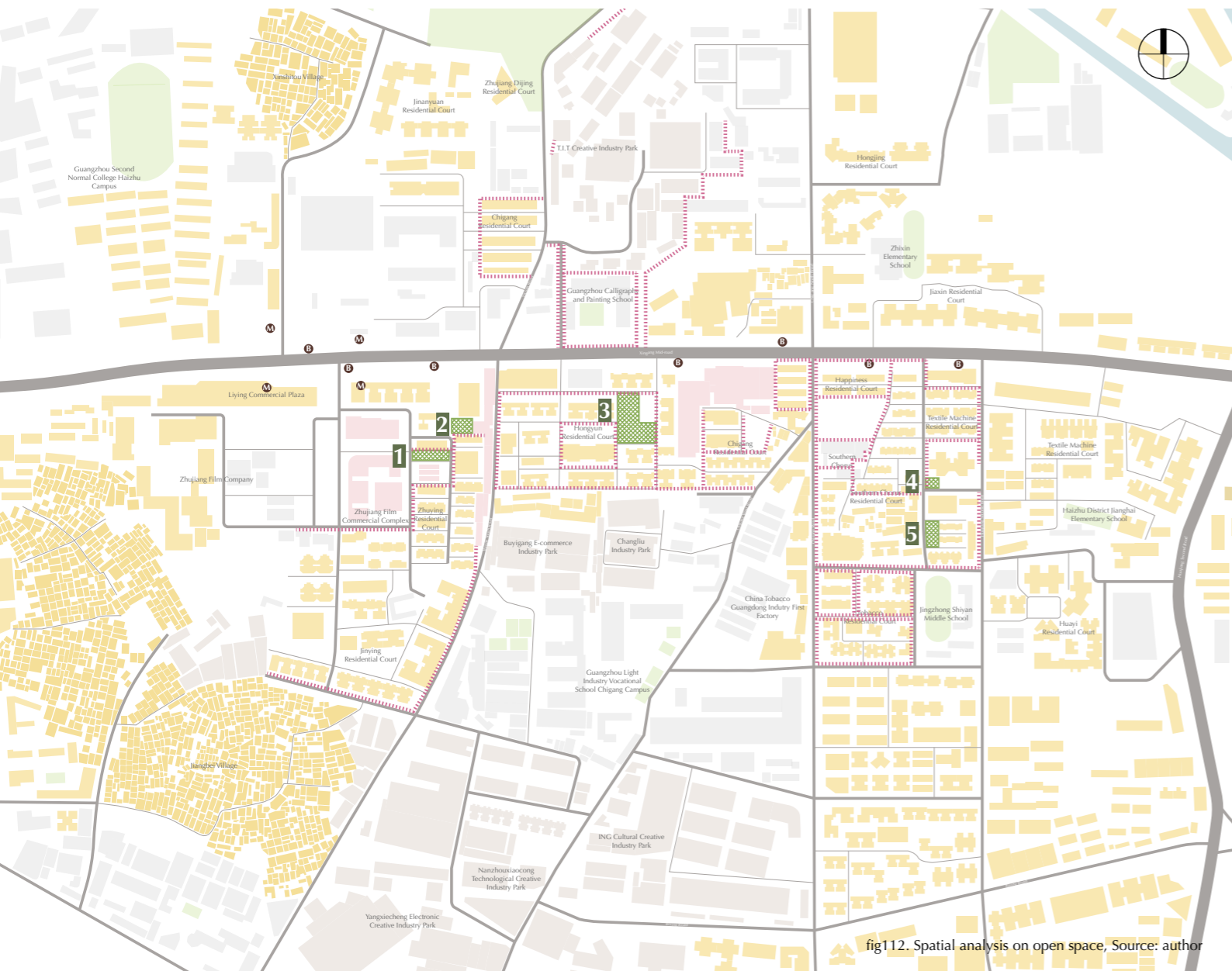


fig112. Spatial analysis on open space, Source: author

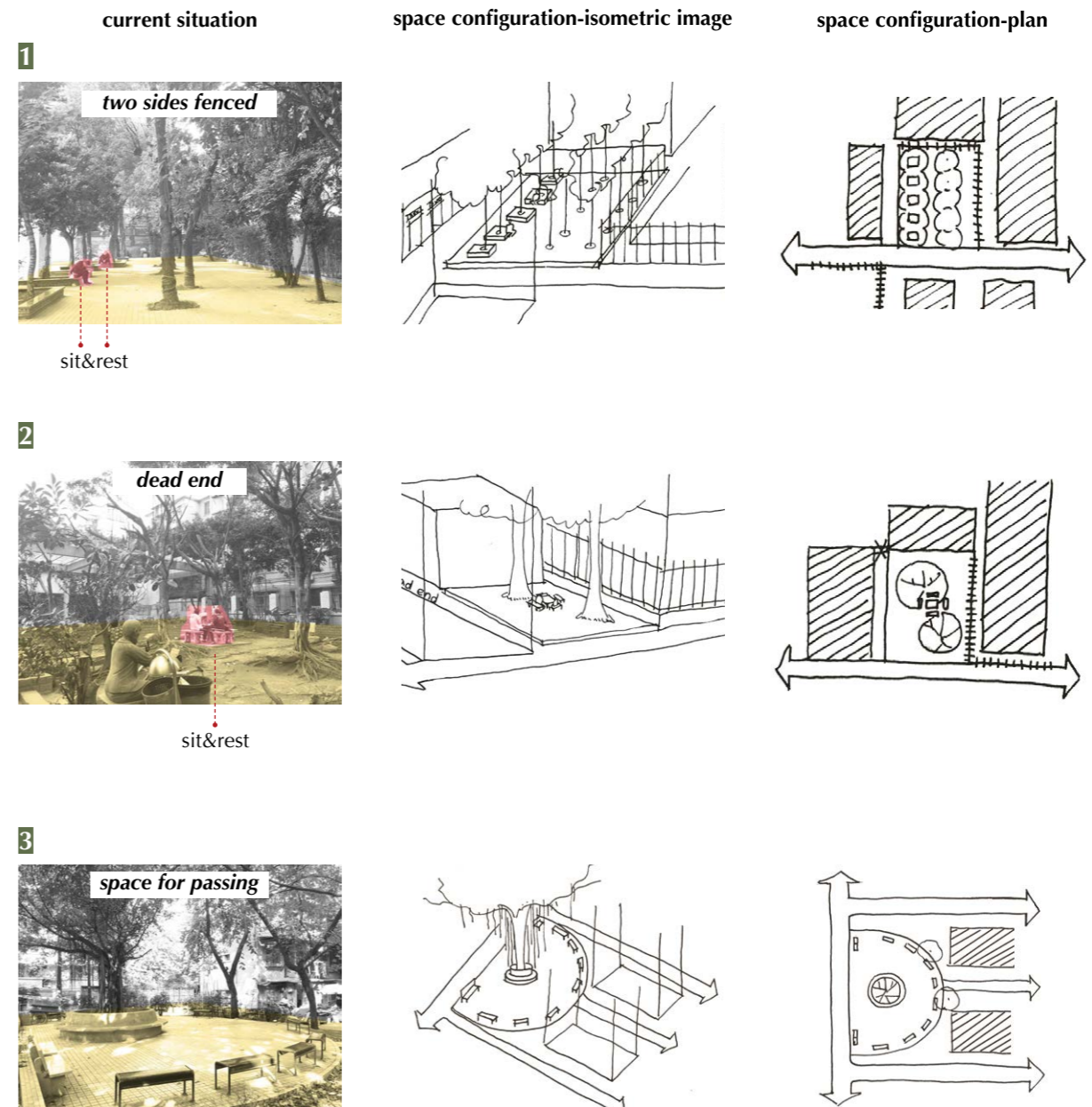
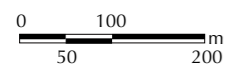


fig113-121. space configuration of open space and photos, Source: author

5.4.2 Spatial analysis on public space-open space

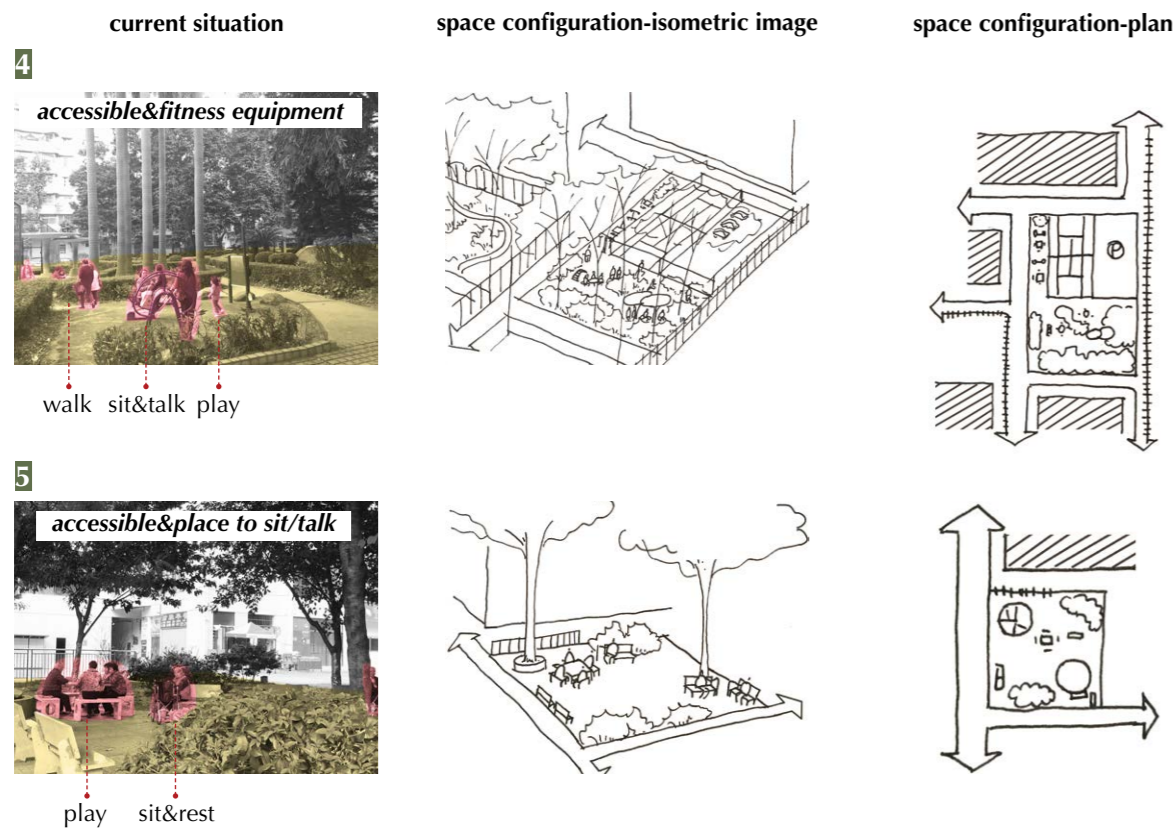


fig122-127. space configuration of open space and photos, Source: author

The open space identified here are spaces that are designed as public spaces in residential areas. The frequency of using these spaces differ from one to another owing to its location and space configuration. Some of them are popular, and in others you can hardly spot any users. Unpopular spaces like figure 1 and 2 are located in dead-end spots, and in figure 3 it is more like a passageway to the two buildings inside rather a place for stay. Conversely, spaces in figure 4 and 5 are more popular because of higher accessibility,

openness and a relatively enclosed feeling with a suitable arrangement of benches, tables and exercise facilities.

5.4.3 Spatial analysis on public space-spontaneous space

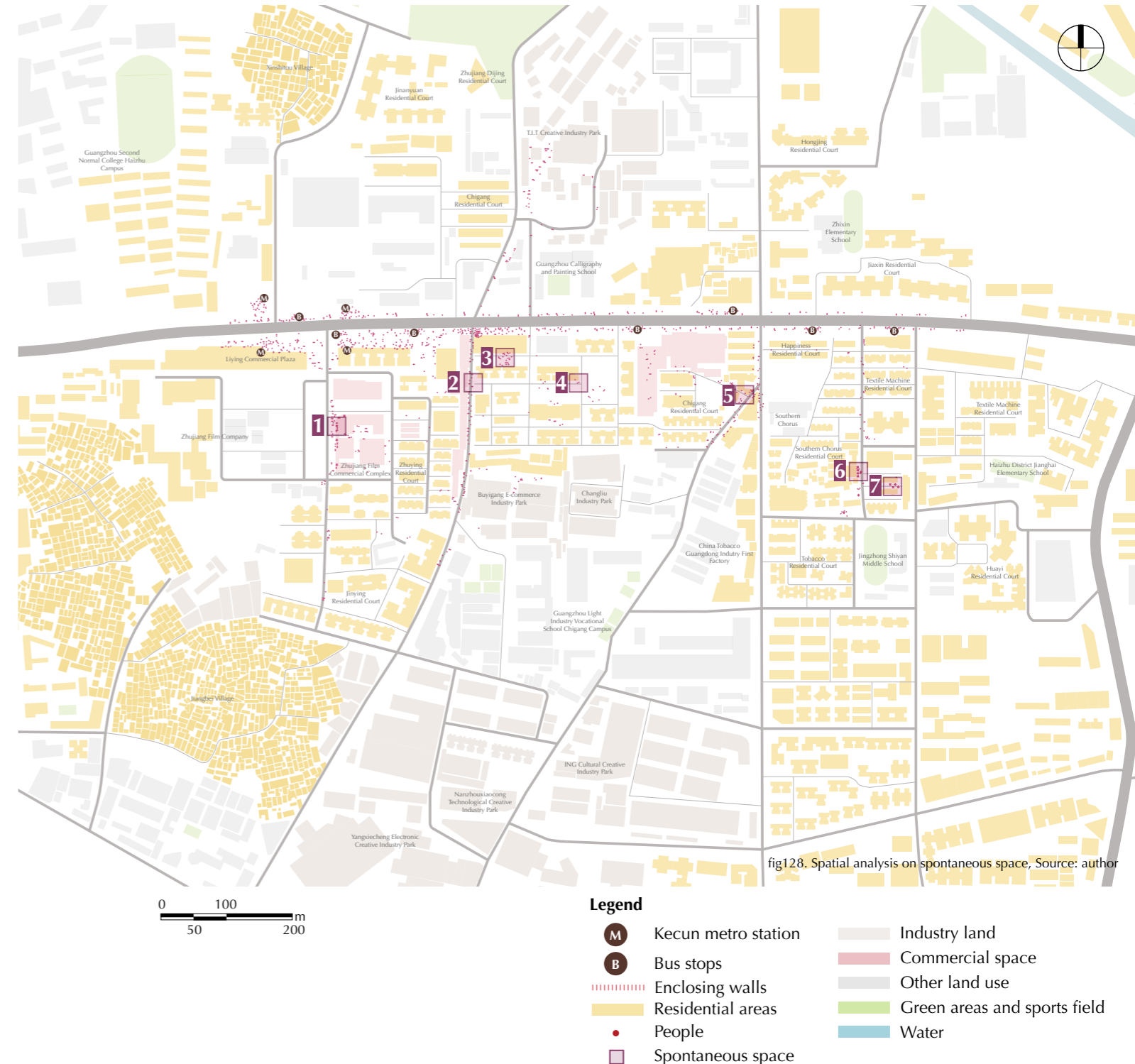


fig128. Spatial analysis on spontaneous space, Source: author

5.4.3 Spatial analysis on public space-spontaneous space

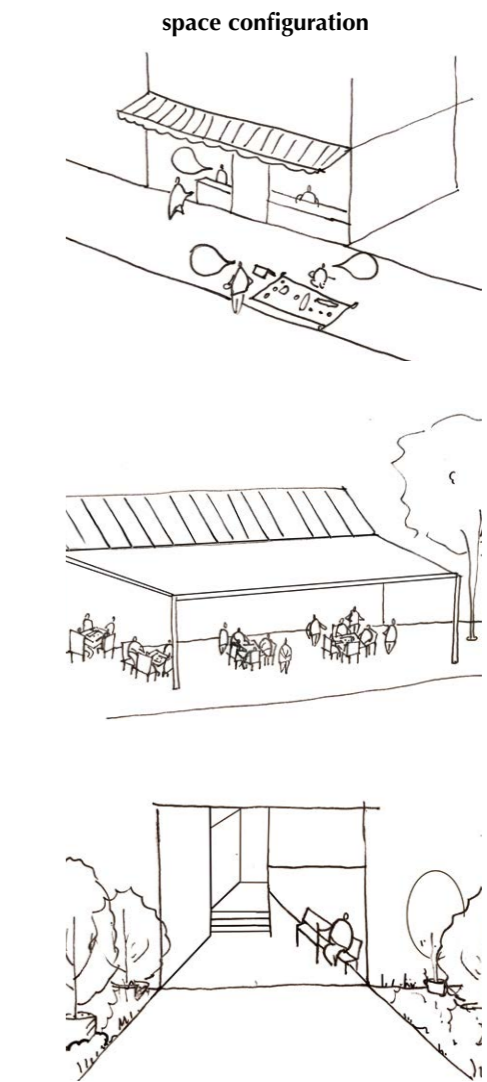
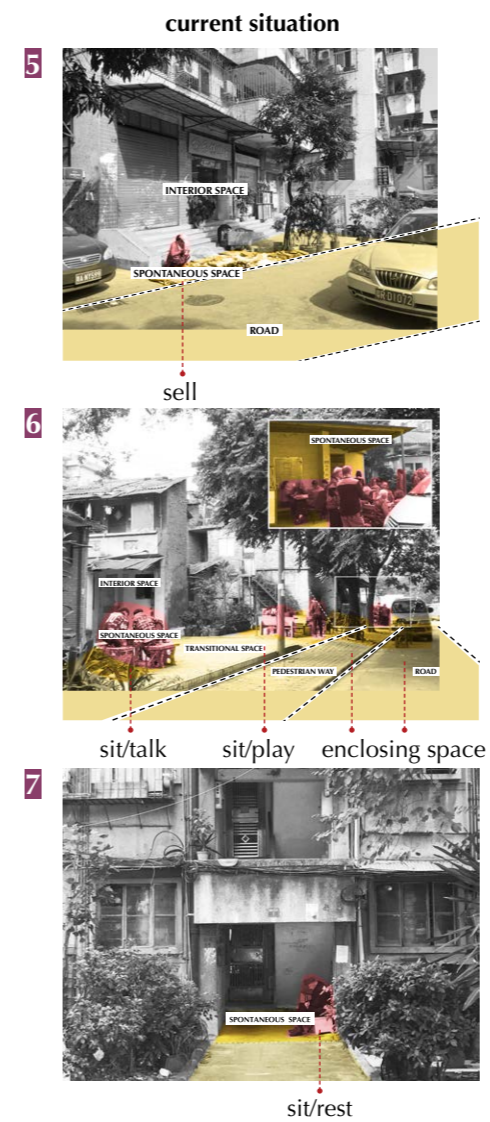
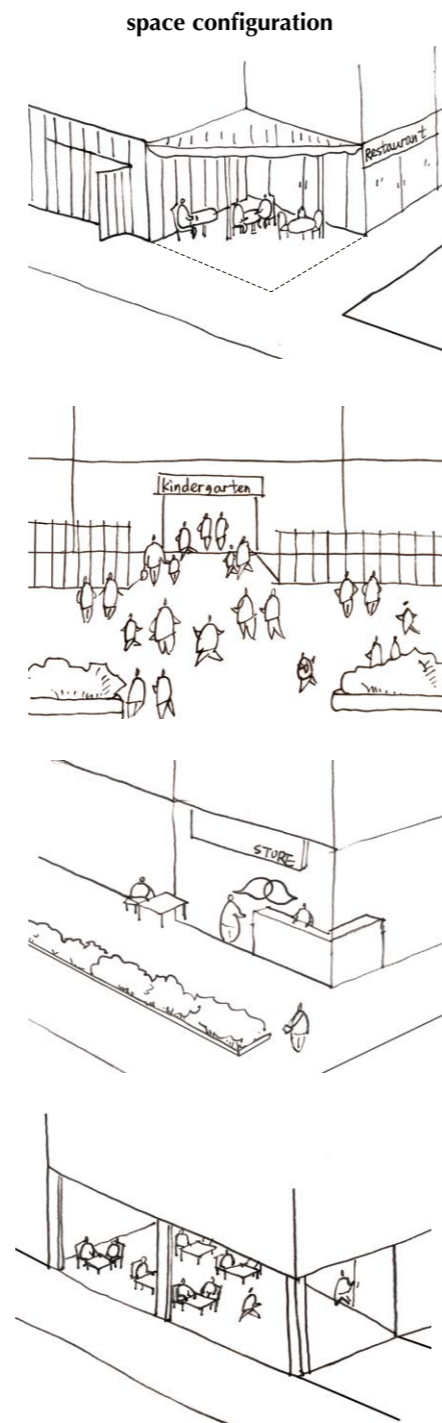
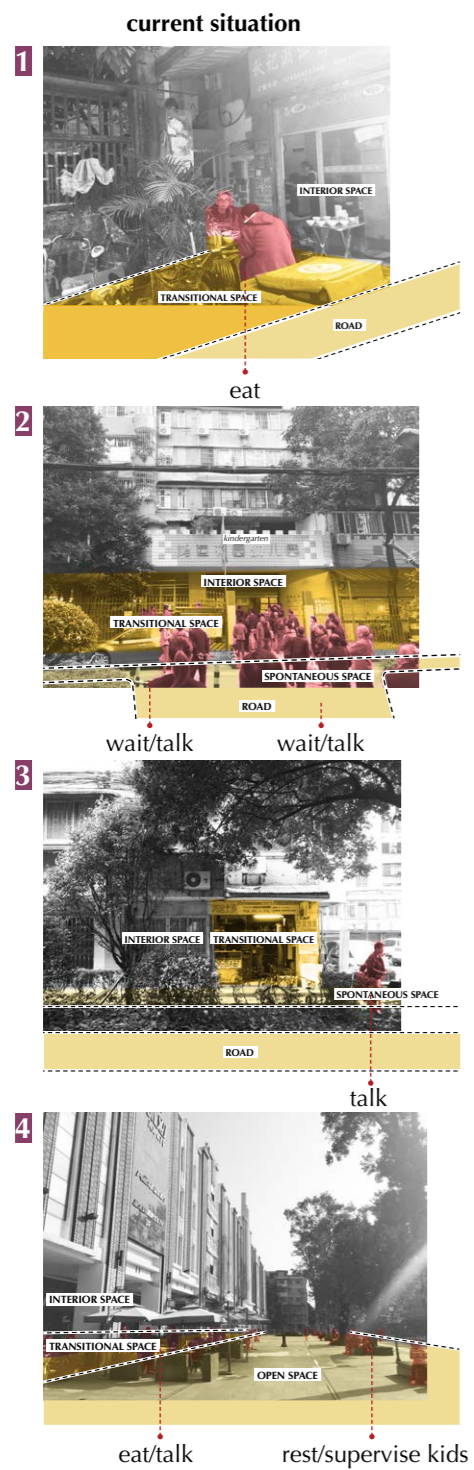


fig129-142. space configuration of spontaneous space and photos, Source: author

Compared to designed open spaces, spontaneous spaces are created by users, therefore representing clearly their spatial demand and daily pattern. Therefore, we can conclude from the observation that elderly people stay more inside the Danwei court, where they need more outdoor open

space for meeting, resting, playing mahjong. Mixed use on the ground floor such as a small tea house and convenience store are also appreciated. In conclusion, good public space should be flexible to include different activities to happen.

5.4.5 Spatial structure of Danwei residential court

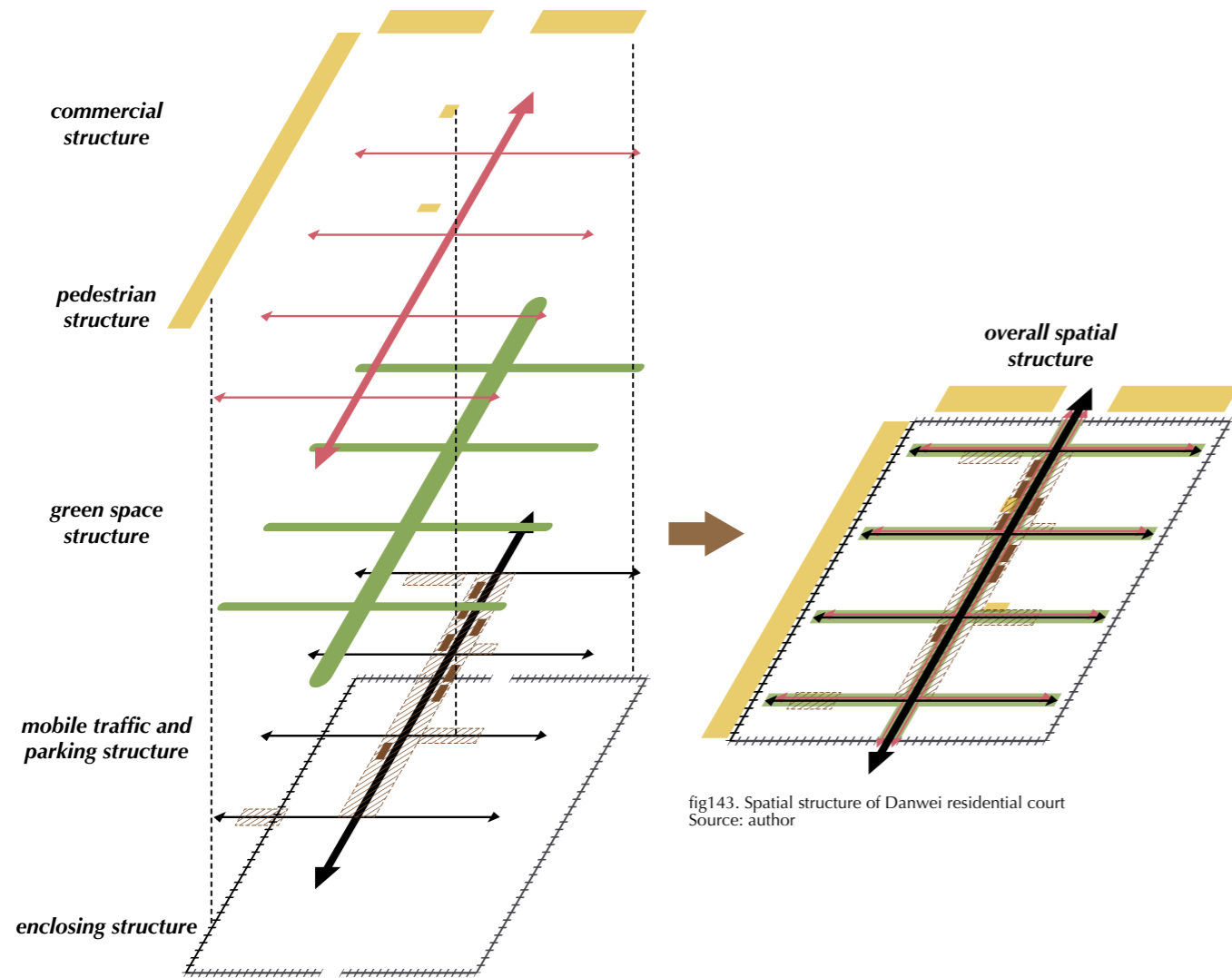
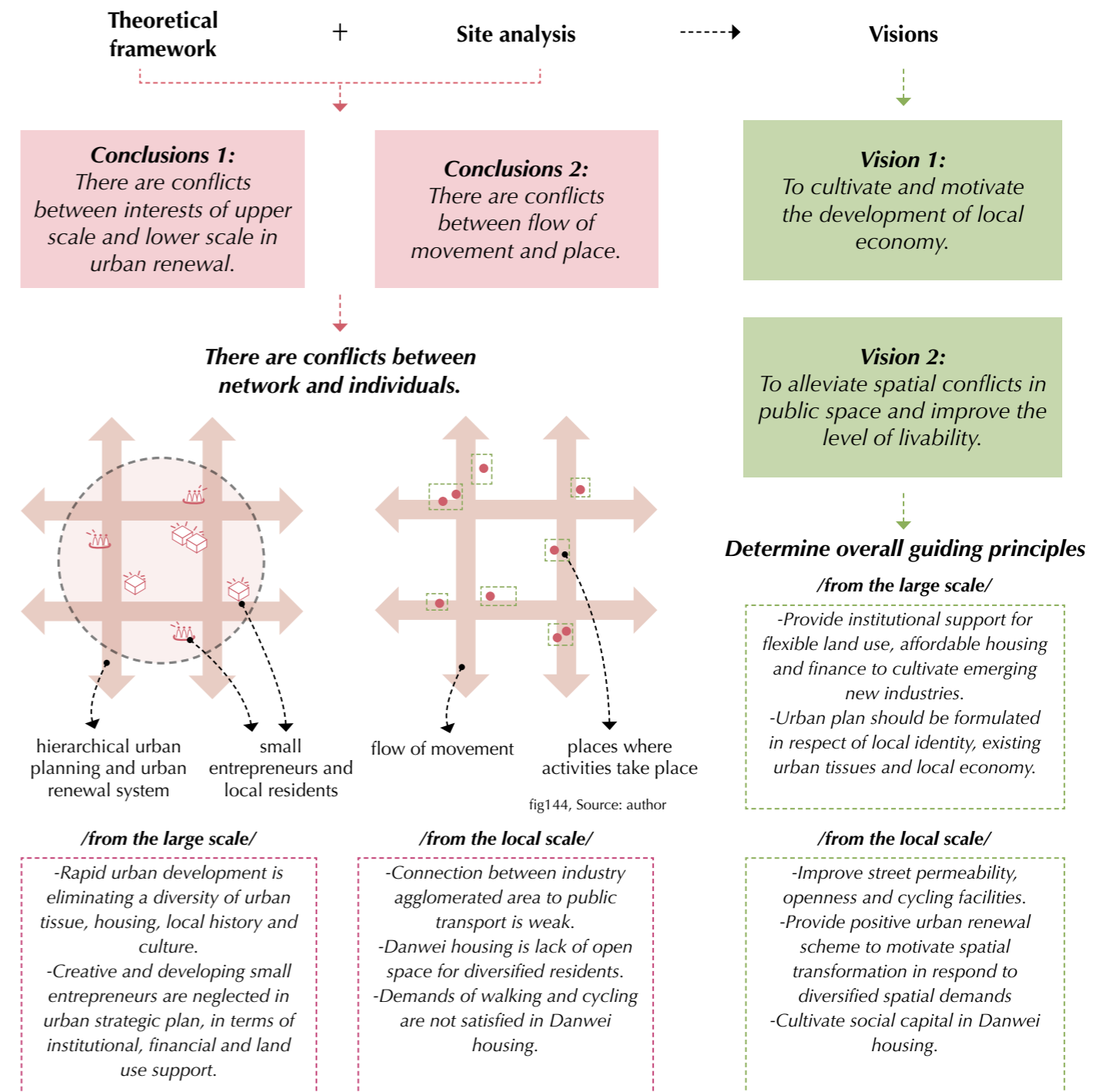


fig143. Spatial structure of Danwei residential court
Source: author

In a typical 80s'-90s' residential court, pedestrian way, green space, traffic flow and parking are in fish-bone shape and spatially overlapped, therefore resulting in conflicts in the use of space. In conclusion, new demands for Danwei housing include walkability, connection to public transport, parking for cars and bicycles, open space for

activities, basic mixed functions such as gym, convenience store and teahouse for different residents.

5.5 Conclusions and visions



CHAPTER 6

Strategies

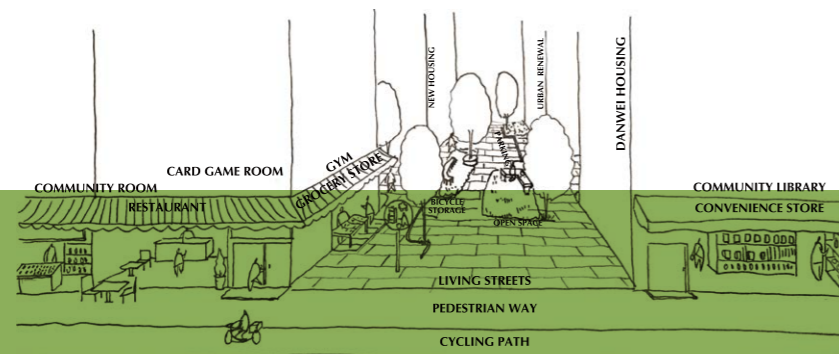


fig145. sketch of the entrance to a Danwei neighborhood with living streets
Source: author

From an acquaintance society (Fei, 1947) to a stranger society, after over three decades of economic reform and rapid urbanization, the society, economy and space have been transforming and restructuring (Ma, Wu, 2005) in an unprecedented model. However, this model is in such a way that the fundamental element, people, is kind of neglected from the “big picture”. Therefore, “strategies” in this chapter are raised from both the top-down plan, and the bottom-up people-oriented demands, which are then translated into institutional suggestions and urban designs that are mutually supported.

6.1 Institutional suggestions and design principles

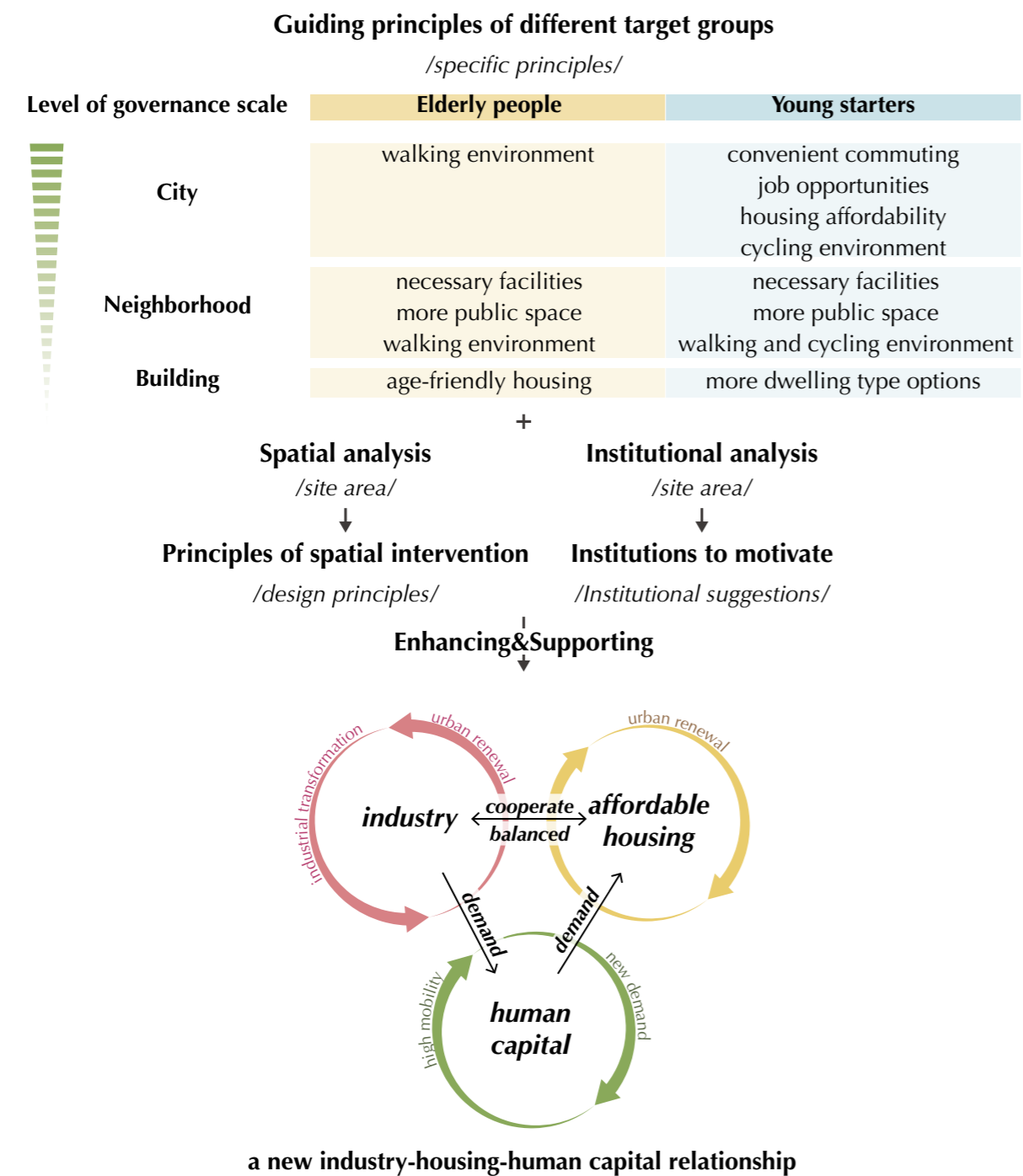


fig146, Source: author

6.1.1 Institutional suggestions

Support new industries

Provide incentives for new industries that are high-tech, ecological and creative, which can include flexible land use and function policies, low-interest loan policies, and personnel policies.

Motivate bottom-up urban renewal and multiple collaboration between different sectors

Encourage former Danwei landowners to cooperate with investors to redevelop idle industry land that fits the positioning in upper scale plan and the requested public welfare input.

It is recommended that the co-developers take part in the renewal of their own Danwei housing and adjacent residential neighborhood as package projects. In this case, the co-developers can get extra incentives to develop vacant land or buildings in the end of their lifespan in site, or plots in other locations by transfer of development rights.

If the former Danwei land is retrieved by the government, the initial landowner can share a certain percentage of the profit from the land retrieving.

For other old residential courts excluded in package projects, the government will designate state-owned entrepreneurs to take part in renewal projects and in return they can get incentives by transfer of development rights to develop plots in other locations.

Motivate mixed use

Motivate mixed use of functions in industrial and residential areas.

Increase public investment

Increase public investment in improving connection to main public transport and cycling facilities including cycling routes and bicycle racks.

Increase public investment in public rental housing in city central districts by diversified housing supply.

Guarantee public priority principle

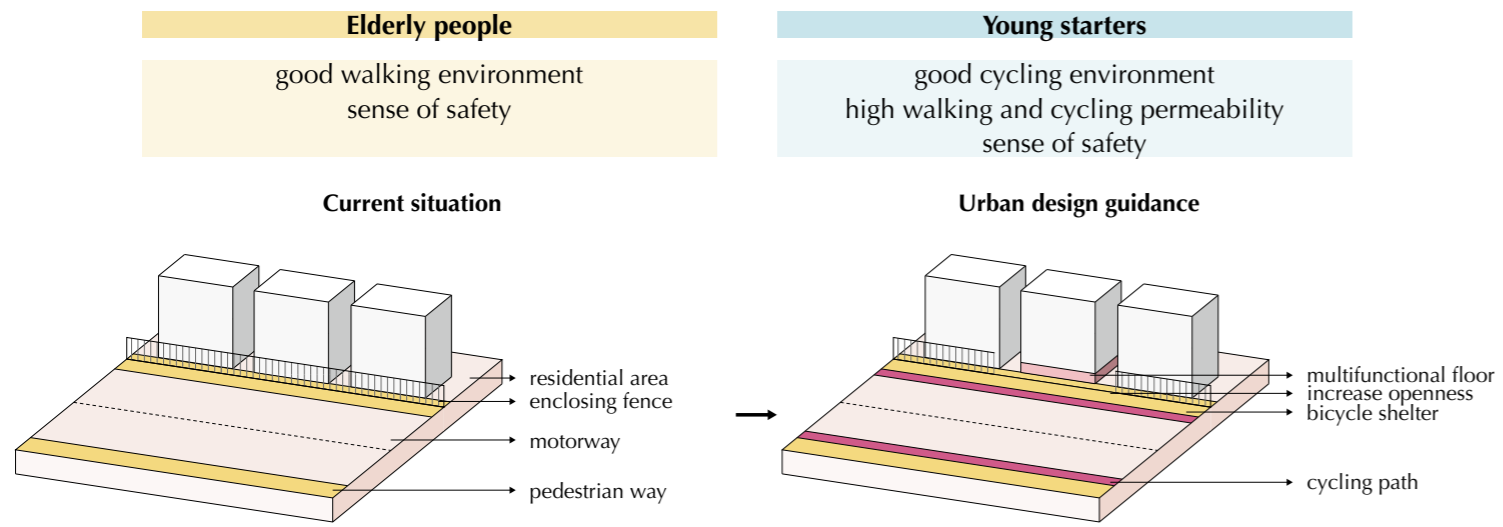
In urban renewal projects, developers should provide a certain percentage of land for public welfare such as public facilities or public green space. This can be implemented either by developers or transferred to the government for the same function.

Long-term scheme covering full lifespan

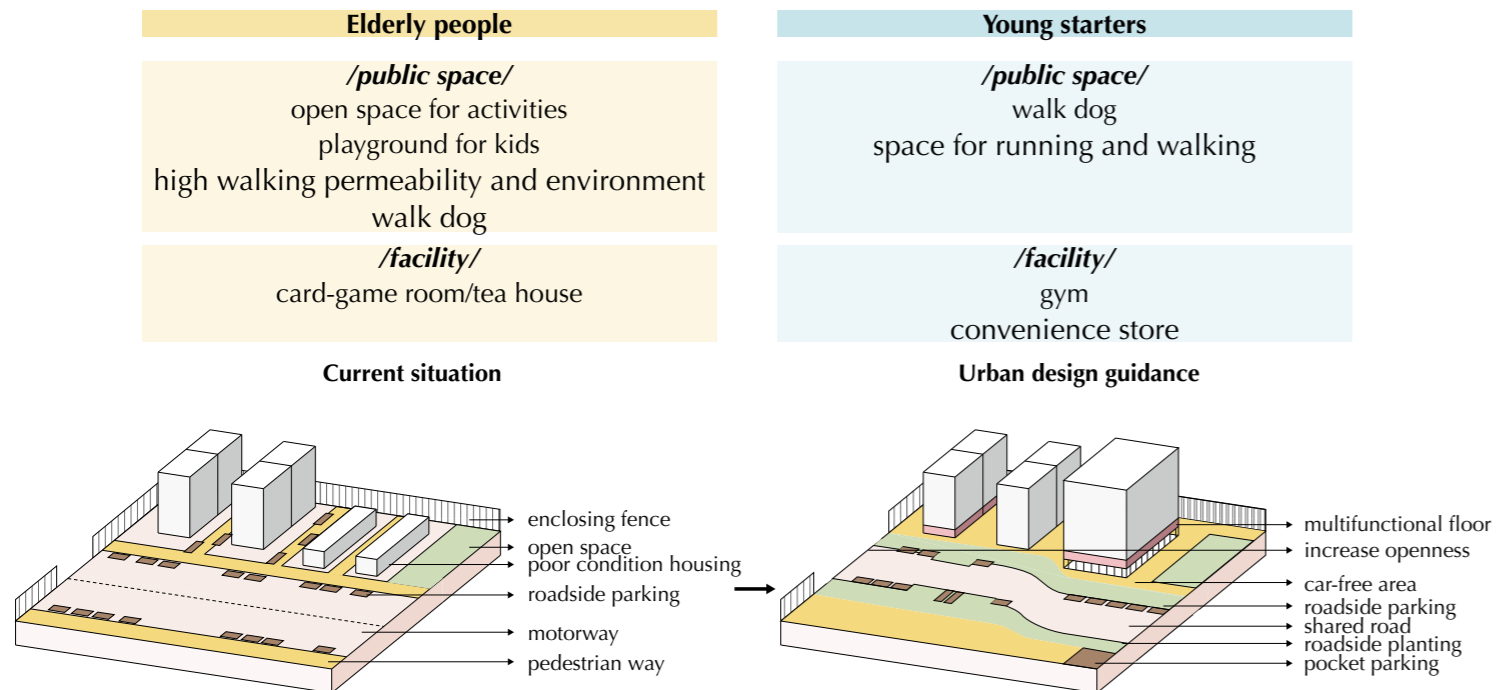
Motivate gradual urban renewal scheme. Manage the full lifespan of existing buildings to carry on urban renewal in progressive phases.

6.1.2 Design principles

Design principles in city scale of governance



Design principles in neighborhood scale of governance



Design principles in building scale of governance

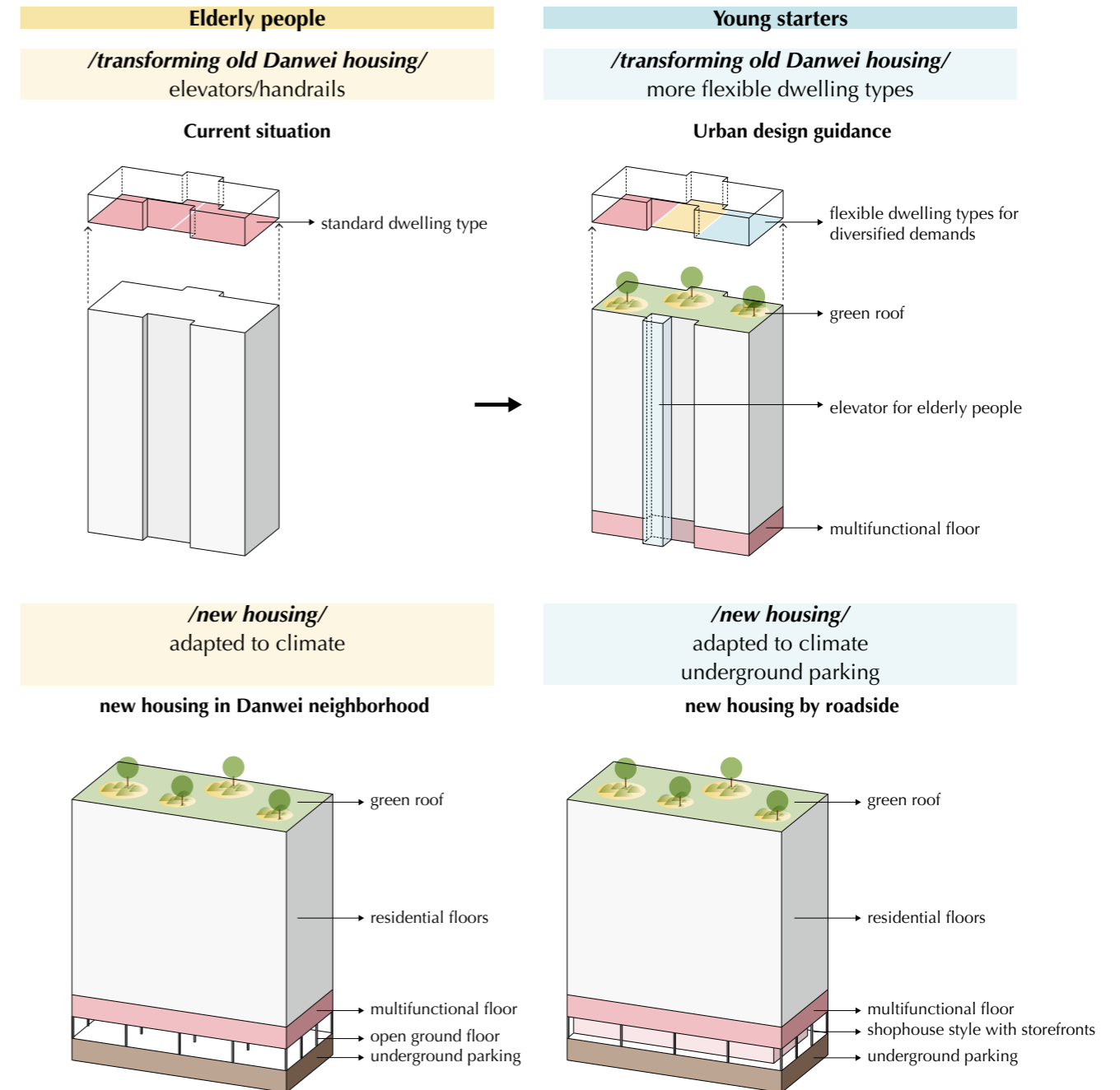
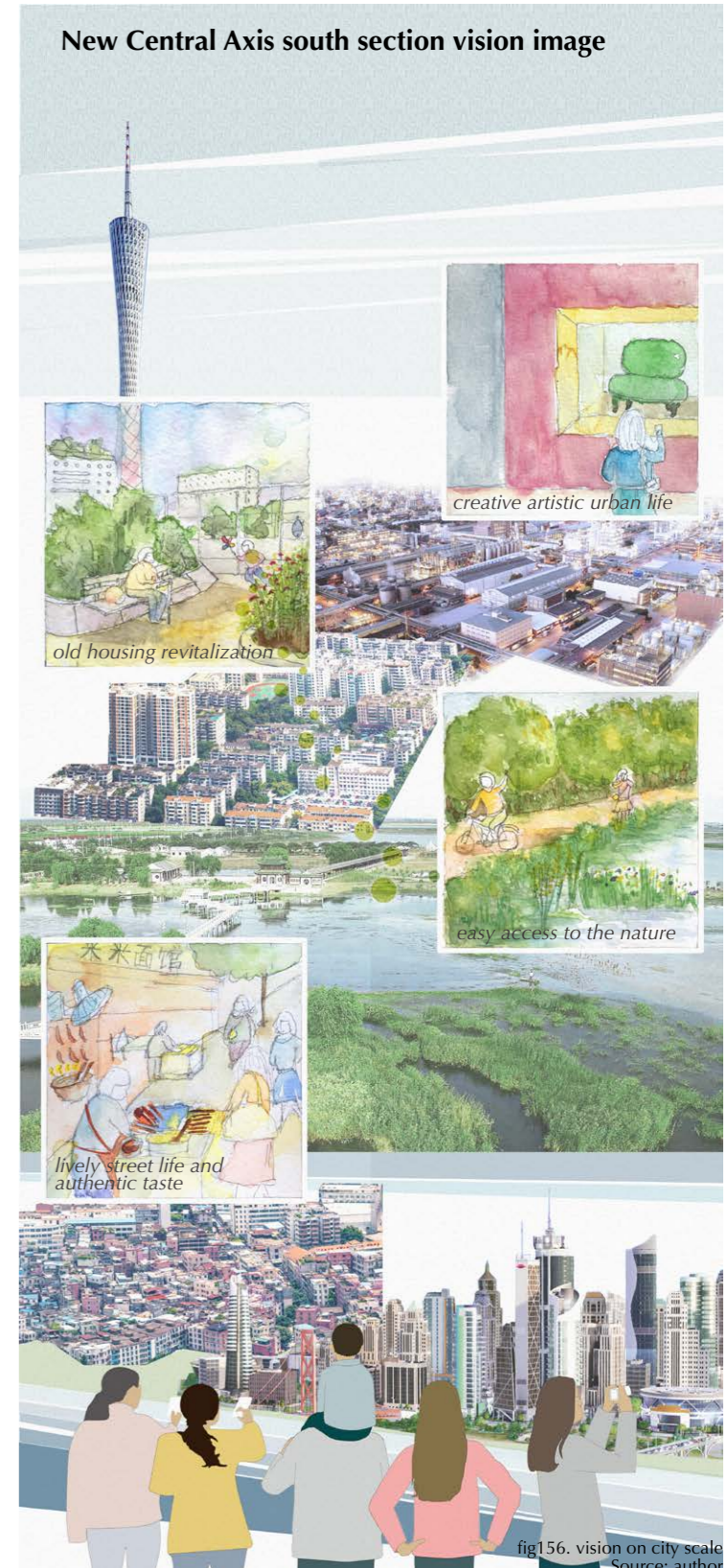
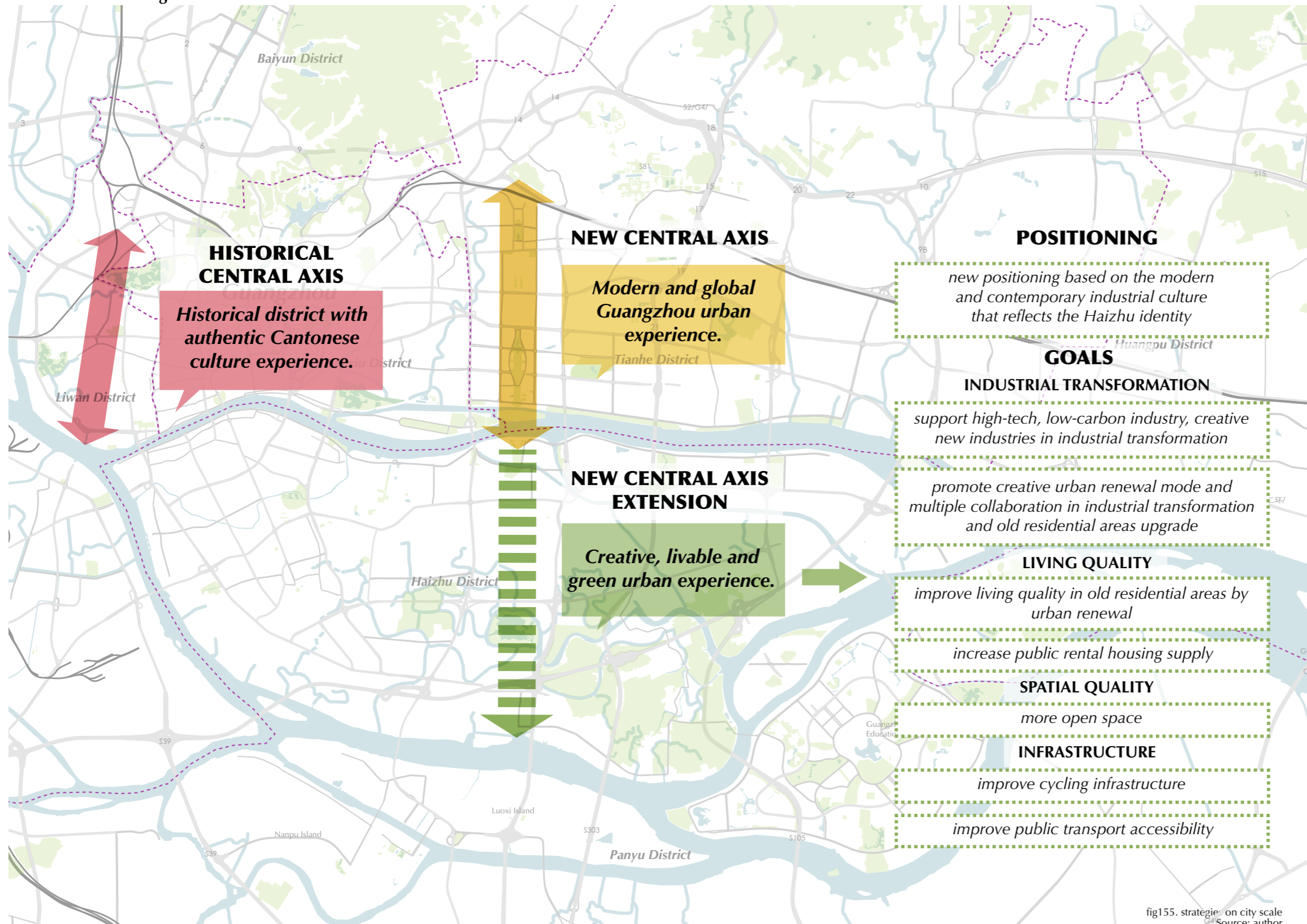


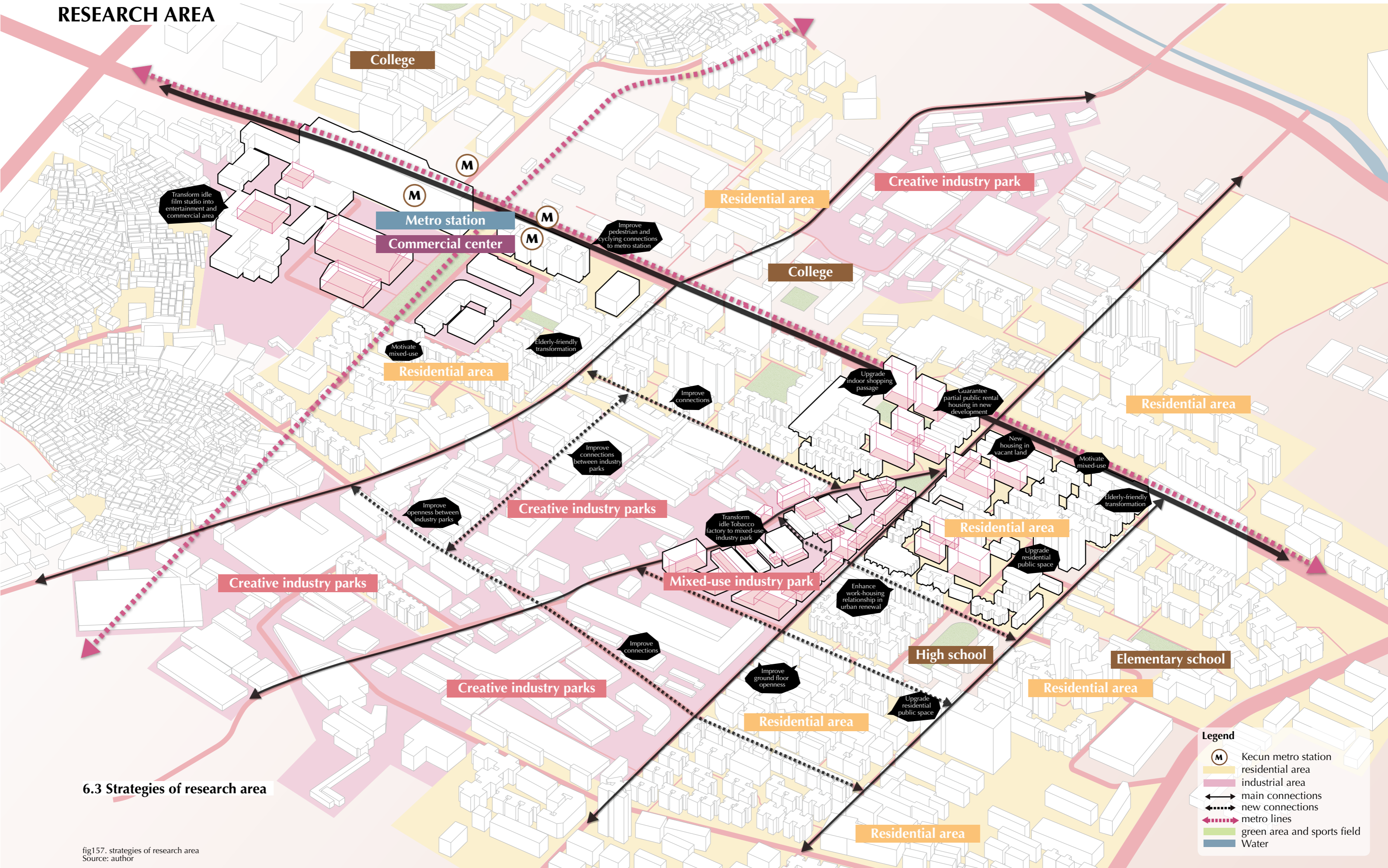
fig147-154. design principles
Source: author

6.2 Strategies on city scale

Positioning of the New Central Axis



RESEARCH AREA



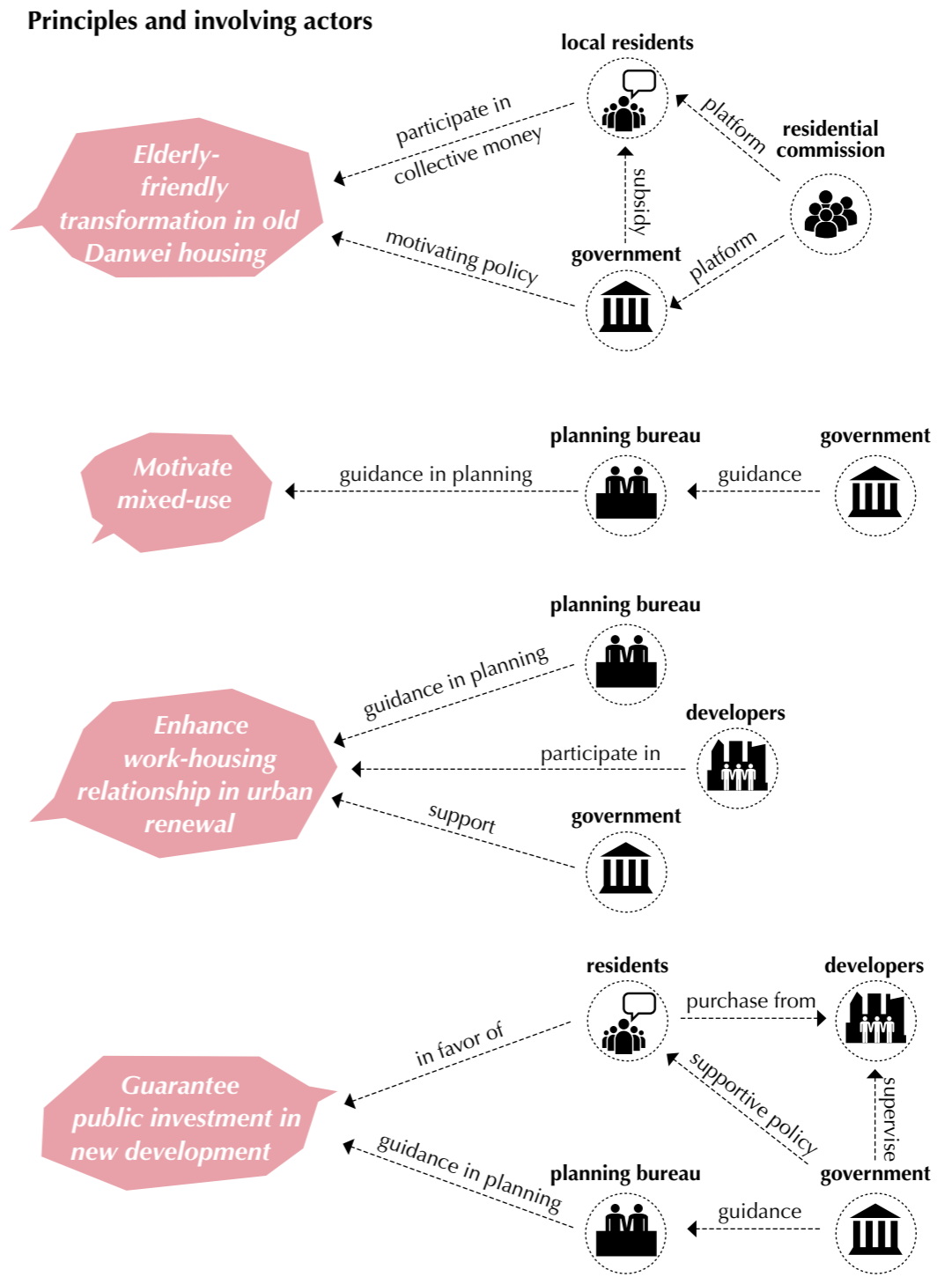
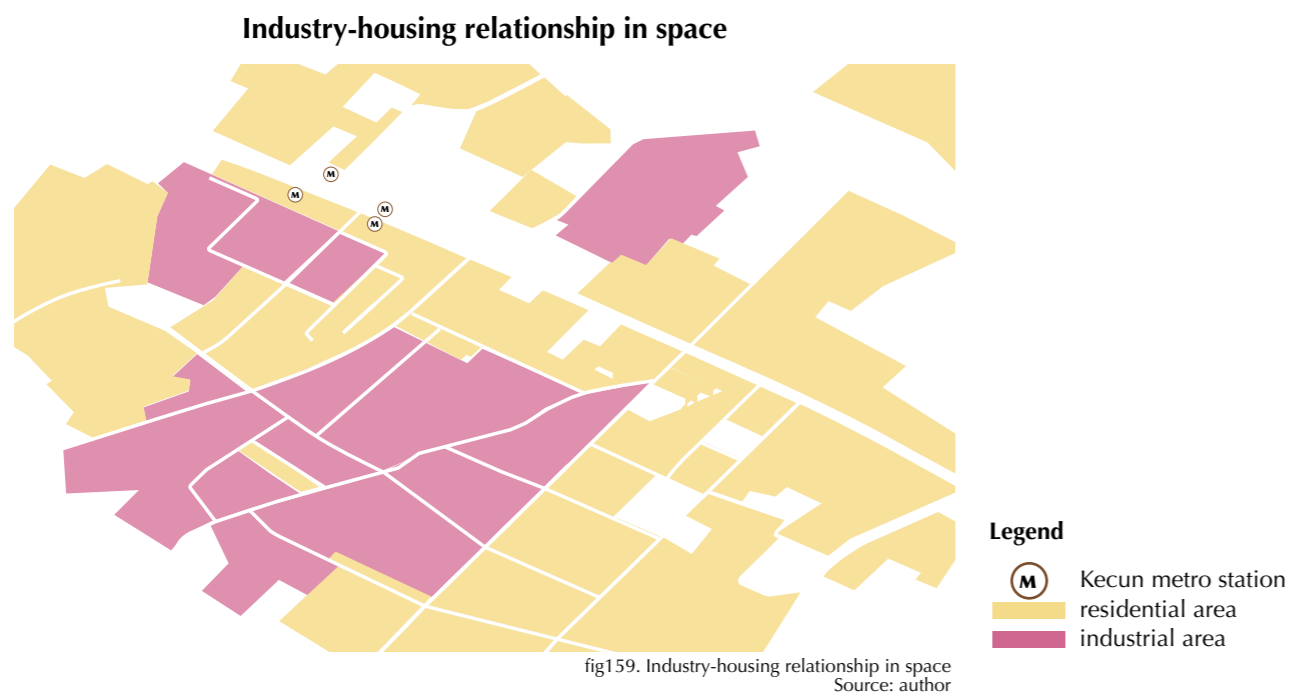
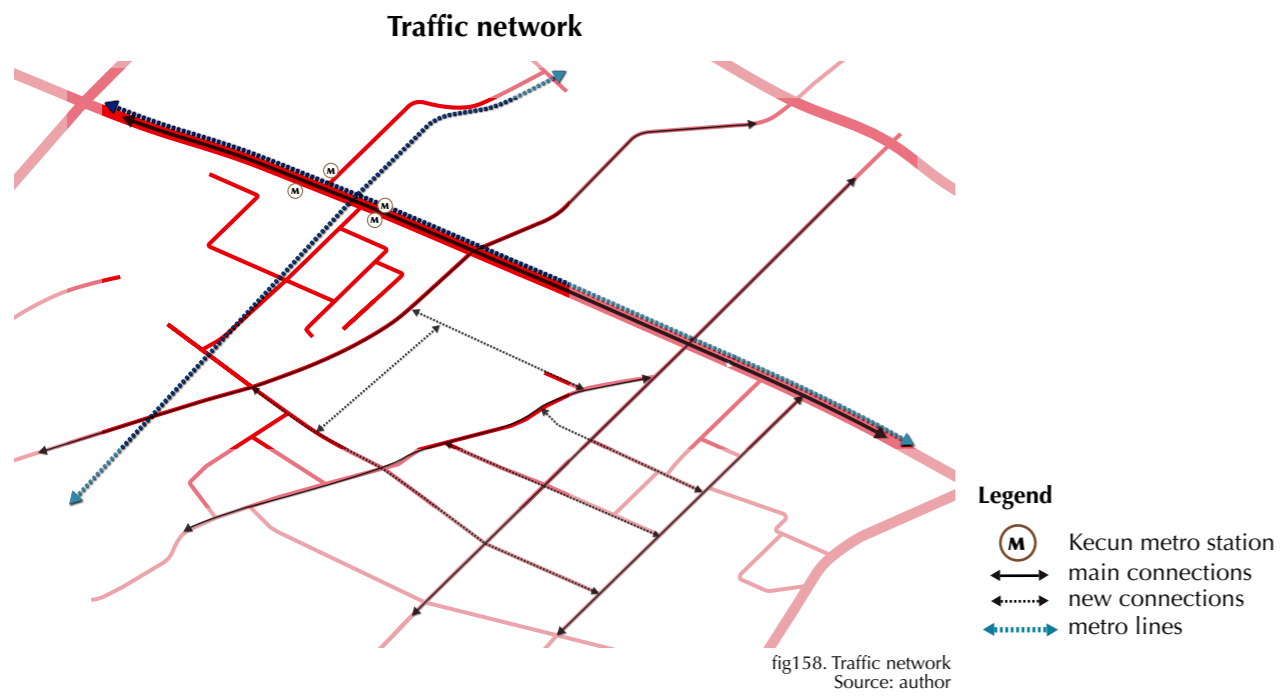
6.3 Strategies of research area

fig157. strategies of research area
Source: author

Legend

- M Kecun metro station
- residential area
- industrial area
- main connections
- new connections
- metro lines
- green area and sports field
- Water

6.3 Strategies of research area



6.4 Strategies of test design area

Current land use in test design area

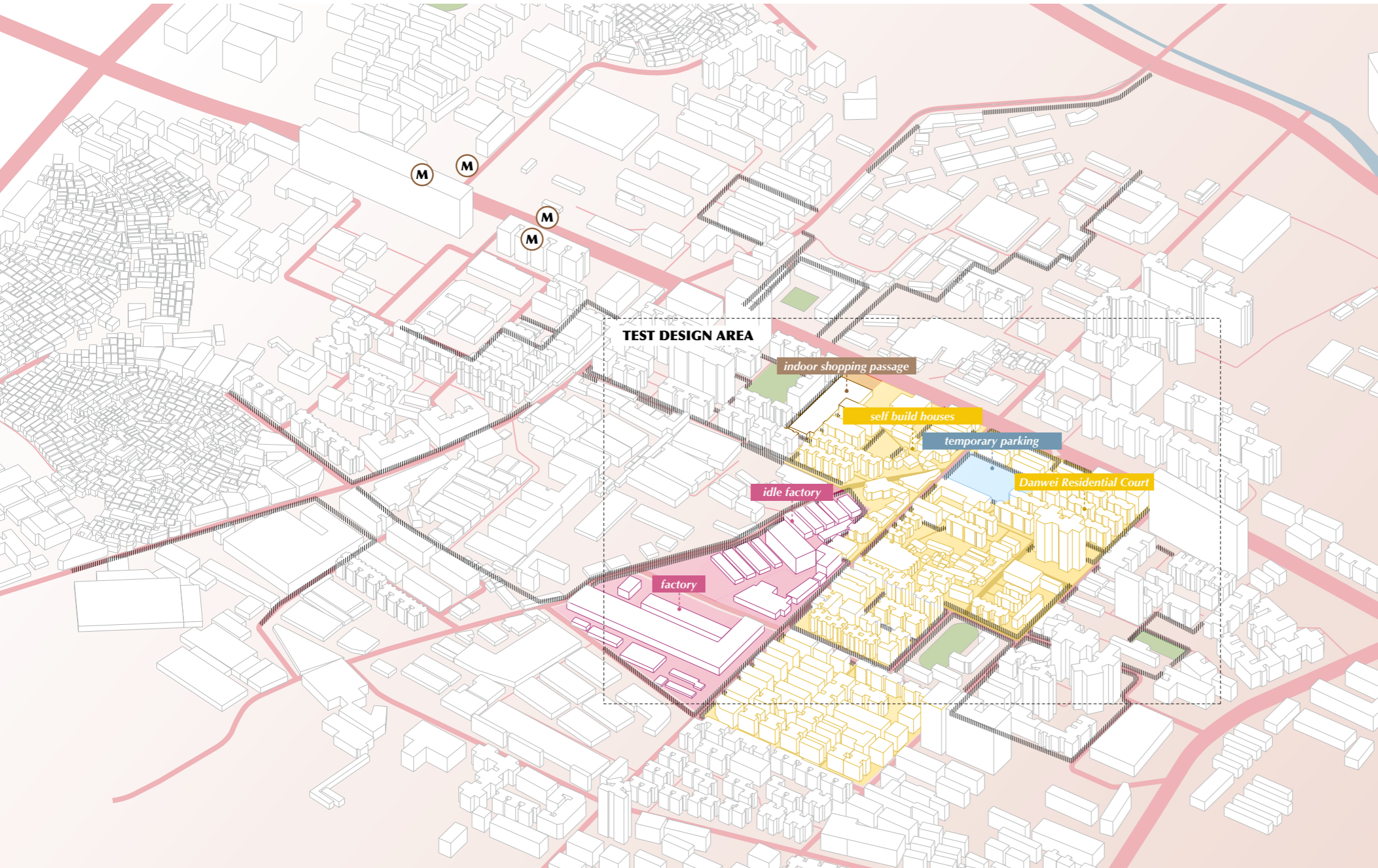


fig160. Current land use in test design area
Source: author

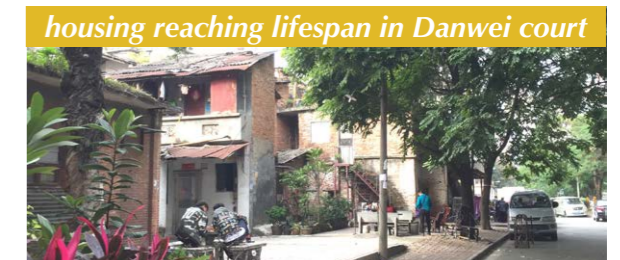
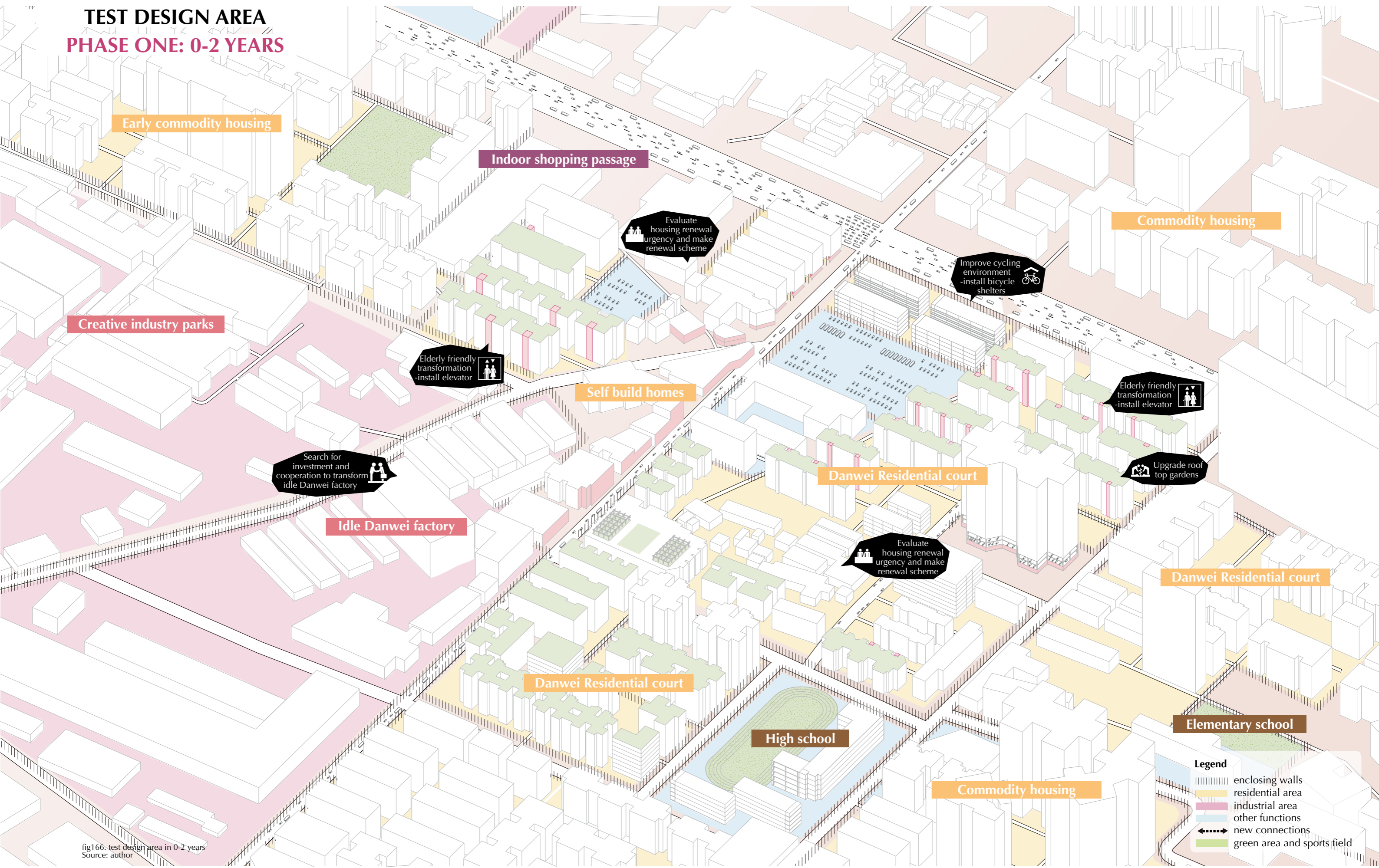


fig161-165. photos of test design area
Source: author

TEST DESIGN AREA
PHASE ONE: 0-2 YEARS



Early commodity housing

Indoor shopping passage

Commodity housing

Evaluate housing renewal urgency and make renewal scheme

Improve cycling environment -install bicycle shelters

Creative industry parks

Elderly friendly transformation -install elevator

Self build homes

Elderly friendly transformation -install elevator

Search for investment and cooperation to transform idle Danwei factory

Idle Danwei factory

Danwei Residential court

Upgrade roof top gardens

Evaluate housing renewal urgency and make renewal scheme

Danwei Residential court

Danwei Residential court

High school

Elementary school

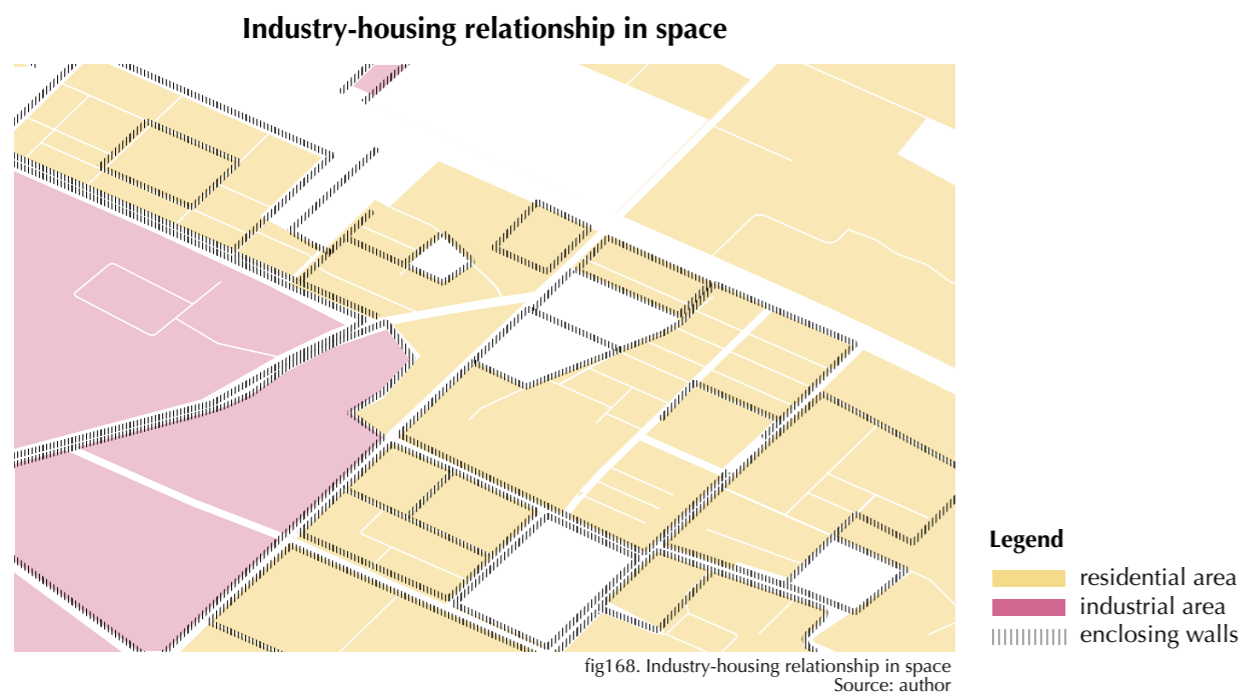
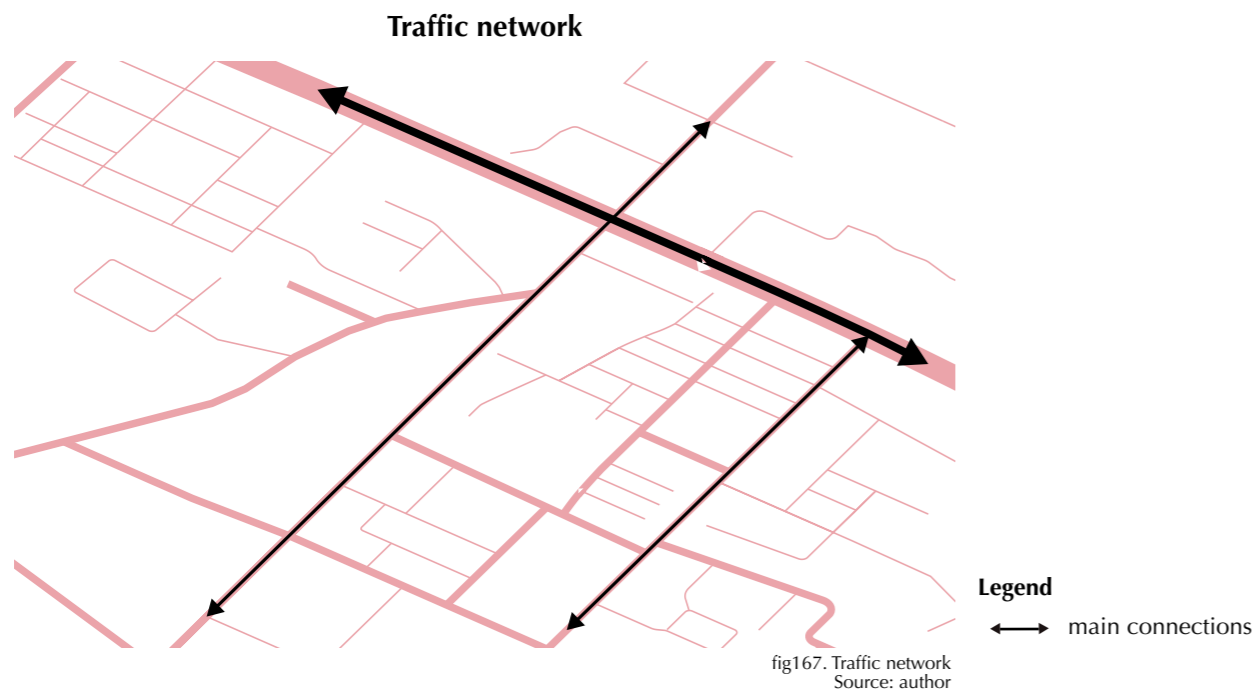
Commodity housing

- Legend**
- enclosing walls
 - residential area
 - industrial area
 - other functions
 - new connections
 - green area and sports field

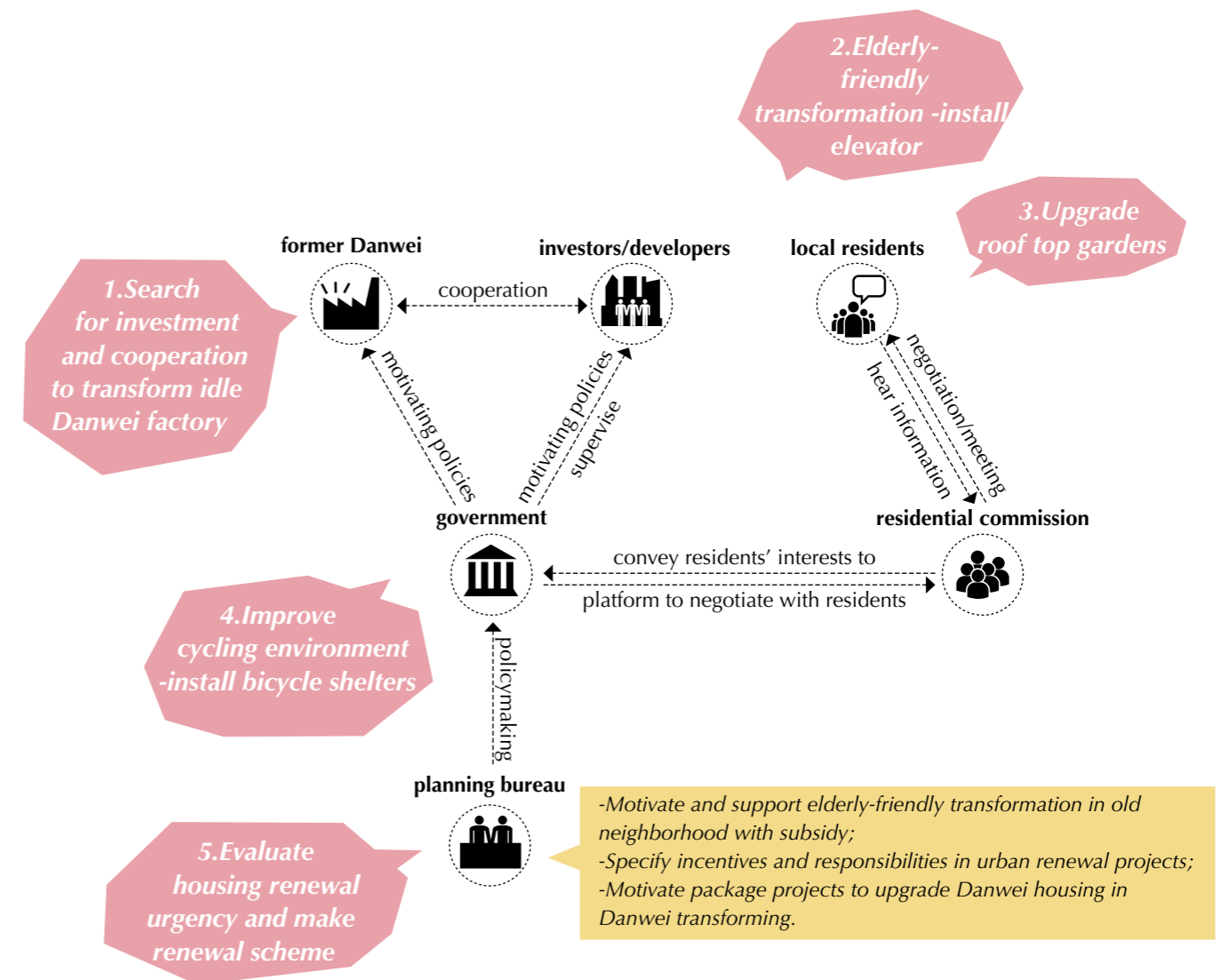
fig166: test design area in 0-2 years
 Source: author

6.4 Strategies of test design area

Phase One: 0-2 years



Actions and involving actors



TEST DESIGN AREA
PHASE TWO: 2-5 YEARS

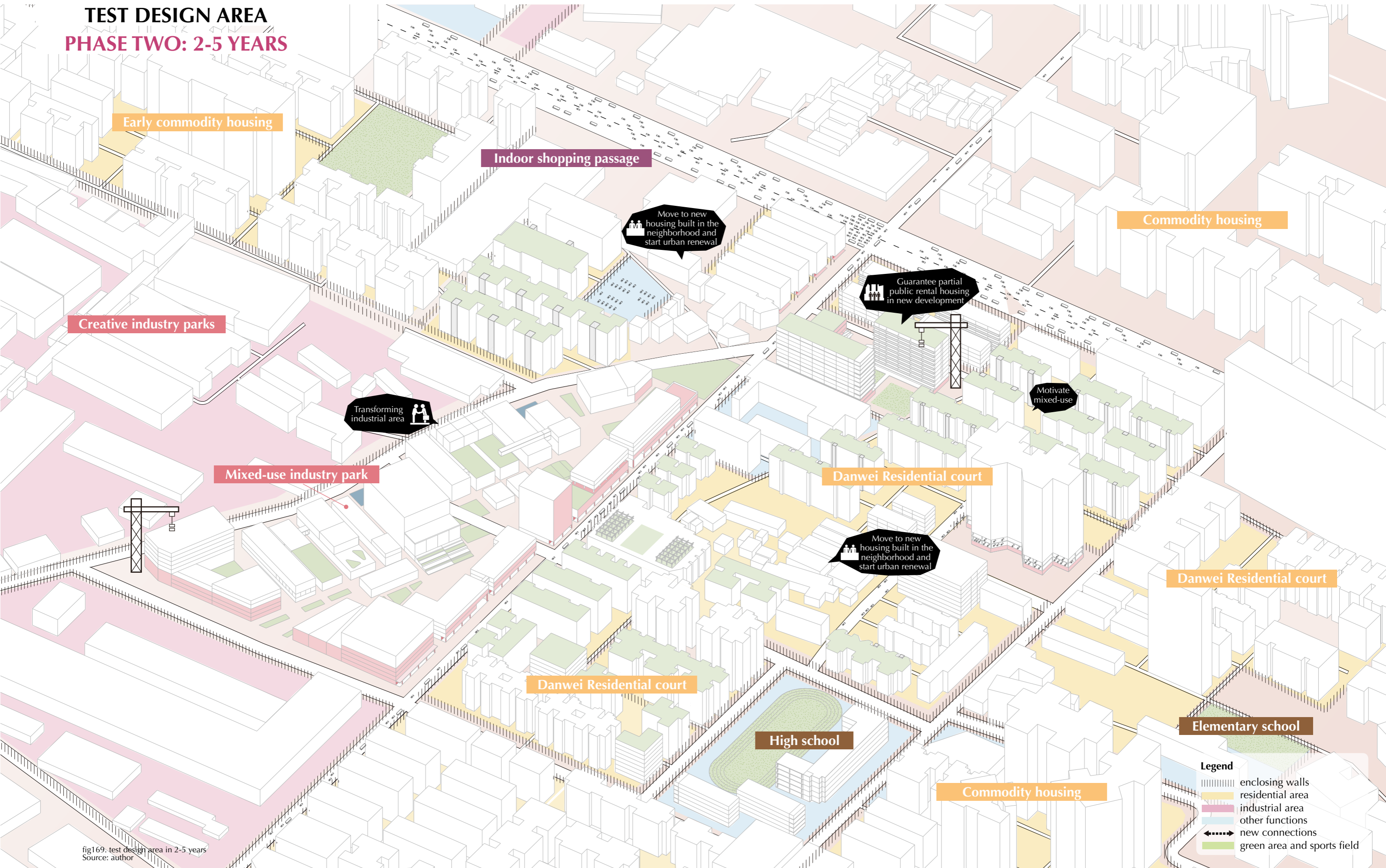
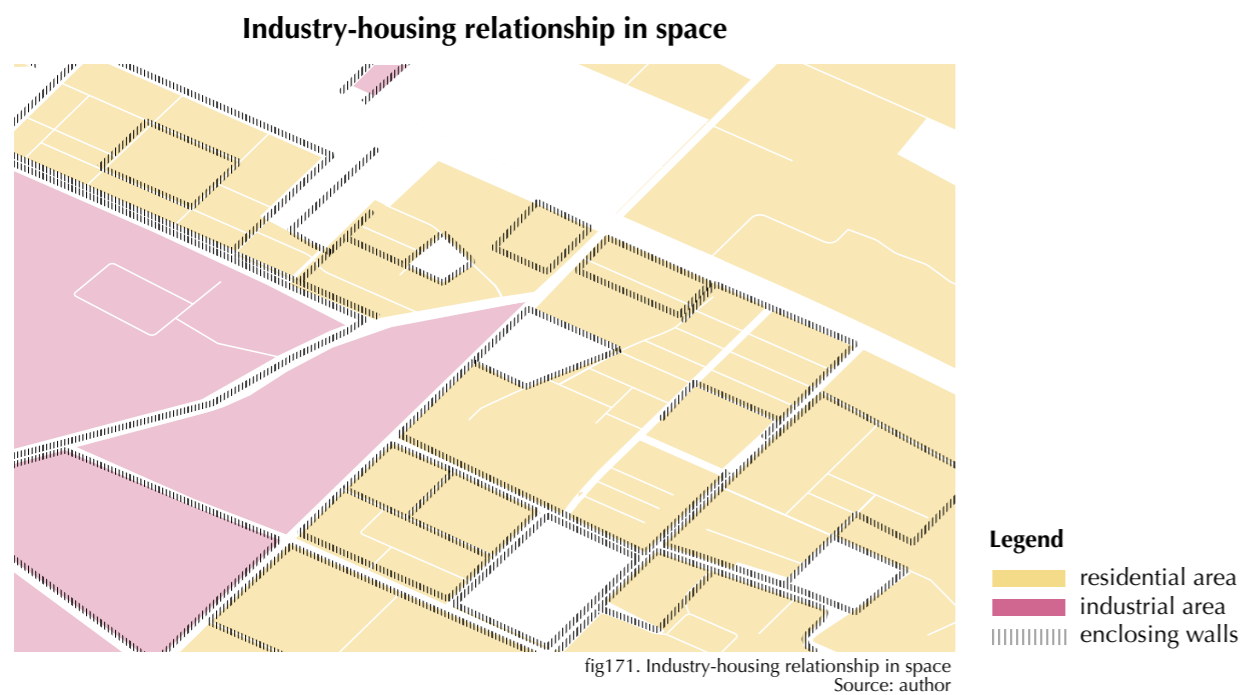
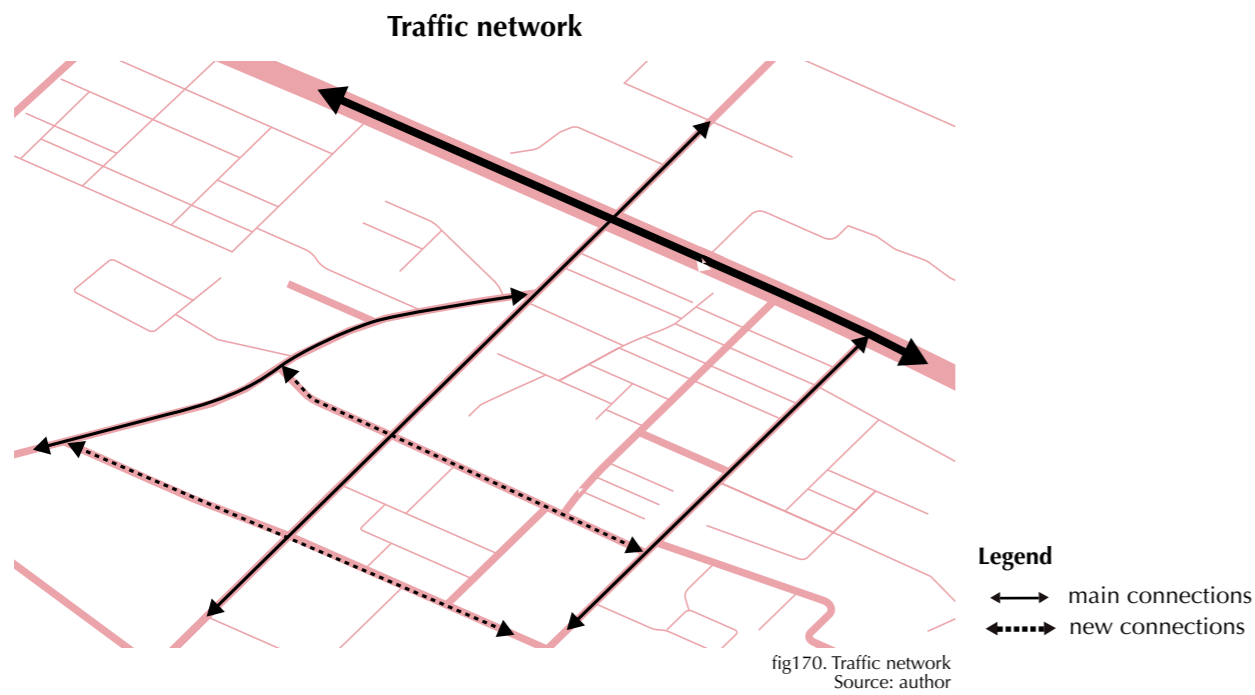


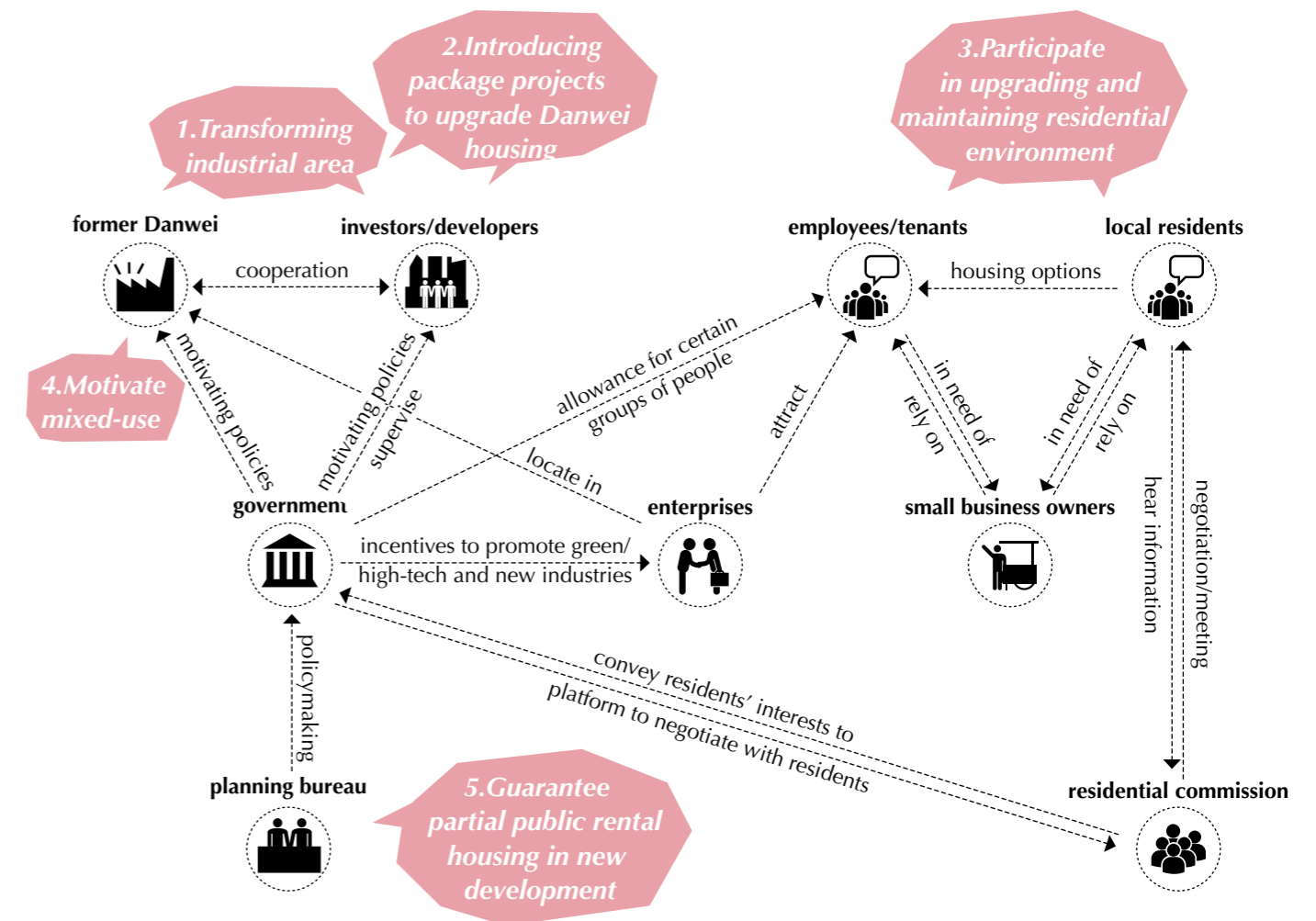
fig169: test design area in 2-5 years
 Source: author

6.4 Strategies of test design area

Phase Two: 2-5 years



Actions and involving actors



-Provide incentives for enterprises that are high-tech, ecological and creative, which can include flexible land use and function policies, low-interest loan policies, and personnel policies;
 -Specify incentives and responsibilities in urban renewal projects;
 -Motivate package projects to upgrade Danwei housing in Danwei transforming;
 -Motivate mixed use of functions in industrial and residential areas.

TEST DESIGN AREA
PHASE THREE: 5-10 YEARS

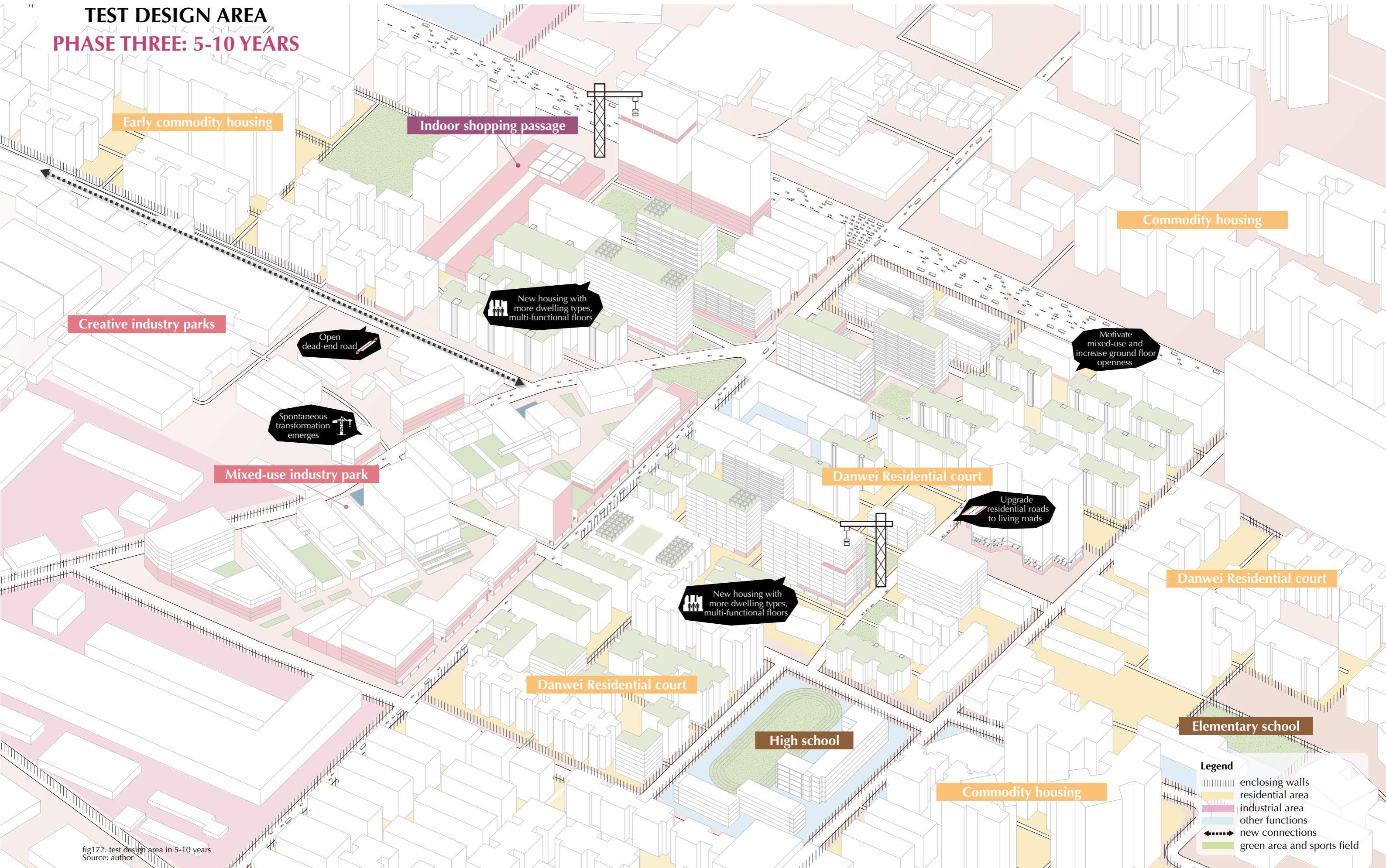


fig172: test design area in 5-10 years
 Source: author

TEST PROJECTS



6.5 Test projects

fig175: test projects
Source: author

6.5.1 Test projects- Danwei residential court upgrade

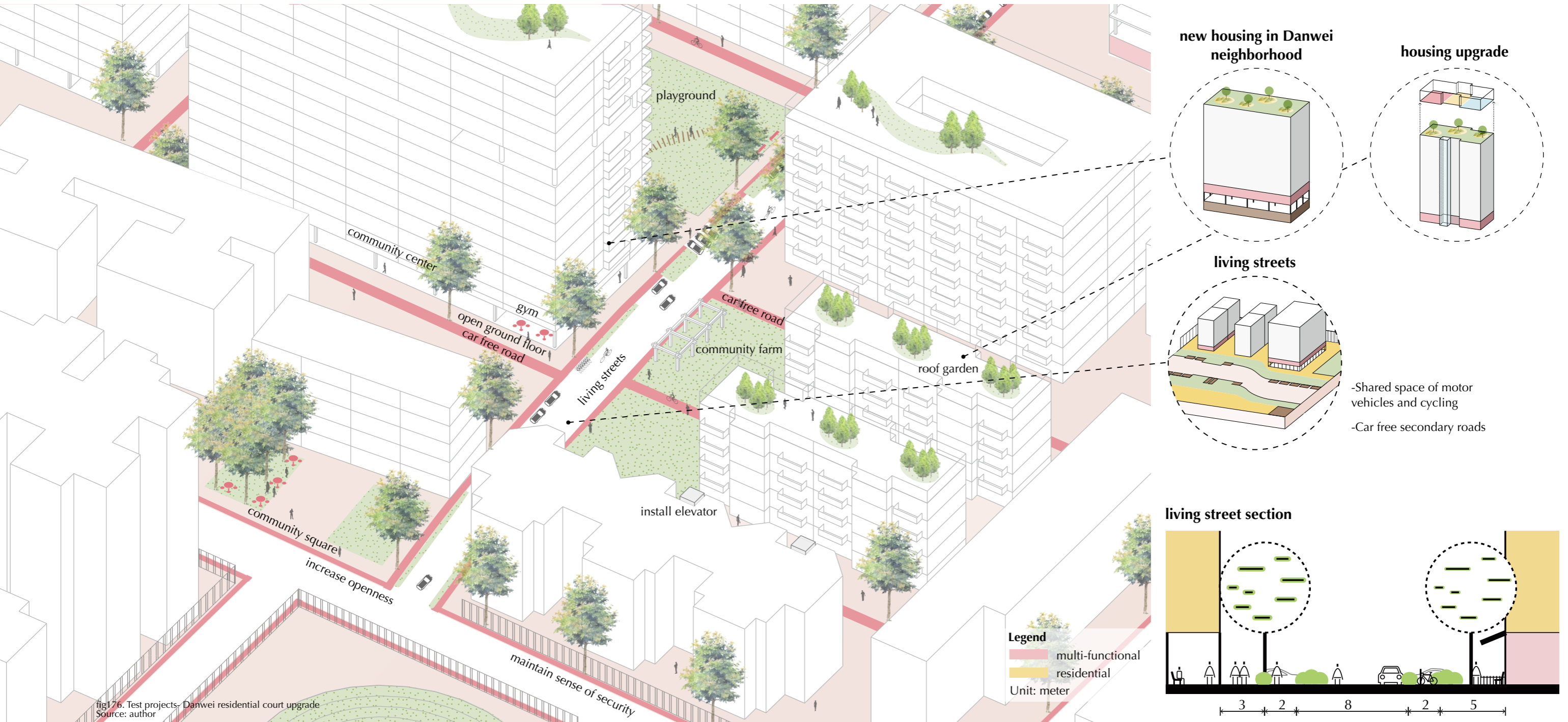


fig176. Test projects- Danwei residential court upgrade
Source: author

fig177. living street section
Source: author



- family
- green space
- walking dog
- playground
- elderly friendly

- rent for party
- community room
- community library
- gym

- card game room
- cafe/bubble tea
- convenience store

- bicycle storage
- open space
- square dance

- living streets-shared space

- water permeable pavement

P parking



- green roof
- community garden
- elderly friendly
- family
- open space
- rest and meet

- community market
- community farming
- walking dog
- family
- open space

- family
- talk&meet
- rest
- exercise

elevator

6.5.2 Test projects- new housing

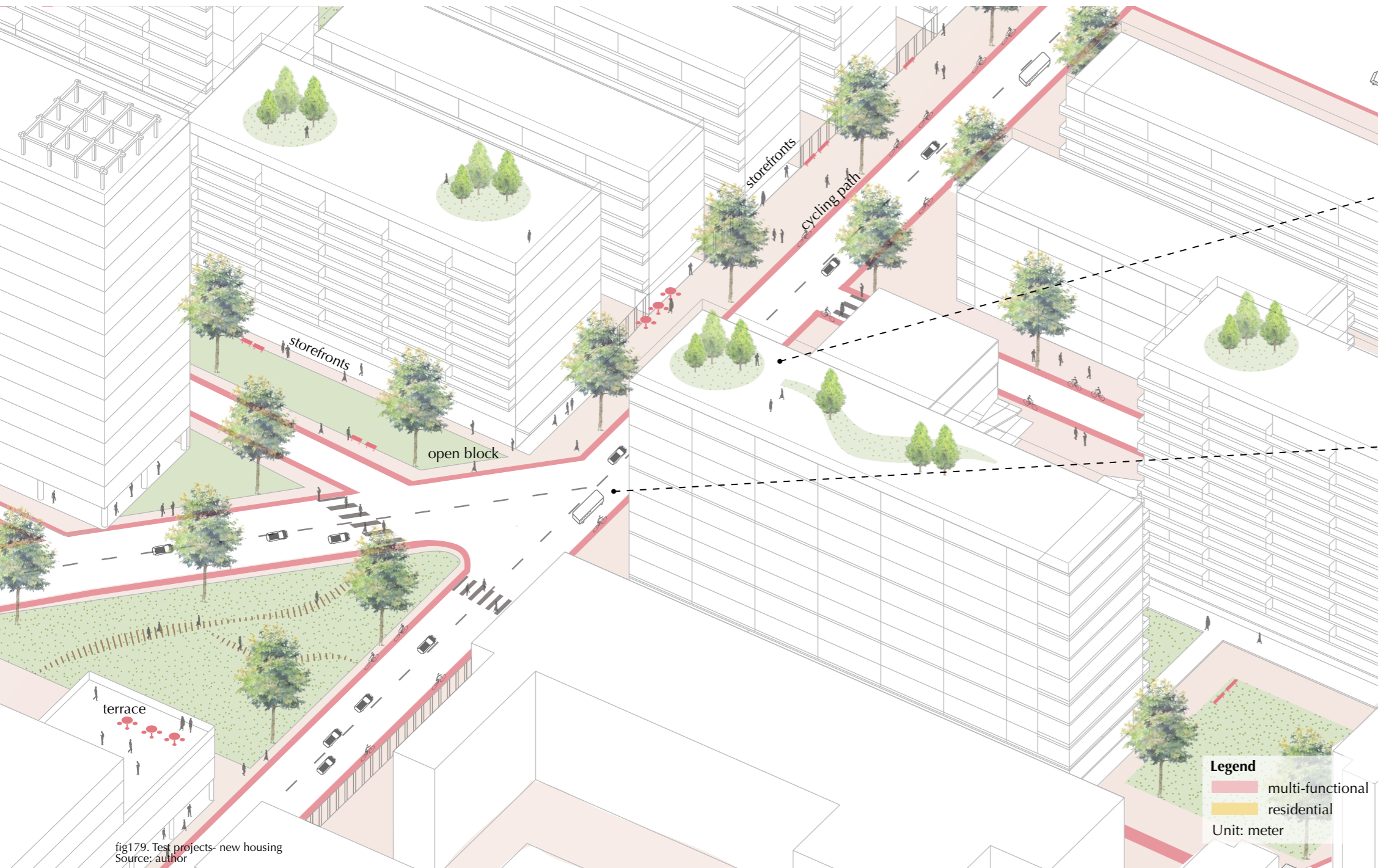
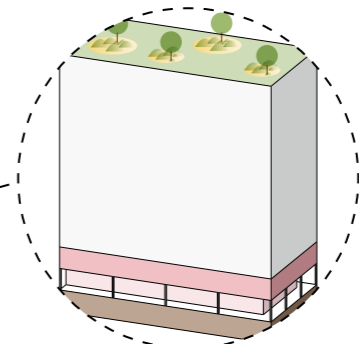
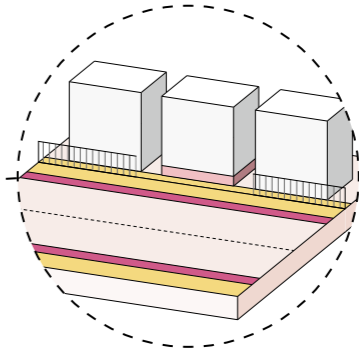


fig179. Test projects- new housing
Source: author

new housing by roadside



secondary urban road



-Build cycling path and improve cycling facilities
-Increase ground floor openness while maintaining sense of security

secondary urban road section

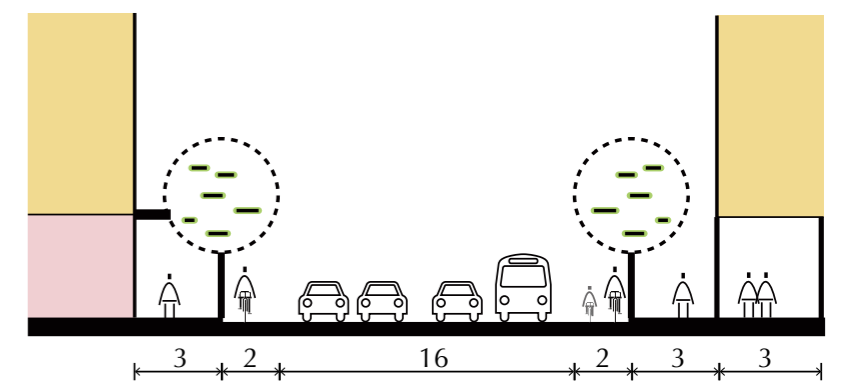


fig180. secondary urban road section
Source: author



-  green roof
-  community garden
-  elderly friendly
-  family
-  open space
-  rest and meet



-  community room
-  restaurants
-  gym


-  **The Gym**
-  open space
-  rest and meet




 bicycle storage



-  family
-  green space
-  walking dog
-  playground
-  elderly friendly

 semi-open entrance

 cycling path

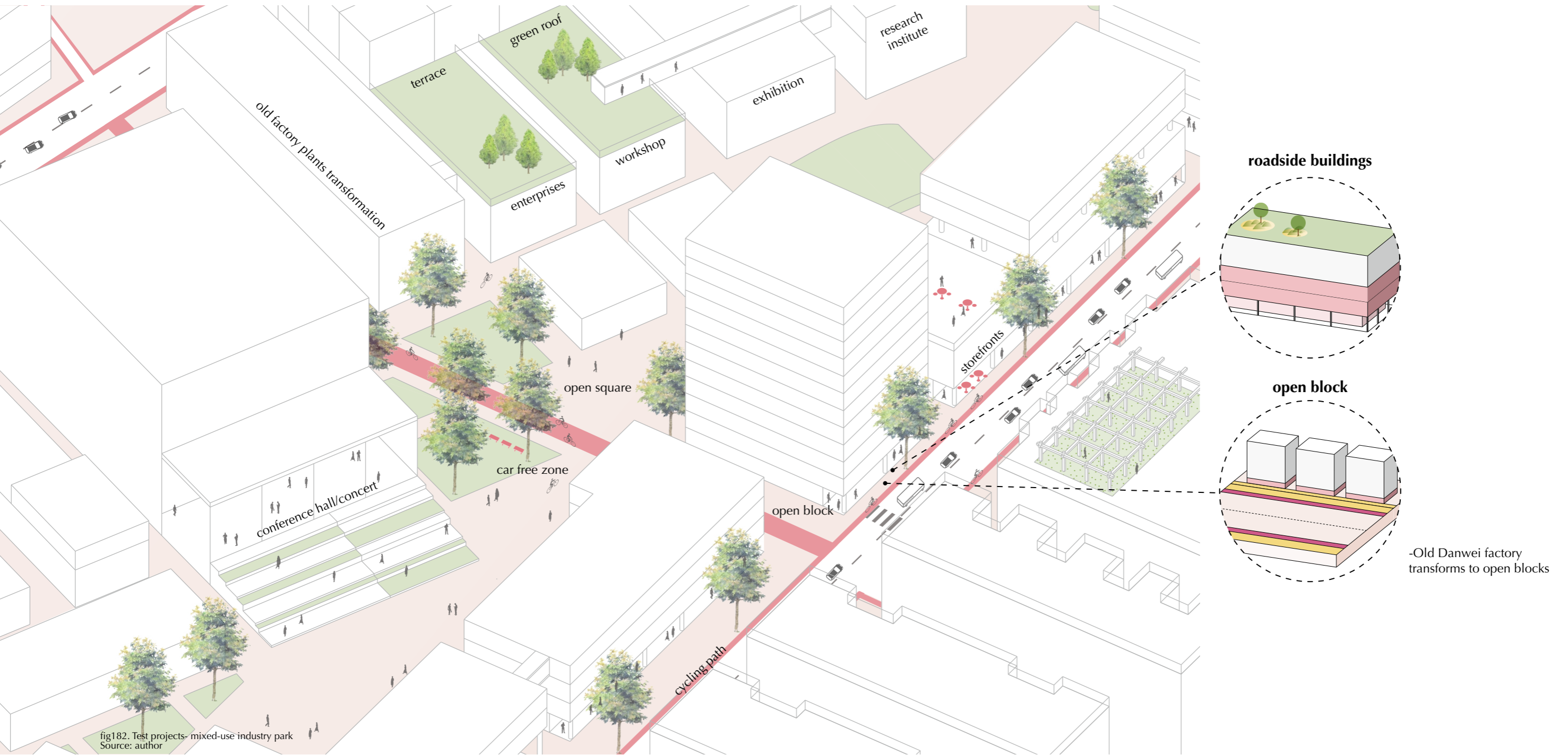


-  shop-house passage-shelter under sun and rain
-  cafe/bubble tea
-  shopping
-  restaurant
-  convenience store
-  grocery

居陶陶



6.5.3 Test projects- mixed-use industry park





music festival/concert
conference

meeting/rest/lunch

transformed old factory plant
enterprises/workshop/
exhibition/research institute

meeting/rest
cafe/snack bar

green roof

bicycle storage

fashion/design shop
cafe/snack bar

sightseeing

car free zone

fig183. mixed-use industry park vision
Source: author

CHAPTER 7

Reflection

7. Reflection

The thesis tries to understand the current situation of Danwei housing, finds the problem and gives suggestions on it. As a typical and common residential type in Chinese cities, the radical social structure changing and urban development after the Economic Reform have influenced these old neighborhoods, and even restructured them from all aspects. This thesis has spent these chapters to show what has been happening and reveal what driven forces have been embedded in this process. To conclude, when we are talking about the Danwei housing, we are not only talking about a simple type of residential form that is deteriorating, mono-functional and relatively dull, but rather a highly interacted local economic and housing network. And most importantly, these should be discussed based on understanding the demands of local residents, enterprises, and small vendors. Therefore, in the context of undertaking overall urban renewal in the city center, Danwei is not a solitary and outdated housing form, while more a valuable and important component to sustain affordable housing, alleviate job-housing fragmentation, shape spatial quality, and narrate the 1980s'-1990s history in our city. Strategies raised in this thesis are based on this idea, which tries to integrate urban renewal in old neighborhood, industrial land, and improvement of infrastructure and public space together, which in current practices have been considered as separate urban renewal tasks.

The final product of this thesis are a series of strategies from the city scale to the local

scale, which are then translated into test urban design projects in the site area. The urban designs are not functioning as a fixed physical form in the site, but rather a showcase of what might happen if the suggested strategies were carried out. The test designs have explained the strategies in a visualized way to show the spatial quality that is pursued.

If we come back to the research question "How can the old residential courts from the 1980s to 1990s in Guangzhou respond to diversified demands in urban renewal?", we know that the essence is to understand the demands and find alternative ways to respond to it. Currently, the urban renewal practices have encountered many operational problems and even social problems. To a certain extent, it is resulted from a relatively simple way of perception, which has excluded many existing and potential stakeholders' interests. Therefore, the thesis clarifies the inner network between Danwei housing, industries, urban renewal, and well-being of residents, in order to give a more comprehensive understanding of the interests in upgrading Danwei housing.

Studio Complex Cities & this thesis

In my own perspective, the Studio Complex Cities trains students to understand the complexity of contemporary cities that we are living. The essential thing is to understand the interactive relationship between different actors, clarify the problems and the context that the research is taking on. Researches in Chinese Pearl River Delta cities have

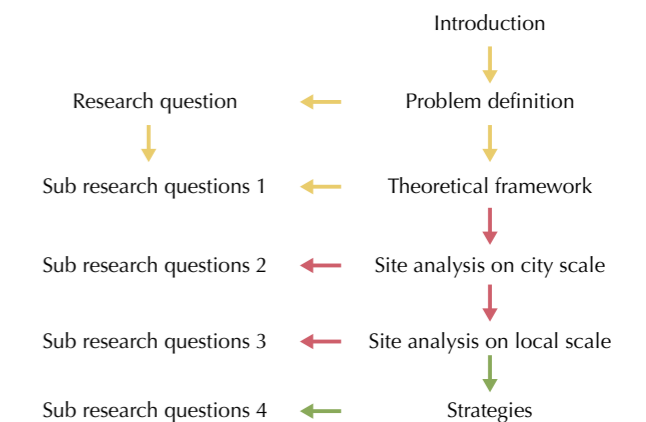
been organized for over one decade in the Complex Cities. They have been focusing on the rapid urbanization process and its social, spatial impact on Chinese cities for a long time. Therefore, although this thesis is not talking about urban villages that this studio always focuses, they share the same context and driven force.

This thesis & social context

In Pearl River Delta, rapid development has always been the main theme. With most population flow and pioneering industrial transformation in China, Guangzhou has become the best research object for this thesis. Although Danwei housing is a commonly seen housing type across China, in Guangzhou we see something different. That is the active young starters and new industries around Danwei housing that are providing new potentials for it. Because of the exceedingly high housing price, Danwei housing has become one of the best housing options for young starters, old Danwei factories are being transformed, and in the surrounding area active street life has been formed. At the same time, initial residents are ageing, and sharing the same residential environment with these young people. Therefore, at one point, ageing, floating population, housing price, affordable housing, industrial upgrade and authentic urban life have been integrated around the Danwei housing issue. to study it in a broader context, this thesis is also meaningful for most big cities in China that are confronting these problems.

Methodical line of the Studio Complex Cities & methods of this thesis

Basically, this thesis also follows the line of responding to the research questions from large scale to small scale, and each chapter has answered a sub research question. Many efforts have been put on the research in the first few chapters in order to make a comprehensive understanding of the context and object.



Research & design

The research part is conducted in three scales and gives corresponding strategies following these levels of scales, which is the main method to answer the research questions. Design is conceived as the final step of the spatial analysis as well as the whole thesis, which is a tool to explain and translate the strategies into visualized images, and an important communication tool between urban planners, architects, the government and local residents to better understand the potential spatial impact of these strategies and the spatial quality pursued.

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