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硕士学位论文

**The urban public open space regeneration from
the perspective of pop-up urbanism:
An example in Liuyun Community**

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**The urban public open space regeneration from the
perspective of pop-up urbanism:
An example in Liuyun Community**

A Dissertation Submitted for the Degree of Master

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Abstract

Since the economic crisis in 2008, economic growth has slowed down worldwide and construction projects for new cities have decreased. The research trend in the urban field has gradually shifted towards the regeneration and regeneration of existing areas. In recent years, pop-up actions have been gaining interest and attention from scholars around the world as a convenient and effective way of micro urban regeneration. As it is driven by the desire of residents to transform their own environment, pop-up practices have a catalytic effect on urban vitality that is accessible and sustainable in the long term. In China, bottom-up regeneration methods similar to pop-up urbanism have also been the focus of Chinese scholars in recent years. This study attempts to propose a new perspective on regeneration by researching pop-up urbanism in order to complement existing bottom-up regeneration theories.

This paper first discusses and analyzes the origin and theoretical development of the concept related to flash urbanism. Through a fundamental theoretical study, it is found that there is a lack of existing theories on open space systems. Therefore, an innovative concept is proposed, that is, the public open space regeneration from the perspective of pop-up urbanism. Next, this paper analyzes the past pop-up practices and derives the spatial demands corresponding to different types of pop-ups. This demand can be further divided and summarized into a more general public open space regeneration methodology. Finally, in order to clarify the practical application model of the methodology, this paper identifies and evaluates the feasibility of Liuyun Community as a renovation object. The public space in the open community is a highly representative and implementable application scenario. After determining the compatibility between theory and practice, this paper applies the theory to the actual urban environment by combining the current situation, in an attempt to inspire future renovation actions in similar aspects.

Overall, this research uses the perspective of pop-up urbanism as an entry point to

propose an innovative urban regeneration approach in order to complement the existing academic system. The study follows the logic of "Theory - Case Study - Methodology - Practical Application" to support the full potential of bottom-up urban regeneration. Compared to the mainstream bottom-up regeneration concept in China, the trialability brought by the pop-up perspective makes regeneration projects more acceptable to stakeholders and easier to be implemented.

Keyword : pop-up urbanism; public open space; Liuyun community; urban regeneration;

摘要

自 2008 年爆发经济危机以来，世界范围内的经济增长放缓，新城市的建设项目也随之减少。城市领域的研究趋势逐渐转向对于旧城的再生与更新。近几年，快闪行动作为一种便捷有效的微型城市更新方式受到全球各地区学者的重视和研究。由于其形成的动力来自于居民对于自身所处环境的改造欲望，快闪实践对于城市活力方面的催化作用是便于实施的和可长期持续的。在中国，与快闪城市主义相类似的自下而上的更新方式也是中国学者们在近几年持续关注的热点。本研究试图通过研究快闪城市主义来提出一种新的更新角度，以补充现有的自上而下的城市更新理论。

本文首先论述和分析了快闪城市主义相关理念的起源与理论发展。通过基础性的理论研究，发现现有理论在开放空间系统上存在缺位的现象。由此，本文提出相对新颖的理念，即快闪城市主义视角下的城市公共开放空间更新。其次，本文通过对以往的快闪实践进行分析，得出了不同类型的快闪所对应的空间需求。这种需求通过进一步分析与总结，可以转化为较为通用的公共开放空间更新方法论。最后，为了阐明该方法论的实际应用模式，本文确定并分析了六运小区作为改造客体的可行性。开放社区内的公共空间是极具代表性和可实施性的应用场景。确定了理论与实际的契合性后，本文结合场地现状将理论应用于实际的城市环境，试图为将来的类似方面的改造行为提供启发。

总体而言，本研究以快闪城市主义的视角作为切入点，提出了创新的城市更新方法以补全现有的理论体系。本研究主要遵循了“提出理论-案例研究-方法论-实际应用”的推导逻辑，支持充分发挥自下而上的城市更新潜力。相对于中国现在主流的自下而上的更新理念来说，快闪视角带来的可试用性使得更新项目能够更容易地被利益相关者所接受，也就更容易被实施。

关键词：快闪城市主义；公共开放空间；六运小区；城市更新；

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Chapter 1. Introduction

1.1 Research Context

In the past ten years, the phenomenon of "pop-up" has been popularized globally. Prototypes for this behavior emerged early, but due to its informality, it was not taken seriously in its early days^[1]. Until the past decade, the increase in the frequency of pop-up activities and the emergence of excellent results^[2] have caused this behavior to attract widespread attention from scholars.

The forms of pop-ups are very diverse, and this kind of activity with a strong creative nature always surprises people. Pop-up shops, pop-up food trucks, and pop-up cafes will pop up on the streets of the city at some point; the streets where cars rush through may one day become a fun place for people to hang out and chat; as for the vacant parking lot, infrastructure and factories, it may be occupied by a fashionable creative group at any time, thus rejuvenating with new vitality. The pop-up practice is showing the rich possibilities and diversity of the city, and has become an important force in changing the urban space from the bottom up.

The rise of pop-up practice activities is by no means the whim of individual social activists, but the result of the combined effect of the development of the times and social contradictions. The reasons for this can be summarized in the following aspects:

First, the issue of space resources has been intensified. The economic downturn in 2008 had a great impact on people's lives. Part of the population returned to the city for their livelihoods resulting in an increase in the urban population and a shortage of urban public space resources. At the same time, the poor economy has also caused developers to suspend some projects, while the community is faced with the dilemma that the facilities cannot be upgraded. The slowdown in construction has led to more vacant land, which prompted more aggressive action to renovate these underused spaces through spontaneous fundraising.

Second, the limitations of traditional planning methods are magnified. The traditional top-down model has its own limitations, such as lag, slowness, and inability to respond to new demands. Long-established planning methods cannot adapt to changing realities^[3]. And for economic reasons the implementation of many projects is delayed and by the time they are actually implemented they are no longer able to adapt to the needs of the public.

Thirdly, there has been a general awakening of public participation. After the philosopher Henri Lefebvre introduced the concept of "the right to the city", the exercise of the citizens' right to the city became a social movement. Usually, official long-term plans are developed with limited public participation. However, more and more people are not happy to wait for traditional solutions and want to deal with urban problems by themselves^[4]. The practice of pop-ups is obviously an important part of this exploration. As the public's contribution to the community continues to grow, the government is becoming aware of the value of civic engagement.

As the incidence of related activities has increased in recent years, pop-up events have generated a variety of discussions in the disciplines of social science, psychology and urban design with their unique dynamism. Scholars from a number of countries, including the UK, the US, the Netherlands and Australia, began to summarize and discuss the practice of temporary and tactical uses of urban space in the 2010s, and to propose more mature methodological guidelines. Most of these guidelines take public open space as the context for pop-up action^[5], but there is a lack of research on the relationship between both. Therefore, this thesis attempts to conduct a more in-depth study based on the theory of pop-up urbanism.

1.2 Concept Definition

1.2.1 Pop-up

The word 'pop-up' was originally described as a pop-up part of a three-dimensional book, which mainly designed for children, but later 'pop-up' also referred to a window that popped up automatically within a website. This unimaginative pop-up behaviour

was fun and rebellious at the same time, and it inspired some artists. The earliest prototype of a pop-up shop was a temporary art studio, which was converted into an old operating theatre by two British artists, Tracey Emin and Sarah Lucas. In 1997, Los Angeles entrepreneur Patrick Courrielche first used the term 'pop-up' to refer to this temporary business model for commercial stores. However, this kind of pop-up store was not immediately popularized on a large scale at that time, and it only became the bud of the pop-up concept.

As cities have grown, developed urban areas have no longer relied on traditional industries as the core economic source of the city. Traditional industries are either withdrawing from the city or undergoing industrial upgrading, and sporadic space vacancies have begun to appear in the city center. At the beginning of the 21st century, the economic crisis exacerbated this phenomenon and made it a major urban nuisance. At this time, many local governments, represented by the UK and Germany, began to officially allow and even encourage the temporary use of vacant space by property owners^[6]. In 2004 designer Rei Kawakubo opened a year-long pop-up shop for his brand in Berlin, which was converted from an old bookshop. The experiment was a resounding success, sparking a worldwide trend for pop-up shops and attracting the attention of scholars in the field of urban design.

This pop-up concept has also greatly extended to the realm of public open spaces in cities. People started to explore the potential of traditionally functionally solidified infrastructure in the hope that it would better meet the needs of social life. These spatial transformations have included temporary concerts, temporary city living rooms, temporary street fairs and more. As people become more aware of participation, various urban spaces that were previously under-utilised are spontaneously occupied and given temporary functions, which further explores the potential of public urban open space.

There are two different concepts that need to be distinguished. In the Chinese context, 'pop-up' and 'flash mob' translate as the same word '快闪', but their actual meanings are somewhat different. The term 'flash mob' means that all members of the group

arrive at the same time and perform a predetermined programme in a prearranged manner. After the action is over, everyone leaves quickly and in silence. This form of improvised performance has been a global phenomenon since 2003. It can be argued that the idea of flash mobs is similar to that of pop-ups, but that the concept of pop-up has gradually been extended to the public space of the city and has become a broader concept.

1. 2. 2 Pop-up Urbanism

Pop-up urbanism is an umbrella term for similar theories. These theories all share the same basic core concept of the temporary and tactical nature of pop-up activities. Furthermore, these theories have been developed and practised in a mutual manner, with different idioms in different regions and a slightly different focus in the implementation of their respective concepts. Their core ideas have remained essentially unchanged. Pop-up urbanism as a bottom-up approach to the transformation of urban space shows the potential possibilities and diversity of the city.

Park(ing) Day, which took place in San Francisco, USA in 2005, was a landmark project in the pop-up practice. What began as an environmental studio's transformation of a street parking space evolved into a large-scale movement involving more than a hundred cities. The success of this event led to the official designation of this type of activity as Tactical Urbanism in the U.S. In 2012, the U.S. Pavilion at the Venice Biennale featured a broad collection of pop-ups by civic groups under the theme of spontaneous intervention. This officially marked the beginning of self-help urban pop-ups being taken seriously by experts in the urban field.

Pop-up urbanism has now become an important regeneration strategy and project implementation tool for many urban spaces. It is no longer entirely self-organised. More and more urban institutions are becoming involved in research and design in this area. These include research projects at universities such as Kent State University, various public interest organizations that welcome residents to participate,

creative design groups from around the world and websites such as 'spontaneousinterventions.org' that help to spread pop-ups online. The pop-ups may only happen for a short period of time, but the lasting impact they have is significant for the city.

1. 2. 3 Public Open Space

There is no universally agreed definition of public open space (hereinafter referred to as POS), which is essentially characterized as being both public and open at the same time. Some of the current definitions are empirical generalizations from different perspectives, such as Kevin Lynch's definition of it as a space in which anyone can move freely^[7]. Based on this characteristic, it is clear that the definition of urban public open space is broad and covers mainly outdoor spaces such as streets, squares and urban green spaces. The public spaces in the open community studied in this paper clearly fall into this category as well.

Urban public open space is a collection of different people, different buildings and different facilities. The facilities around and within the space meet a wide range of people's needs. It allows for a comfortable atmosphere and experience of use, which in turn allows users to engage in a wide range of activities in the space. In addition to meeting the needs of the public, it also needs to attract a variety of people to the space, so that the urban public open space should also have more functionality and potential. It can be said that the public open space is an excellent vehicle for the practice of pop-up urbanism.

1. 3 Research Purposes

This research focuses on the transformation of public open spaces in cities, with the direct aim of proposing regeneration strategies to build urban spaces that are more suitable for pop-ups and provide a good environment for pop-up practices to take place. Pop-up action itself is a manifestation of urban possibilities and diversity. Thus, the fundamental aim of this study is to propose a possible way to stimulate the vitality of public open spaces in the city through the study of pop-up urbanism, and to

promote the inclusive coexistence of diverse people in the city. Taking Guangzhou's Liuyun Community as an example, the resilient spatial system constructed in this study can, to a certain extent, alleviate the conflicts within the community. It may solve some of the problems of the existing space and enhance the overall cohesiveness of Liuyun Community.

1.4 Significance

The concept of pop-up urbanism reveals the potential of cities and their enrichment that has often been overlooked in the past. This rebellious attribute makes the design of pop-up urbanism extremely resilient, which offers a catalytic effect on urban vitality that large-scale design and long-term strategic planning cannot provide. As a catalyst for urban space, it can, on the one hand, contribute to the evolution of the city's physical space and stimulate its potential^[8]; on the other hand it can also promote the active participation of urban people and stimulate spatial vitality. The practice of pop-ups can undoubtedly play a role in alleviating and regulating the existing contradictions in the city.

The essence of POS regeneration in pop-up perspective is in studying the conditions underlying the occurrence of pop-up behavior in cities. Studying the regeneration strategies of spaces provides the possibility for the creation and development of such catalysts. Spaces that can facilitate the occurrence of pop-ups are inherently resilient, diverse, and comfortable in nature, and these high-probability spaces in turn can further facilitate the occurrence of pop-up actions. Such a positive cycle can help urban spaces to be constantly renewed to adapt to the changing needs of society.

1.5 Research Object

The research takes the public open space of the city as the overall object. In the open space system of the city, the public space of the open community closest to the residents' daily life is very likely to be the place where pop-up urbanism occurs, and its very suitable as the core research object. Meanwhile, Liuyun Community is very typical as an open community in China that was built at an early stage and has a large

population of users. And it locates in the core area of the city. Studying the regeneration strategies of public spaces within Liuyun Community can provide a universal reference for the POS regeneration under the pop-up perspective.

In this paper, the "Liuyun community" is a general concept, which actually includes several adjacent open neighborhoods, including the Liuyun Neighborhood, the Sports West Neighborhood and the Yule Neighborhood. They were built in the same period with a relatively high degree of internal openness, which is a very representative open community.



Fig. 1-1 Satellite map and research area of Guangzhou Liuyun Community (about 0.23km²)

1. 6 Research Methods and Frameworks

1. 6. 1 Research Methods

This paper constructs the overall theoretical research foundation mainly through literature analysis and case study method. The existing theoretical body and its

development status are clarified by reviewing relevant books, journals, and online materials in Chinese and English. On this basis, this paper proposes and outlines the methodology of POS regeneration in this study through the case study method as well as the inductive-deductive method. Finally, combining the field interview method with design described in the methodology, this paper applies the complete methodological system to a specific urban environment.

1.6.2 Framework

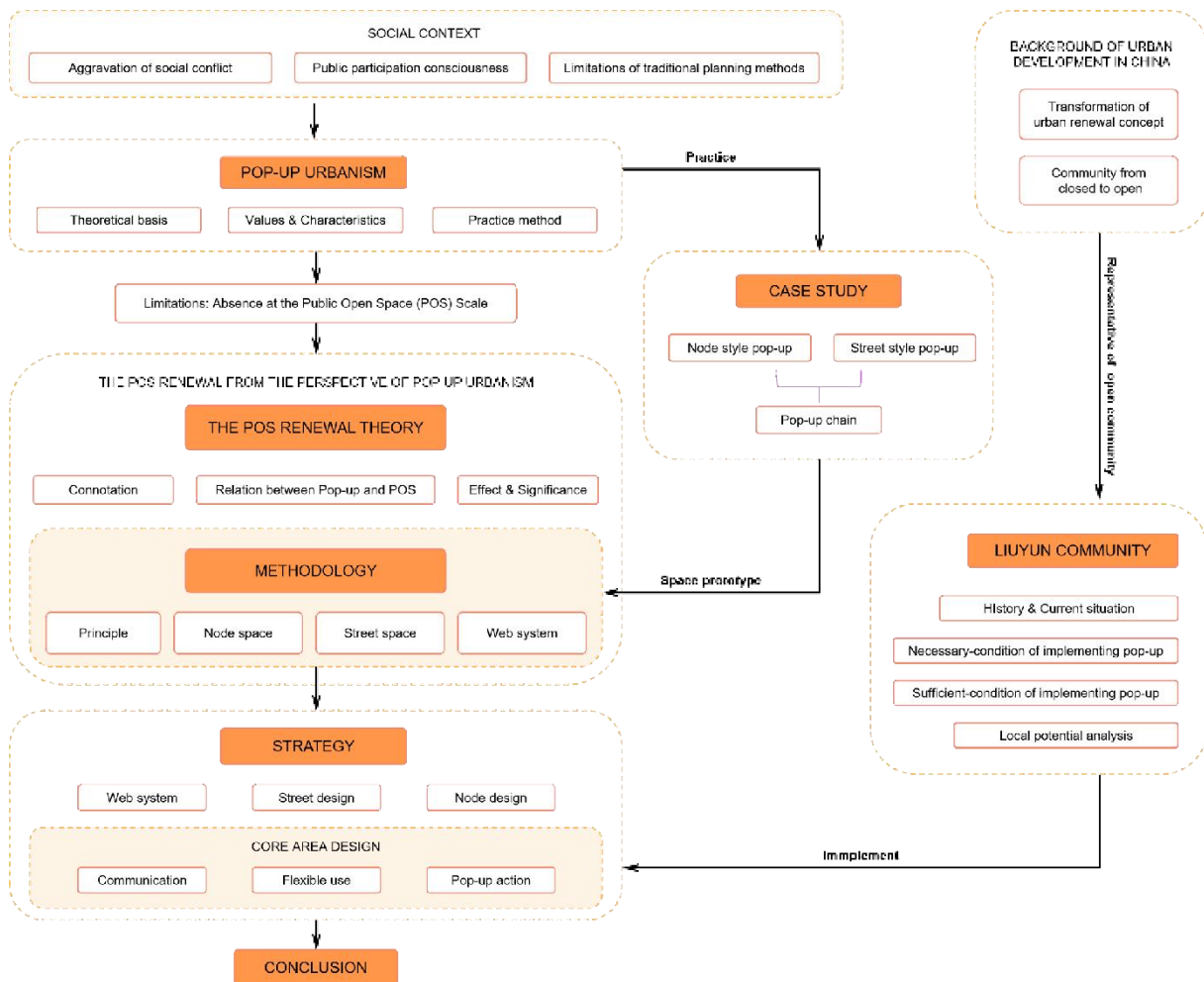


Fig. 1-2 Thesis framework

Chapter 2. Pop-up Urbanism and POS regeneration from its Perspective

2.1 Theoretical Basis of Pop-up Urbanism

2. 1. 1 Theory Traceability

(1) Temporary architecture as a pioneer of practice

Temporary buildings are built to achieve short-term goals, most of which are demolished when their temporary purpose is successfully accomplished. However, there are also buildings that remain for unexpected reasons and have a long-term impact on the city. This small number of temporary buildings embody both the temporary nature of the project initiation and the tactical nature of the long-term impact, making them pioneers of the pop-up concept in practice. The most famous building of this type is the Eiffel Tower at the 1889 World Expo. This steel monstrosity was originally intended to be a temporary structure erected for exhibition purposes only, but it received strong acclaim from all quarters for its technical ingenuity^[9]. The decision was eventually made to keep the tower permanently, and it now continues to play a unique role as an urban landmark in Paris. Similarly preserved landmarks include Seattle's Seattle Space Needle (1962) and the Queens Unisphere (1964).

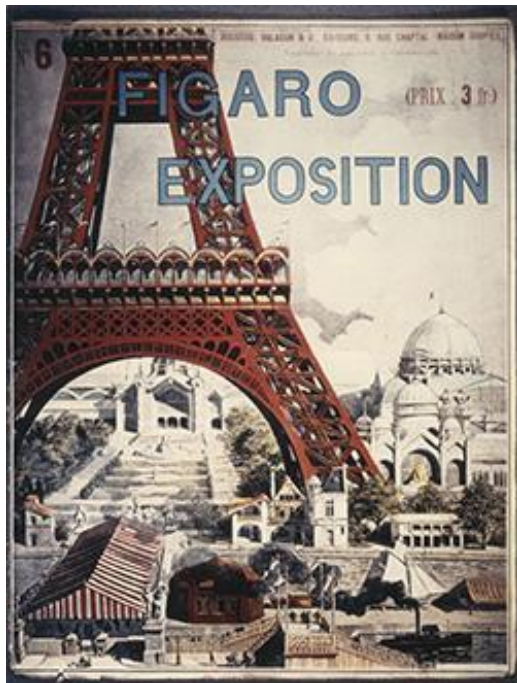


Fig. 2-1 Daily Specials during the Exhibition

Photo from web: <https://www.tou Eiffel.paris/en/the-monument/universal-exhibition>

Another type of temporary architecture, although each occurrence lasts only a short period of time, shows a regular periodicity in its appearance. This type of architecture creates a steady influence on social life through the recurrence of similar forms, as in the case of Serpentine South in Hyde Park, which invites different architects to erect their summer pavilions each year. Although the architectural forms of these pavilions are completely different in style, type and concept, they all undoubtedly embody the artistic innovation promoted by Serpentine South, which allows the various temporary pavilions to have a unique social value and impact. Inspired by this, the major biennials have also started to use such temporary architecture, and thus pop-up architecture has become a model of practice that has long influenced urban development.



The Serpentine Pavilion designed by Spanish studio SelgasCano in 2015

Fig. 2-2 The Serpentine Pavilion in 2015

Photo from web: <https://commons.wikimedia.org/wiki/File>

Both types of architecture mentioned above initially served only short-term goals, but through the retention and recurrence of both modes of practice, they were able to survive social history and continue to play a long-term role as an important part of modern social life. The tactical nature they exemplify also inspired later ideas of pop-up urbanism.

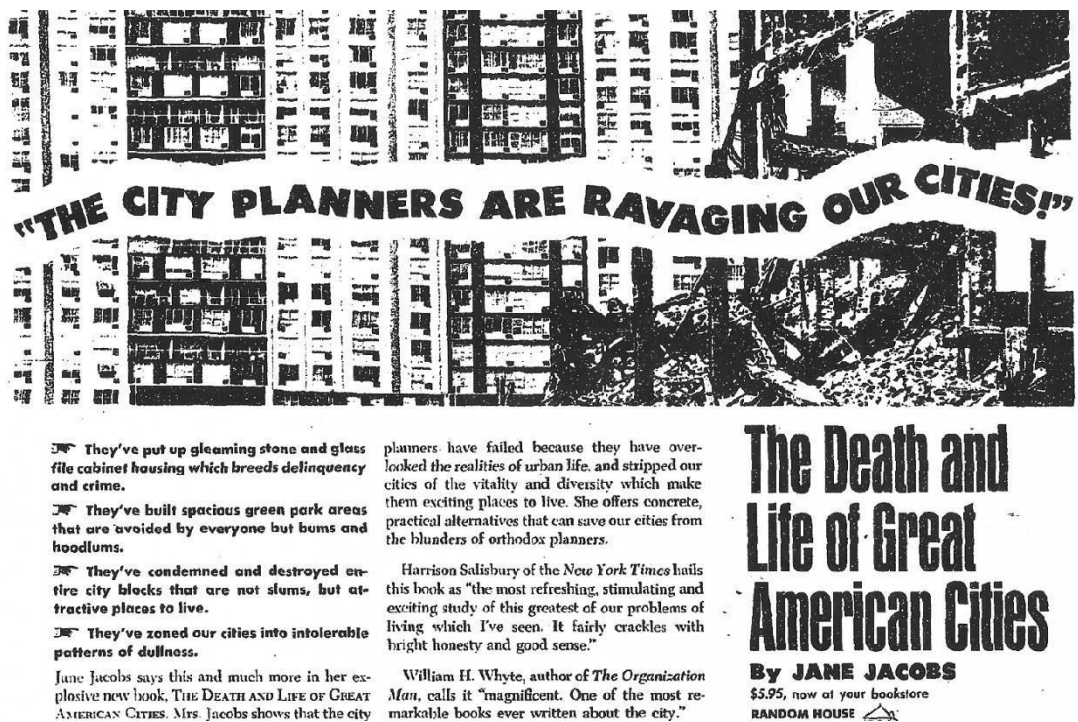
(2) Human-oriented place-making

After World War II, the emphasis on institutional rationality led to the peak of functionalist urban design, but the imperfect practical facts again provoked criticism. In the 1960s, the banner of humanism was raised again to criticize the existing social authority. Unlike the Renaissance, it aimed to achieve a second liberation of humanity from the oppressions and fetters of the established modern rational society^[10].

It is against this background that the place-making movement was born. It tries to re-establish the concept of human-centered design, emphasizing objective social needs and creating comfortable places with humanistic care^[11]. At the same time it criticizes the social problems caused by the current practice of design above rationality and function. Modern urban design began to rethink the previous approach of urban planning with the theme of functional wires. Urban designers began to advocate that construction should take into account the actual needs of city users themselves. This led to the birth of many bottom-up design ideas, many of which are still of great reference value today.

An early critique of the functionalist city came from Team 10, who proposed the idea of "participatory design" at CIAM in 1959 and argued for a full dialogue between designers and members of society. They also proposed the idea of "In-Between Space", which is similar to the current pop-up urbanism, and particularly emphasized the need for urban space to be human in concrete terms. Louis Kahn was also aware of the importance of place. He criticized the existing uninteresting pass-through streets and advocated the design of urban open spaces that promote civic engagement^[12]. After that, the American scholar Jane Jacobs' idea of "eyes on the street" has been widely discussed in academic circles. From the perspective of an ordinary citizen, she argues that the vitality of the city lies in the hybrid rather than the monolithic use of urban space. On the other hand, Professor Kevin Lynch also pushes the idea of humanism in planning and design. He starts from the five images of urban abstraction and reinterprets the urban composition in terms of citizens' perception. William H. Whyte refers to the public space at the scale of residential life as the "urban

arena", and Jan Gehl emphasizes the importance of life as the first priority, followed by space^[13]. And he also established the concept of "place", emphasizing the social significance of place itself. At this point, the direction of place-making theory began to evolve from the material level to a more in-depth study of urban society, urban culture, and community conflicts. In order to resolve urban conflicts at the micro level and to stimulate the diversity of the city, public participation became a necessary decision-making tool.



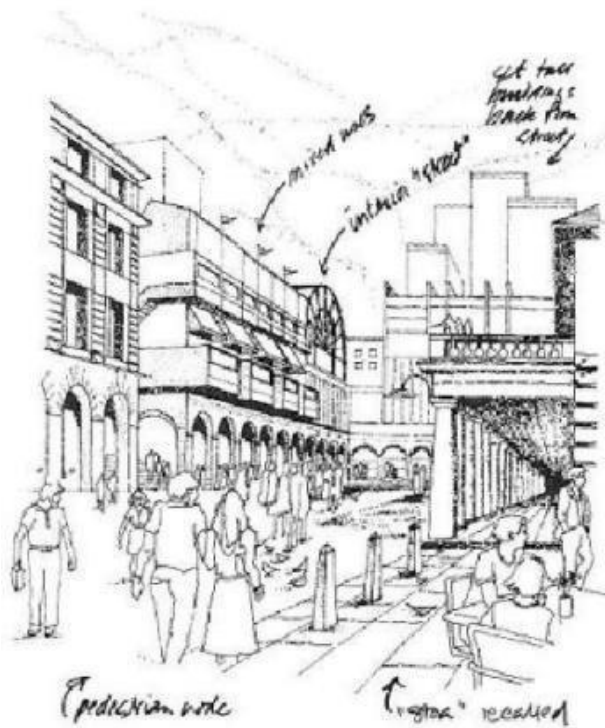
Jane Jacobs expresses her criticism of the existing urban planning system in the newspaper

Fig. 2-3 Newspaper in the USA 1958

Photo from web: <https://www.theattic.space/home-page-blogs/2019/12/6/the-woman-who-saved-our-cities>

The theoretical basis for bottom-up urban action derives from the citizens' right to the city. Lefebvre discussed space in his 1974 book: Space is a social relationship, and the basic contradiction in capitalist space production lies in the contradiction between the capitalization of space and people's social space needs^[14]. "The right to the city" is one of the primary rights of people in the city, and people have the right to dominate the space they use^[15]. The cultural perspective of the American scholar Amos Rapoport has also had an important influence on the idea of participatory. In his book

"Spontaneous Settlements as Vernacular Design", he paid great attention to spontaneous construction in the framework of local architecture, and further studied it in the context of community^[16].



Place-making evolved from a single function to a diverse open space, and from a few expert decisions to public participation

Fig. 2-4 Illustrations about Place-making

Photo from book: Attoe W, Logan D. American urban architecture: Catalysts in the design of cities[M].

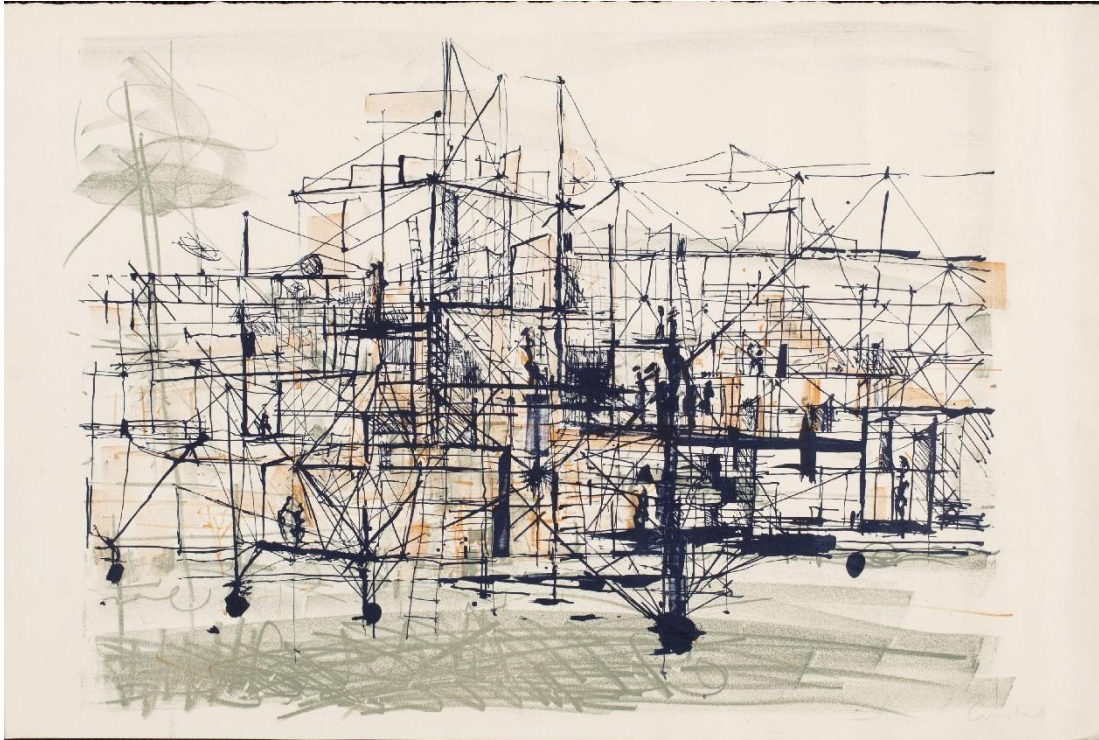
Univ of California Press, 1989.

The humanistic orientation of placemaking reflects the transformation of scholars' understanding in the urban design process. The contemporary approach to placemaking emphasizes small-scale and bottom-up development, public participation, significant public spaces, livable community living, citizen participation in public spaces, and the interrelationship between citizens and urban places^[17]. In terms of goals, placemaking shifts from a single function to a diverse open space. The single and pure space pursued by modernism obviously cannot satisfy people's psychological and emotional needs, so the purpose of placemaking is to transform

such negative wellness into a place loved by the public. Jane Jacobs pointed out the indelible vitality of the traditional cluttered street, while Robert Venturi illustrated the significance of complexity for the user^[18]. In terms of methodology, placemaking has changed from a few expert decisions to public participation, and since the 1970s, designers have tried to introduce humanistic ideas into their practice through different forms of public participation. This was manifested in the participatory approach as a way of defining and solving placemaking problems. The designer at this time is no longer a technical actor, but an organizer, persuader and advisor who can coordinate all parties^[19]. In addition, given the weakness of the people's voice in the official planning system, both Lefebvre and David Harvey argue that the built environment needs to be renewed by means of temporary and speculative measures^[20]. This idea further inspired the emergence of pop-up spatial transformation actions.

(3) The impact of Situationist International and Archigram

Since the Industrial Revolution, capital expansion has gradually become the main force of social development, and urban construction has been built around the building as a permanent asset. In the 1960s, the European Situationist International (hereafter referred to as SI) went in the opposite direction when Guy Debord proposed the concept of 'society of the spectacle'. He criticized the reality of oppressive and unequal social relations. For Debord, the social life of the citizens was all trapped by the rule of the spectacle, the deepest 'alienate' of capitalism^[21]. Thus, the primary aim of SI is to remove the hegemonic dominance of the spectacle and to construct a new context of everyday life. SI calls this reinvention of urban space 'dérivé' and 'détournement'.

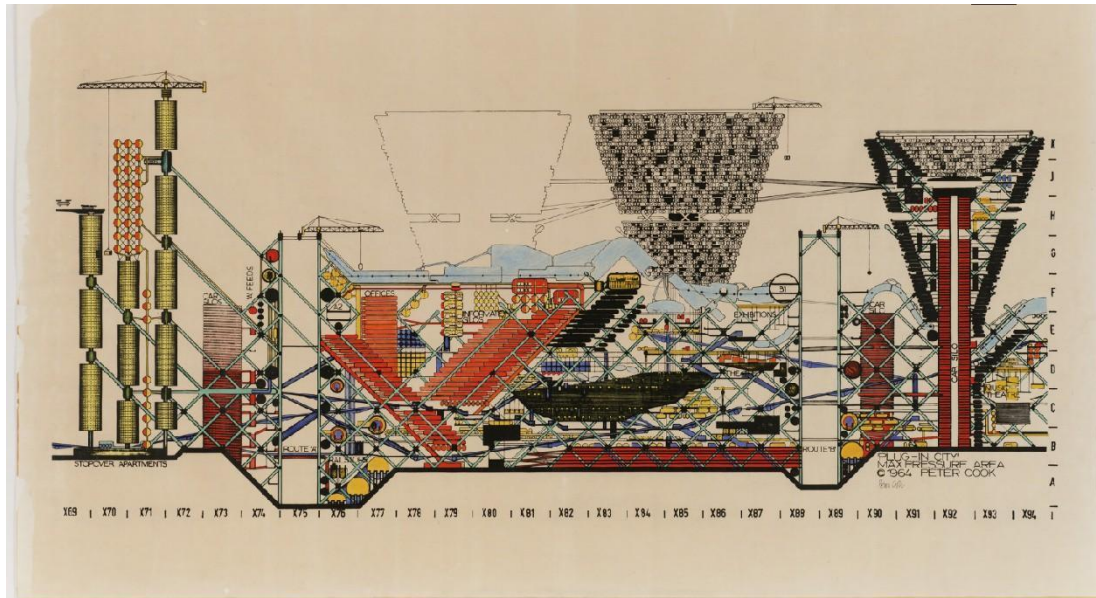


Inside New Babylon, everything must remain possible and the environment must be created by the activity

Fig. 2-5 New Babylon painted by Constant Nieuwenhuys

Photo from archive: Collection Het Nieuwe Instituut, archive Academie van Bouwkunst Amsterdam

In 1958, Constant Nieuwenhuys, a member of SI, began to conceive a new model of the city. In this model, the city takes on a constantly changing appearance, the details of which must be created by the 'homo ludens' (the city's inhabitants). He pointed out that form must not only respond to changing functions, but also avoid the permanence and monumentality of bourgeois ideology^[22]. The ever-changing forms of urban architecture negated the traditional static concept and brought a flexible and movable view of the city to the people of that period.



Plug-in City was designed to encourage change through obsolescence

Fig. 2-6 Plug-in City painted by Peter Cook

Photo from web: <https://www.moma.org/collection/works/797>

Another British avant-garde of the same period, Archigram, had ideas very similar to those of SI, advocating the variability of the city. It criticizes the incorrect value orientation of the bourgeoisie and sees the city as a series of closely linked scenarios^[23]. In 1964, Archigram proposed the Plug-in City project, which sought to apply the new concepts of current pop art and component variability to an expandable mega-city structure. It was very similar to New Babylon, however, plug-in city presented a more quantifiable and implementable concrete vision. Several different future city visions that followed, such as Walking City and Instant City, embody Archigram's advocacy of technology as a solution to social problems. It is undeniable that SI and Archigram's idea of variable cities and people's participation in their transformation provided the intellectual inspiration for the subsequent urban pop-up practices.

2. 1. 2 Theory Formation and Development

(1) Theory enlightenment stage (2005-2009)

The original prototype of pop-up practice is the informal use of existing urban spaces. Franck and Stevens were among the first to study this phenomenon of residents transforming urban space to meet their own needs. And in 2006, in their book 'Loose space: possibility and diversity in urban life', they used the keyword "Loose Space" to study the unconventional use of space by urban residents. In these cases, the transformation of space by citizens is ephemeral, spontaneous and experimental, and is presented in a form that exceeds the planner's original intentions. By analyzing the practical effects of these cases, the authors argue that the creative use of urban space by citizens makes it more 'loose-like' and gives it a continuous life^[24].

What is more, some non-academic social institutions have taken an interest in these informal uses, and since 2005, small-scale urban open space regeneration activities have been emerging in North America. In order to standardise and promote this form of regeneration, the project published 'The Great Neighbourhoods Book: a Do-It-Yourself guide to placemaking' in 2007. The book includes a number of examples of local practices that are intended to guide local businesses and residents to become more involved in small-scale space regeneration^[25].

The term 'interim use' had already emerged in Europe in 1990, when the phenomenon of urban pop-ups came into being. The temporary use of urban places was a solution to the problem of the large number of vacant properties caused by the transformation of production methods in European cities at the time. Berlin's post-World War II urban regeneration process produced a number of examples of interim use, which have been documented in books such as Overmeyer's 'Urban Pioneers: temporary use and urban development in Berlin' and Haydn and Temel's 'Temporary Urban Spaces: concepts for the use of city spaces'^[26]. It can be argued that the bold explorations of this period laid the practical foundations for the later rise of temporary urbanism in Europe.

(2) Theory development phase (2010-2014)

Around 2010-2015, theories related to pop-up urbanism began to appear in the literature. At this point in time, there was not yet an umbrella term for them in academic circles, so it also often appeared under the terms 'Tactical Urbanism', 'Temporary Urbanism', 'Guerrilla Urbanism'^[27] and 'Do It Yourself Urbanism'^[28]. This is the first time that scholars have given formal attention to the informal transformation of urban public space by the general population from the perspective of urban development.

The best known discussion of this phase comes from a 2012 report by North American urban designers Mike Lydon and Anthony Garcia, 'Tactical Urbanism: Short-term Action For Long-term Change'. The report defines the concept of Tactical Urbanism in detail and in a systematic way, and describes the tactical implications of previous urban pop-up practices for the regeneration of urban public space. The report also presented a methodological prototype that is still widely used today and was published in book form after four volumes. Following a strong response, the design firm that published the book also formally collaborated with the National Association of City Transportation Officials in 2016 and published 'Tactical Urbanist's Guide to Materials and Design'. This hands-on manual guides every step of the project from design to implementation, taking into account the role of the actual diverse community in the project. The influence of these articles has been such that the term 'Tactical Urbanism' has been used in North America ever since to discuss spontaneous pop-ups in public open spaces within cities^[29].

In Europe, on the other hand, the practice of pop-up urbanism is often accompanied by 'Temporary Urbanism'. In 2012, the British scholars Peter Bishop and Lesley Williams presented the dynamics of temporary urbanism and its urban potential in their book 'The Temporary City'. They explain the dynamics and timeliness of urban space in the current era from a macro perspective against the backdrop of the real social economy, and explain the nature of the pop-up phenomenon in urban space from the perspectives of capital markets, public culture, and bottom-up public

participation. The book was also very inspiring at the time, and many studies in Europe later used the keyword "Temporary Urbanism" to describe the pop-up phenomenon in the city^[30].

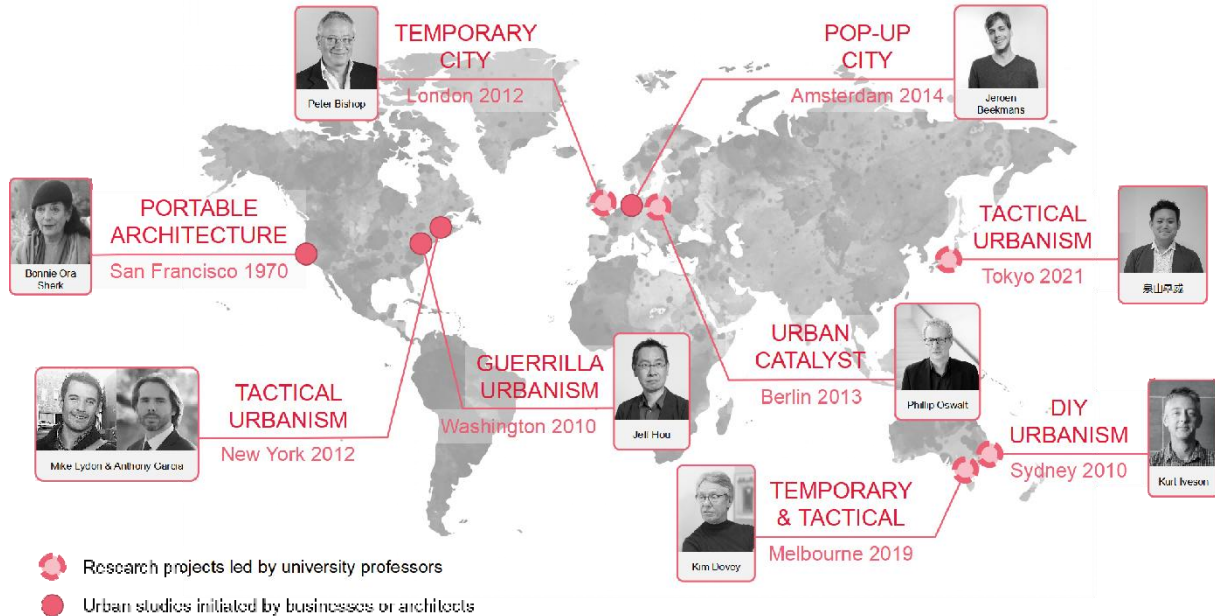


Fig. 2-7 Key researchers and keywords of pop-up urbanism in different regions

Illustrated by author (05/2022)

Pop-up urbanism sometimes appears in other words, for example, in 2013, German Phillip Oswalt in his book 'Urban Catalyst: the power of temporary use' examines the tactical nature of pop-up practice in a typological way. He sees the pop-up action as an urban catalyst and argues for its role in urban development by summarizing cases of temporary use of urban spaces^[31]. In the following year, Amsterdam-based designers Beekmans, De Boer and Nowek used an online platform to collect a large number of highly creative and practical projects from around the world and published their book 'Pop-up city: city-making in a fluid world '. The book is a creative presentation of the existence of pop-up action in the connected age in the form of a blog^[32]. Although the claims of scholars in each region are not uniform, these theories are not independent of each other. On the contrary, it is the formal mutual learning and refinement of these theories that has led to the continuous development of the study of pop-up urbanism.

(3) Latest Study (2015-2021)

In recent years, the practice of urban pop-up projects has shown a rapid growth trend. And the dominant approach has changed from a completely spontaneous transformation by citizens to a variety of practices with governmental organization and possible third-party intervention. In 2015, Harris describes pop-up urbanism in terms of three characteristics: the flexibility and variability of construction; the ability to fill in the gaps; and the immersion that can immediately transform ideas into reality^[33]. Dan Hill, executive director of an urban research company, writes about the concept of "fast and slow urbanism", which explores the value of cities in the temporal dimension. He also suggests that pop-up actions have the idea of research and development that can further drive structural change in cities^[34]. Further to their previous research, Stevens and Kim Dovey discuss the ideas and advantages of pop-up urbanism in a later paper and hope to confront the potential risk of privatization of urban space^[35].

In China, the concept of "pop-up" is still relatively vague, which has led scholars to focus on commercial marketing, performance art, new media and other areas of knowledge about pop-up. For example, the existing domestic commercial real estate research on pop-up stores, 'China Pop-up Stores Research Report'. And in the field of urban design discipline, the earliest research is the introductory article 'Tactical Urbanism Research in Urban Planning Perspective'(城市规划视角下的战术城市主义研究) written by Hanqing Zhang in 2016. After that, Huang Lu pointed out the rebellious nature of tactical urbanism in mid-2018; Ding Xiaohan introduced theories related to pop-up urbanism and several generic types of urban pop-up practices in 2019; and Hu Jiayu described the process and practice of introducing the idea of tactical urbanism in Japan in 2021. It can be seen that Chinese scholars are in the initial stage of research in this area.

2.2 Pop-up Urbanism as a Collection of Ideas in Common

It is easy to see that the numerous theories represented by tactical urbanism and temporary urbanism are utterly similar in many ways. First, their subjects of study are

very alike in that they both address the act of self-organized regeneration by citizens in urban space. In the process of theoretical development, pop-up urbanism argues that this spontaneous regeneration can be led not only by urban residents exclusively but also by government or third-party institutions. Second, when these theories discuss actual pop-up practices, similarities can be found in the cases they cite and study. They all take place in underutilized urban spaces, and the goal of many pop-ups is to accommodate as many people as possible. Third, the pop-up practices all share the same temporal characteristics. They usually occur for a short period of time and leave the venue open for recovery. Yet these practices are also progressive in nature, meaning that they can have a long-lasting impact.

In short, even though the theories differ in form, they all essentially explore a short-term, low-cost and resilient urban regeneration process. They can all be seen as an exploration of urban regeneration forms.

2. 2. 1 Shared Value System

From the terms "temporary urbanism" and "tactical urbanism", which are most frequently mentioned by existing scholars, the core value of pop-up urbanism lies in the temporary and tactical nature of pop-up practice.

The temporary nature of urban activism is that it is a short-term, low-cost and resilient intervention in urban space. It can be implemented quickly in areas where the conditions are appropriate and has a high tolerance for error. The temporary nature of pop-up urbanism allows for immediate regeneration without much loss of funds, even if it has little effect, and the city can easily change the space back to its original form to minimize losses. On the other hand, the tactical nature of pop-up urbanism is that it is placed within the framework of permanent change^[36]. That is, the ultimate goal of short-term action is permanent change, not just immediate improvement. The success of a project is difficult to achieve overnight. Many projects start as informal, short-term initiatives, and over time become legitimate, permanently approved projects^[37].

Nowadays, with the research and development of numerous scholars, pop-up

urbanism also incorporates other aspects of value connotations. For example, it has various characteristics such as representativeness, transcreation, conservation, locality, innovation and wholeness.

2. 2. 2 Similar Conceptual Characteristics

Pop-up urbanism has its own unique and irreplaceable significance from the perspective of urban development. The conceptual characteristics it promotes allow cities to spontaneously promote urban regeneration without relying on the guidance of a specific person^[38].

First, pop-up mode emphasize that everyone can be a city-builder. Citizen participation in the urban design process should be advocated, expanding the roles played by designers and striving to combine both top-down and bottom-up approaches. Second, design suitable for public participation can start with small-scale, low-cost, and highly resilient interventions. Further, such transformations in unused or inefficient spaces are often incremental in nature. Informal spaces can be sought for experimentation, making some exploration for long-term improvement. Finally, the innovative nature of the pop-up itself shows different ways of using the same space, and to a certain extent this provides a reference for planners in terms of how to reactivate the potential of the space^[39].

Pop-up urbanism is practiced in a variety of ways, and is itself a theory of practice that is constantly innovating and changing with the times. It transforms the previous orderly but stale and obsolete system into a more chaotic but smarter one. The ideas of small scale, low cost, progressiveness, high flexibility, high flexibility, full innovation, and public participation it contains are of great inspiration to renew the theory and practice of urban public space (especially in China) nowadays.

2. 3 Practical Approaches to Pop-up Urbanism

2. 3. 1 Design Mindset

In the process of implementation, pop-up urbanism always upholds the core concept

of achieving long-term impact through short-term actions. It seeks to promote continuous urban regeneration and development through small-scale practical actions that are quick, inexpensive and effective. Its design mindset is based on the following steps:

First, find the core population served by the program. In particular, it is important to address those whose interests may be harmed by the implementation of the program. Second, identify the core issues to be addressed and the specific sites to be implemented. Usually the scope of the project needs to be minimized to make the solution more implementable and representative. Thirdly, be creative in envisioning ways in which the problem can be solved. It is extremely dangerous to simply imitate successful cases, because there is no way to know whether the contextual conditions are consistent with the local situation. And if conditions permit, designers should try to find legitimate ways to do so. Fourth, plan a project that is convenient, inexpensive, and can be implemented quickly. There are many aspects to consider when conceiving a project prototype, including: project plans, partners, construction schedules, permits, and appropriate materials. Fifth, use the build-measure-learn process to test the project and gather feedback from the crowd. It is important to learn from the experience of previous projects and make better adjustments.

These steps may not be carried out in a linear fashion during the actual implementation, but may overlap between them. And some of these steps will be repeated in the project as appropriate.

2. 3. 2 Practice Method

After continuous discussion and development, pop-up urbanism has gradually changed from illegal self-organized regeneration by residents to a formal approach to urban regeneration accepted by the government. It is practiced in the following three ways.

Firstly, citizen-led rebellious pop-up action. The citizens use pop-up urbanism as a non-violent form of resistance against the unreasonable parts of the public open

space in the city. The beauty of pop-up urbanism lies not only in its own sensitivity to the environment, but also in the way it turns rebellious ideas into motivation to change reality. This practice embodies the way urban citizens effectively exercise their right to the city.

Secondly, governments, developers or social organizations use pop-up urbanism as a tool to draw on broad public input and engage citizens throughout the construction project process. Since the implementation process can avoid lengthy review processes, they use this tool generally to test ideas and implement change immediately. Unlike other participatory design implementations, where existing participatory systems only attract a small number of people who speak on behalf of the 'public', pop-up practices allow everyone the opportunity to directly engage with and evaluate change.

Thirdly, pop-up urbanism can be used as a practical tool to implement the "phase 0" stage. Before making a long-term investment, governments or developers will make some experiments, and this experimental phase is "phase 0". The characteristics of pop-up urbanism make it ideal for this phase of experimentation. Gather feedback to better evaluate the feasibility and viability of the investment plan.

These three modes of practice are not mutually exclusive, but have the potential to be transformed into each other. For example, government can identify and draw on the transformative power of citizens to make necessary policy shifts and implement long-term projects; it can also make small-scale experimental improvements in localized areas to sustain long-term public enthusiasm before the public engagement process ends and the big projects formally begin.

2.4 The Absence of Pop-up Urbanism at the POS Scale

Currently pop-up urbanism has a rather well-developed design mindset and specific approaches to civic engagement, but it still has its own limitations in terms of urban regeneration.

2. 4. 1 Spatial Limitations

The current pop-up practice is often limited to localized "terrain vague"^[40] in the city that is of poor quality. In other words, the existing pop-up urbanism mainly takes two kinds of spaces as its transformation targets: one is the underutilized marginal space in the city; the other is the space that has not been effectively used for a certain period of time for various reasons. This shows from the side that the government and the scholar community do not consider pop-up as a more general way of spatial improvement. It is clear that existing scholars regard pop-up urbanism as a remedial and salvage measure rather than as a universal means of regeneration. However, the author argues that even in core urban areas, pop-up practice can still be a universal way to transform and enhance public open spaces. Its flexible design mode and fast and effective action are also unique and meaningful among the existing POS regeneration methods.

2. 4. 2 Limitations in Perspective

The previous pop-up practice mainly focused on a sole project in a certain space. The focus on specific issues has left scholars and designers with a lack of in-depth thinking on the macro perspective of urban development. However, as mentioned above, the operational value of pop-up urbanism makes it irreplaceable for the development of cities. It is also an approach that allows for spontaneous urban regeneration and can be a catalyst for urban development^[41]. Therefore, it is necessary to include it in the thinking of regional development. There is a fundamental difference between multiple independent projects and multiple projects under a master plan. When faced with a larger scale urban space, one cannot expect to improve the urban environment with just a few individual pop-up actions, but should consider the network structure of multiple pop-ups in a holistic way. The methodology is lacking in the larger scale of public open space.

2. 5 POS Regeneration Concept in Pop-up Perspective

2. 5. 1 Content

The pop-up perspective of regeneration means that the space itself must bear some tactical significance. Wechsler's dictionary defines 'tactical' as 'of or relating to small-scale action in the service of a larger purpose' or 'skillfully planned or manipulated to achieve an end'. The purpose of urban regeneration in this perspective is not only limited to the present, but also the long-term development of the city.

Traditional urban planning is a complex set of disciplines across many fields, but still has its limitations in that they used to be relatively uniform in assuming that most of the variables affecting cities and the future of cities were controllable. And in the slow and isolated process of city building emerged rebellious learned responses like pop-up urbanism^[42]. It can be argued that urban public open space regeneration from the pop-up perspective is a rejection of the traditional notion of stasis and an embrace of the dynamic vitality of the city.

It is an urban regeneration based on a positive vision of the city' s future. The POS regeneration in pop-up perspective needs to consider the source of pop-up motivation, possibility and future execution effect happening in the area. Rather, this type of regeneration is an urban regeneration concept that fully considers the possibility of pop-up urbanism in POS. Its implementation should not only solve some of the problems of the present, but also reserve space for future development. In this respect, the urban planning idea described by Gaetano Bertin demonstrates a similar spirit^[43]. This kind of regeneration concept is also a further addition and improvement to the existing concepts related to urban regeneration.

2. 5. 2 The Relationship between Pop-up Urbanism and POS

Public open space is the carrier of pop-up urbanism when it happens. Appropriate public open space is a prerequisite for pop-up urbanism to happen. Pop-up urbanism is an experimental regeneration action that has a considerable impact on urban open spaces. However, public open spaces that have not been renewed or have limited spatial resources are likely to be unable to practice pop-up urbanism. Therefore, for

the spaces that are not suitable for pop-up practices, it is necessary to modify them to a certain extent to create a more favorable environment.

2. 5. 3 Role and Significance

In terms of ideas, this new perspective on urban development is something that is lacking in current planning theory. Pop-up urbanism is a dynamic perspective on urban development. This approach envisions long-term transformations, as well as adjustments in response to changing conditions. The ideas of high elasticity, flexibility, and incrementality that are embedded in it are lacking in the current public space regeneration theory. In China, the construction density of cities is generally high and land resources are very restricted. This status quo has resulted in many areas not having the conditions to generate pop-up urbanism. However, the role of pop-up urbanism in promoting urban development is an irreplaceable one, and the concept is truly a needed addition to China's current urban planning system. Therefore, it is imperative to discuss the regeneration of public open spaces under the pop-up perspective and to see pop-up urbanism as a valuable and universal approach. In this way, top-down pop-up urbanism and existing top-down approaches can be better combined to maximize the value of both tactical and strategic approaches to urban regeneration.

In terms of physical conditions, POS regeneration can provide the environment to support pop-ups. Pop-up urbanism is often used in the "phase 0" stage of regeneration in some areas prior to large-scale regeneration. Small-scale pop-up experiments at the end of the public participation process and before the official start of a large project can also help to sustain public enthusiasm in the long term. However, the problem often encountered during this phase is that some areas are not in fact ready for pop-up experiments. Such a dilemma makes it impossible to become a universal approach. But if we can make some adjustments to the underlying conditions of the venue before then, the situation becomes a little more optimistic. In this case, pop-up urbanism will happen more often in the streets and can be a strong driver of regional regeneration.

For China, the introduction of new participation models is of strategic importance. Early residential planning in China was largely influenced by neighborhood units, and most of them were relatively closed^[44]. In 2016, the Chinese State Council strategically proposed that 'neighborhood systems should be promoted for new residential buildings, and in principle, closed residential communities should no longer be built'. In recent years, most experts and scholars in urban planning have also discussed the idea of changing the original closed neighborhoods into open residential areas^[45]. With the transformation of the neighborhood from closed to open, the public space of the community inside it is also converted into a public open space serving the city. Facing the regeneration problem of this type of space, the public participation model is the mainstream model for future urban regeneration. Among them, the pop-up urbanism concept is relatively new and dynamic at the same time, and it is necessary to bring it into the POS regeneration as a thinking perspective

2. 5. 4 Comparison with Related Urban Regeneration Concepts

(1) Comparison with the earlier crude regeneration concept

At the beginning of the 20th century, urban regeneration was still a relatively vague concept and did not become a systematic theoretical system. Or rather, the meaning of urban regeneration was not widely accepted by the society. Influenced by the dividends of rapid social and economic development, the main way to build cities was to continuously build new buildings and expand boundaries. For backward urban areas, demolishing and redeveloping seemed to be the most appropriate way for the times. During the Modernist epidemic, urban regeneration often became a tool for achieving corporate capital profits, achieving planner values, and reflecting governmental wishes^[46]. Before the 21st century, when China was also in a period of incremental expansion, demolition and redevelopment became the most common way to reshape backward urban areas during a time of rapid development.

However, urban regeneration in the pop-up perspective sees urban development as a dynamic process, a continuous improvement of something imperfect. Urban planning

should be a process that allows for revision, and it is arguably arrogant to think that planning can only take place once every variable has been controlled^[47]. In practice, while early urban regeneration in China was led by the government, invested and built by developers and involved designers, urban regeneration in a pop-up perspective relies on citizen participation and inspection.

(2) Comparison with the mainstream refined urban regeneration concept

In the immediate aftermath of World War II, urban planners were still engaged in large-scale urban regeneration initiatives, primarily under the influence of theories such as the Glorious City. By the 1960s, criticism of the previous model of regeneration became more pronounced, and planners began to stress care for people themselves. Mumford, for example, wrote a book in which he argued that the previous model of urban regeneration had seriously damaged the urban organism and insisted that urban construction should be responsive to human needs; Schumacher also pointed out the limitations of the previous model in his article and advocated a human-scale approach to production^[48]. As a result of this reflection, a variety of intensive urban regeneration concepts have gradually emerged which are now more mainstream. In Berlin, for example, the 'Careful Urban renewal' strategy has been developed to address the existing problems in the old city in a more comprehensive and holistic way. Through the strict implementation of the 12 basic principles, scholars hope that the measures will continue to improve all aspects of the area and put it on a path of development and renewal^[49].

In China, the concept of "micro-renewal" has been a hot research topic in urban regeneration in recent years. In terms of object, this paper focuses on the public open space of the city, while micro-renewal includes private space such as residential buildings. However there are still many similarities between both. With regard to core concepts and values, both micro-renewal and POS regeneration from the pop-up perspective take a dynamic, microscopic view of urban development. Micro-renewal theory promotes a small-scale, incremental transformation model, and this positive exploration of a new local development model has been very widely noticed and

practiced^[50]. Concerning the practice approach and methodology, both micro-renewal and POS regeneration from the pop-up perspective put the citizens at the center, with both the government and designers as coordinators and collaborators. They both support the formation of new community governance mechanisms around residents that can be used for future autonomous regeneration of the area. In specific projects, they also both take a point-by-point approach to large-scale renovation and make certain adjustments to changes in the external environment during operation.

However, POS regeneration in pop-up perspective is still quite different from micro-regeneration. The implementation process of micro-renewal concept is divided into implementation mechanism and guarantee mechanism. The implementation mechanism is mainly to explain the development mode, funding source and responsible body for each step of the plan; the guarantee mechanism is to establish a bottom-up autonomous regeneration mechanism afterwards to ensure the long-term development^[51]. In this regard, POS regeneration from the pop-up perspective takes a different approach to practice. It mainly uses a priori pop-up action to attract more people to participate in the evaluation, and then adjusts the follow-up actions through a scientific and reasonable feedback mechanism. Unlike the pop-up model, the existing participation system only attracts a small number of people who speak on behalf of the 'public', while the general public, who have not been exposed to regeneration projects, becomes a resistance to regeneration. As early as 1962, Rogers identified five factors that affect our human ability to accept or reject innovation: relative advantage, compatibility, complexity, trialability, and observability^[52]. These five attributes are critical, and they directly influence the extent to which innovations are adopted. The traditional approach to urban regeneration makes many people very resistant to uncertain environmental change, even if that change is in fact beneficial. Interaction with experimentation through direct implementation can make most people more receptive. Pop-up practices allow for the ultimate in trialability and observability in the act of regeneration, an approach that is lacking in Chinese urban regeneration practice today.

(3) Comparison with the existing urban regeneration concept of pop-up urbanism

Both the idea of POS regeneration in pop-up perspective and pop-up urbanism itself place great importance on the phenomenon of bottom-up temporary transformation that occurs in cities and recognizes that such transformation is of long-term tactical significance.

However, there will still be many differences between them. The POS regeneration, in terms of the people it serves, focuses not only on those who regularly pass by and use the space, but also on the general public who occasionally pass by and are likely to be drawn to it. The focus is broader and more urban in scope. On the scale, POS focuses on the overall spatial distribution in the area, with the possibility of pop-ups occurring in all corners, rather than focusing on a single location where pop-ups may occur. In terms of the number of pop-up projects implemented, the existing pop-ups organized by some non-profit organizations are generally limited to the same type of pop-up activities. However, the revitalization and improvement of urban space can only be better achieved with multiple different pop-up practices in multiple locations. Moreover, by providing a good petri dish for pop-ups, POS regeneration can provide the opportunity for multiple experiments over a long period of time in the future, with a longer-term vision than a one-shot pop-up project. Therefore, it can be said that POS regeneration from the pop-up perspective is a complement to existing pop-up urbanism on a larger scale.

2.6 Chapter Summary

The regeneration of urban public open space from the pop-up perspective is a complement to the existing practical approach of pop-up urbanism at the scale of the city block, which is a prerequisite for the urban catalyst to be effective. Therefore, it is necessary to organize and propose a methodology for the systematic regeneration of urban public open space here.

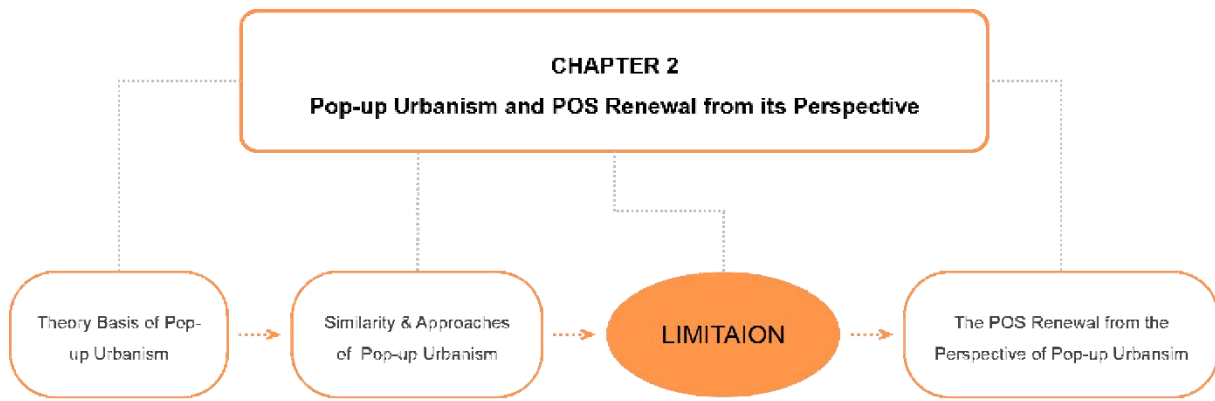


Fig. 2-8 Chapter 2 Structure

Illustrated by author (05/2022)

Comparisons with some existing theories of regeneration in China show that this regeneration method is trialable and observable, which is also very inspiring. This dynamic and experimental regeneration theory could well be one of the approaches to improve urban space in China.

Chapter 3. Case Study

There are various types of pop-up urbanism, and the locations where they take place are also different. In practice, pop-up projects often choose nodal vacant lots and linear city streets in the urban spatial network as the carrier, which makes pop-up urbanism can be divided into two categories according to the location of occurrence: the node style pop-up and the street style pop-up. In these two different spatial contexts, pop-up urbanism can be subdivided into six sub-categories according to their specific characteristics. The node style pop-up includes three categories: creative catalyst, function reconfiguration, and crowd interaction; the street style pop-up includes mobile facilities, street reshaping, and interactive interface.

The categorization of pop-up case studies within this chapter goes beyond the study of pop-up urbanism to examine the spatial archetypes required for projects within these categories. The case studies act as a bridge between pop-up urbanism and POS regeneration through the lens of pop-up urbanism.

3. 1 Node style Pop-up

Nodal style pop-up mainly occurs in the point-like space of urban public open space system, and the main way of action is to use pop-up actions as the core point of attracting people and radiating influence to the surrounding area. The development of cities is always in a periodic cycle, inevitably there are some periods or areas that are currently shrinking. Pop-ups are a good way to make use of these vacant periods. In the early days, these pop-ups took place more often in Europe and were combined with the concept of 'temporary use' at the time. Its success has since allowed it to spread worldwide.

3. 1. 1 Creative Catalyst

The Pop-up action represented by Creative Catalyst mainly shows innovative and representative characteristics. It is also relatively small in overall scale compared to the site where it exists, and does not subvert the original function and nature of the site. This pop-up can also be used as a filler in the transition period from the old function to the new one.

It is self-evident that the pop-up practice represented by a single creative catalyst requires a certain vacant space. This kind of spare space is not an abundant resource for cities, especially for urban areas that are already compact in terms of functional use. If one wants to utilize the creative pop-up in a planned way, one has to arrange the white space in a reasonable way. This innovative type of pop-up is unusual in content and form, which helps to be observed by passersby to achieve efficient use of resources.



Simply built steps are the first stage of a long-term strategy

Fig. 3-1 Pop-up amphitheater by BaO architects

Photo from web:

<https://www.designboom.com/architecture/bao-architects-pop-up-amphitheater-hutong-beijing-design-week-2016-baitacinema-10-18-2016/>

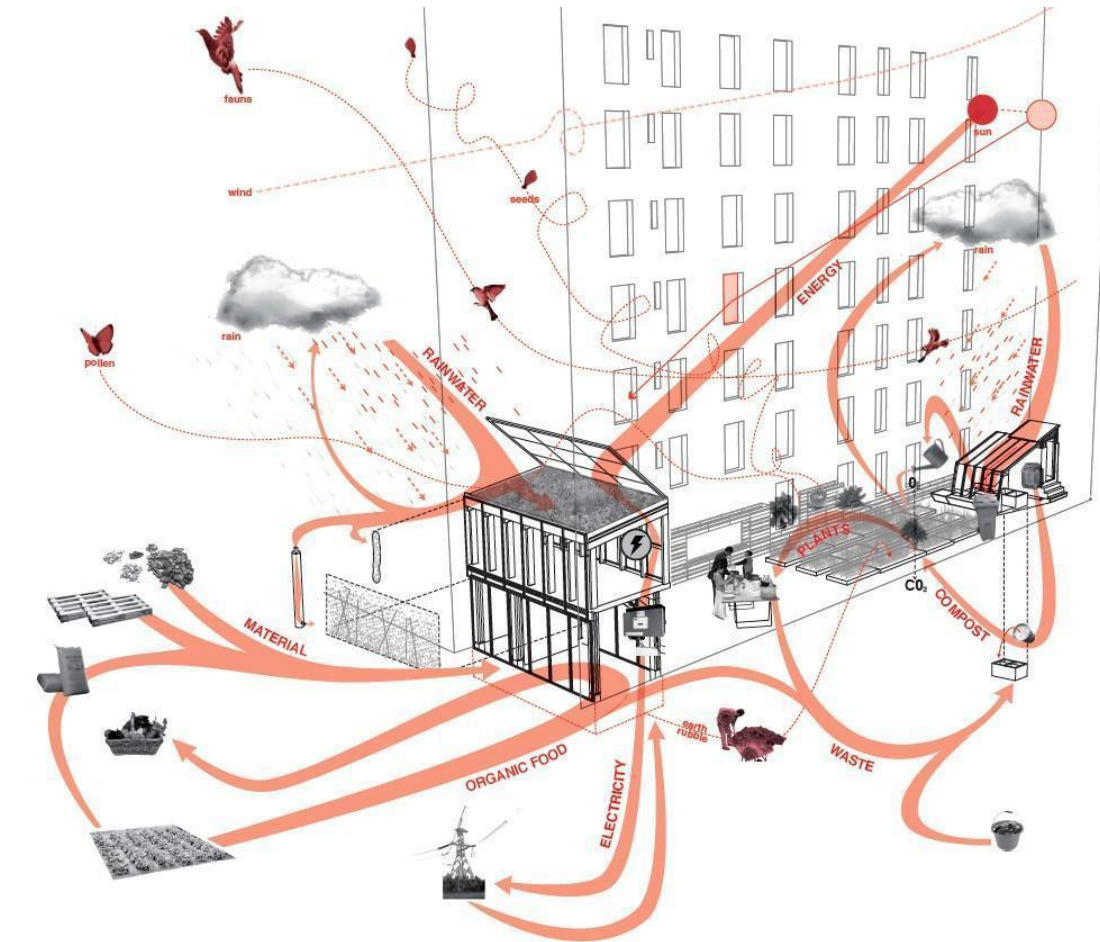
Some of the smaller installations that were initiated from the bottom up and fixed in the venue are typical examples of such pop-up actions. BaO architects and the French Embassy in China, for example, built a pop-up amphitheater in a hutong in Beijing. This theater welcomed a large number of residents to watch the film with an interesting stepped auditorium. In addition to the projector screenings in the evening, the theater also welcomes a variety of small events during the day that are very popular with the residents of the historic baitasi district. In addition, another project adjacent to it, octopus pavilionmax, was designed in the form of a canopy to provide a venue for the events of the time. This project was a collaboration between two studios, max gerthel and protectonicus.

In addition to such public functional structures, of course, some guerrilla stores can also serve as creative touchstones. For example, HWKN designed a series of cube boxes for Uniqlo in New York's Plaza in 2011. As well, Spillmann Echsle Architekten designed a brand store consisting of a series of containers vertically in 2006.

3. 1. 2 Function Reconfiguration

The function reconfiguration type of pop-up shows a lesser-known side of the original venue. It is renewed by reconfiguring the original functional space. It is more exploratory for the development of public space, and the easy-to-implement nature of pop-up urbanism helps this exploration.

Pop-up events of the function reconfiguration often change the appearance of the original space, which requires a certain flexibility of the space. The size of the site and the form of the space should be suitable for a variety of activities to take place simultaneously or in different periods. The public facilities within the space should also take into account the possibilities of future changes. The pop-up practice of functional reconfiguration is not only about the short-term use of the site, but also about the exploitation of its undiscovered potential.



Temporary gardens offer a new possibility for awkward, narrow spaces

Fig. 3-2 Eco-Garden proposed by Atelier d'Architecture Autogérée

Photo from web: <https://www.urbantactics.org/projets/passage56/>

This type of pop-up is mainly an experimental change to the overall function and character. For example, La parcelle du 56, rue St. Blaise used to be an unbuilt plot of land between two multi-storey buildings. Then a Parisian atelier (Atelier d'Architecture Autogérée) decided to develop it into an ecological garden after investigating and collecting proposals. To this end, they organized a participation and management platform of about 40 people to jointly manage and maintain this area. With a series of other installations introduced later, this garden could also become a classroom, an exhibition space, a theater, a restaurant, a salon, and other spaces for community needs.

The main reason for the functional replacement is that the function of the original

space needs to be changed in order to meet the actual needs of the residents. For example, the Shopjacket movement that took place in the UK around 2010 was due to the vacancy of street-level stores, which were in desperate need of quick and viable business models to revitalize the whole neighborhood. Similarly, a project in Australia called Wulugul pop-up aims to rejuvenate old docks through a series of renovations. The pop-up urbanism here replaced the former industrial function with a wealth of public activity, creating a waterfront space that is extremely welcoming to the public.

3. 1. 3 Crowd Interaction

The interactive urban pop-up movements generally do not change the nature of the original space, but they make better use of the site through participation and interaction. The low threshold for this type of pop-up is a good case of the convenience of pop-up urbanism in implementation.

This kind of pop-up does not require a high demand for spatial carriers, and most of the originally inefficiently utilized land plots can adopt this method. However, it has been noted that in the process of user interaction, it is often necessary to deploy more urban furniture and auxiliary facilities from other areas to serve the large number of people gathered. If more flexible urban furniture is available in the original venue space, it can further reduce the preparation process for pop-ups and promote more pop-ups to occur. The relationship between the user and the activity at the site is an important part of urban cognition, so increasing interactivity can also lead to better cognition and memory of the otherwise ambiguous urban space.



The flying carpet brings human activity into the middle of the previously monotonous space.

Fig. 3-3 The flying grass carpet proposed by HUNK & ID Eddy

Photo from web: <https://www.flyinggrasscarpet.org/>

The Flying Grass Carpet project by Rotterdam studios HUNK and ID Eddy in 2008 is a very famous case. With the placement of a huge artificial turf, the formerly unpopular space in the city square was transformed into a vibrant space of interaction with something different. People joined in the laying of the grass and exchanged ideas on the laid turf. The flying carpet can be easily transported and unfolded, and provides a place for people to interact with each other wherever it goes.

In addition, the various urban beach events that have sprung up in Europe are typical cases of crowd-pleasing interactions^[53]. For example, in 2002, the "Paris Plage" emerged along the Seine River in France; in the same year, the "Strandbar Mitte" in Berlin was built by private entrepreneurs in Germany; and later, the Demos, a British think tank, copied the previous successful example by building its own urban beach, the "Bristol Urban Beach".

3. 2 Street style Pop-up

Street style pop-up mainly refers to pop-up practices that take place in urban street spaces, which function as a temporal or spatial redistribution of resources to the original linear street space. The traditional well-defined street system has been effective in relieving traffic pressure in several static modes. However, with the advent of the Internet and the rapid technological and cultural development of society, the previous solid street model is unable to adapt to the ever-changing needs. The emergence of pop-up action makes it possible to serve as a convenient street facility that can compensate for social life.

3. 2. 1 Mobile Facility

Mobile facilities that provide services such as books, food, and rest can sometimes be seen on the streets, and they provide a flexible complement to the single function of the city street in several ways. Mobile units rely primarily on urban road infrastructure for mobility and possess unique flexibility.

Although the process of moving hardly takes up additional street resources, it is prone to congestion due to crowd gathering at the location where it stops. This requires that the street as a carrier must have a certain area and facilities for people to take a break. As a typical public open space with a high proportion of area, urban streets should not only assume the function of commuting, but also provide social, leisure and entertainment functions for people in need. To achieve these functions, it is not advisable to directly put in street stores and use them in certain areas, so flexible devices can be used to test whether people have such needs in the street space.



Mobile library parked on the streets

Fig. 3-4 Mobile library in lisbon

Photo from web: <https://ebookfriendly.com/extraordinary-mobile-libraries/>

There are a variety of mobile installations on the street, and among the most socially significant is the mobile library on the street. The earliest mobile library appeared in 1857 in Victorian England in the form of a cart. Today, mobile libraries come in many forms, appearing on the streets and providing valuable places for pedestrians to gain knowledge and to socialize. On the streets of Lisbon, for example, you can see blue and white vans carrying a collection of Portuguese classics translated into foreign languages. The stylish library on wheels was developed by Francisco Antolin and has become a popular place for exotic people to interact. Other cases such as Axle Contemporary Mobile Art Gallery, Seating for Socializing in Hong Kong, and Dumpster Pools in Brooklyn are also mobile facilities with a strong public message.

Another type of commercial mobile pop-up store adds a social life function to the city streets that was not there before. At the end of the 20th century, there were many nighttime hawkers' carts on the streets of New York City, and at the time such

temporary businesses were considered illegal and dangerous. However, as the urban population became more demanding in terms of convenience and accessibility, these mobile food carts were gradually recognized as an integral part of the city streets. Classic examples include the mobile tea party truck "T-horse" created by Mark Lakeman, and the various Nike branded trucks "Nike Truck".

In fact, in China, there have been many restrictive government policies that have caused the number of mobile vendors to plummet because of the health problems they pose. However, a very large number of people still express their support for mobile vendors to operate on city streets for convenience and culture atmosphere. Mobile facilities contribute significantly to the vibrancy of cities by driving street food culture while also bringing their regular customers to various parts of the city. The success of pop-ups in this regard has led the government to rethink the positive aspects of street pop-up mobile stores for the city streets.

3. 2. 2 Street Reshaping

Street reshaping is the deconstruction and substitution of certain original functions for entire sections of the existing street. It may be an action that occurs at a specific moment in time and will become a periodic festival after a successful experiment. It may also be an attempt to improve an existing misuse and to create a permanent change.

Street reshaping type of pop-up changes the original people using the street, generally from a fast traffic mode to a low speed traffic mode. For this conversion, the street space should have a certain compatibility. For pedestrian and car conflict scenarios, the street should have a certain buffer space. This flexibility is conducive to promoting the development of diverse forms of pop-up, which in turn activates streets that are otherwise underutilized or misused, so that it can better exploit the urban value of public open space.



City carriageways become bicycle-only streets

Fig. 3-5 Ciclovía in Bogotá, Colombia

Photo from web: <https://www.atlasobscura.com/places/la-ciclovía-de-bogotá>

Periodic practices begin as a tentative change in the way residents transform their streets, such as the "Ciclovía" event that originated in Bogotá, Colombia, in 1974. The first event was organized by Jaime Ortiz Mariño and other cyclists. Later, after the second event, the government appreciated its success and signed it into a decree. After its recognition by the Ministry of Transport, "Ciclovía" became an official urban project and was widely promoted and implemented. Since then, every Sunday and public holidays have been dedicated to bicycle lanes at certain times of the day. There are many cases of such periodic festivals resulting from a single pop-up, such as Open Newbury Street in Boston, which began in 2016.

Other disruptive changes to streets often come from the venting behavior of citizens. The "woonerf" streets in the Netherlands are a famous case in point. The lack of attention by the municipality at the time to the pollution and security of the

community's streets led residents to spontaneously tear down parts of the street's sidewalks in the middle of the night. The obstructions created by this action effectively forced cars to pass through the neighborhood at lower speeds, and the result was more space for safe walking. Residents thus regained some measure of street access, and the government gradually recognized its legitimacy. Eventually advocates began to write "woonerven" into the regulations and began to formally build shared streets.

The pop-ups were only temporary changes to the nature of the street. However, regardless of the success of these first pop-up attempts, the events themselves do not just bring about change for a limited period of time. They can have a lasting impact before and after the event and evolve into a distinctive community culture.

3. 2. 3 Interactive Interface

Pop-up practice does not only happen on the street level, but also on the interfaces on both sides of the street. Traditionally, street interfaces engage people with solid walls, permanent planters, fixed railings and street signs, and these static interfaces are often taken for granted and overlooked. The emergence of pop-up, however, allows street interfaces to interact with people, thus making them want to stay for a short time and creating an interesting impact.

In the urban construction process, the actual street interface often consists of stores under the manipulation of the market economy and safety facilities to meet basic social needs. The interface, which is most closely related to the walking experience, is often treated as a supporting role in the planning process, which results in a very homogeneous street interface in some urban areas. However, the diversity of pop-up requires that the interface space should be rich enough to serve as a vehicle. A rich and variable street interface has great possibilities to enhance the street atmosphere of the city by helping pop-up activities to happen.



Arcade game devices that attract people to participate in the street

Fig. 3-6 Super Street Arcade proposed by Gap Filler

Photo from web: <https://gapfiller.org.nz/project/super-street-arcade/>

This type of pop-up creates multiple ways to interact with crowds through both offline and online. In 2016, for example, a Super Street Arcade popped up near a crossroads in the heart of Christchurch, New Zealand. The creative project, initiated by the nonprofit Gap Filler, required the collaboration of two to three people to maneuver, which provided a great opportunity for strangers to interact and meet each other. The project has been so successful that in less than six months it has attracted over 100,000 users. In addition, The Climate Wall in Denmark also collects behavioral data and interacts with pedestrians in real time through cameras.

In addition to offline interactive installations, some streets have seen walls that can be interacted with instantly online. For example, the first virtual grocery store, Home+, has opened on the platform of the Seoul subway station in 2021. The store, a collaboration between Tesco and Samsung, does not have any real products, but rather pictures of products with QR codes. The pop-up interactive interface makes

clever use of people's free time while waiting for the train. By promoting this concept, any empty wall or station on the street could suddenly become a virtual store one day. These pop-up rich interactive interfaces greatly complete the otherwise monotonous commuting function of the street and become an experiment with potential for improvement.

3.3 Pop-up Chain: A Derivative Pattern

Pop-up chain is the reenactment of similar pop-up practices in multiple points at different times or in different spaces. Its model prototype may be either a node-style pop-up or a street-style pop-up. Therefore, pop-up chain can be seen as a derivative of the above two categories. It is reasonable to assume that if multiple pop-ups are to be consciously controlled, it needs to be planned in the overall spatial system. Thus, urban scholars can consciously manipulate a large-scale impact that can contribute to the evolution of public open spaces in cities to a greater extent.



Hundreds of parking spaces in various parts of the city have been transformed into temporary parks

Fig. 3-7 Temporary garden changed from a parking space

Photo from web: <https://www.myparkingday.org/>

The famous Park(ing) Day in the United States is an example of a single project that went from a single event to a massive rollout, and it is also a milestone project in pop-up practice^[54]. At the beginning of the 21st century, many cities in the United States were facing a shortage of open spaces, and a group, the Rebar Group, came up with the idea of turning parking spaces into social spaces in 2005. The group temporarily rented street parking spaces and transformed them into mini pocket parks before they expired. Park(ing) Day helped inspire San Francisco's Pavement to Parks program to create its parklets initiative. Images of this action generated a huge response online. Their actions were then emulated by different organizations in more than a dozen cities, and it became a massive, spontaneous transformation initiative. In just seven years, temporary parks have appeared in 162 cities and 35 countries^[55]. In 2010, the San Francisco government admitted its validity and launched the "Pavement to Parks" campaign to further popularize it in the city. The pop-up experiment was so successful that the third Friday of September was recognized as "Park(ing) Day" in the United States. Others, such as Jason Roberts' "Build a Better Block" project, have also provided successful cases of community optimization on a large scale.

The point-to-point format first requires the existence of a relatively successful pop-up practice. After the success of this case, several regional organizations or the initiators of the project itself put the project into widespread experimentation on a large scale. These widespread examples make the pop-up a local culture in itself, thus stimulating local dynamics.

3.4 Case Summary

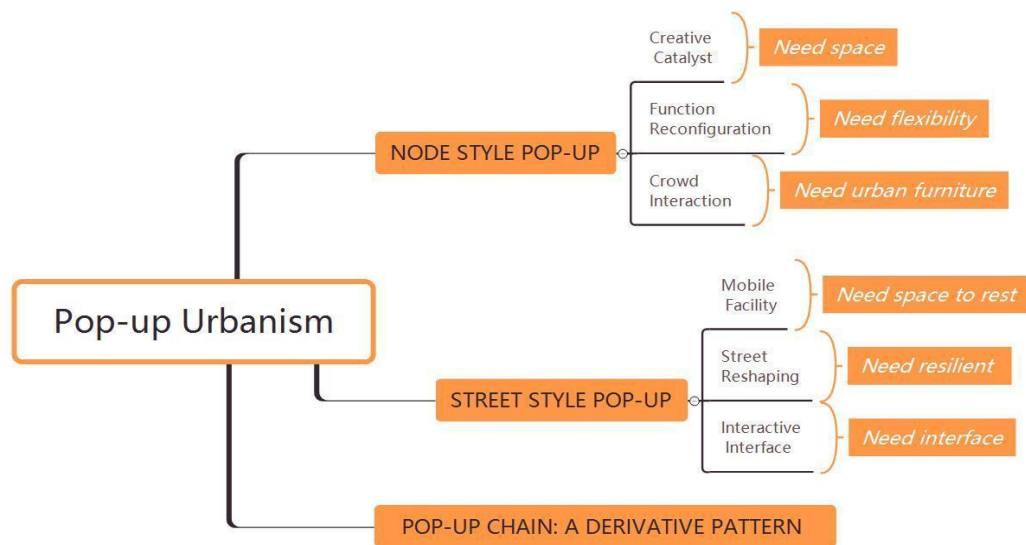


Fig. 3-8 Several modes of pop-up occurrence and its space requirements

Illustrated by author (05/2022)

The current pop-up projects mainly intervene in the public open space of the city in an independent way. Specifically, depending on the location of the pop-ups, there are node style pop-ups and street style pop-ups. Pop-up chain as a derivative approach demonstrates the potential for viral spread of pop-up practices in the city. It also suggests that current practices look more at the temporary regeneration of individual micro-spaces and do not consider the possibility of more organized pop-ups occurring simultaneously in multiple locations within urban spaces. This chapter not only discusses the corresponding types of pop-up cases, but also analyzes the needs of pop-ups for the space in which they are located. The categorical approach helps to propose a practicable methodology for POS regeneration.

Chapter 4. POS Regeneration Methodology from the Perspective of Pop-up Urbanism

Through the case studies, it can be found that each type of pop-up project has its own different requirements for the form of public space. After summarizing the needs of

pop-ups for different spaces above, a methodology on the regeneration of public open spaces is called for. This chapter focuses on how the guiding methodology of urban regeneration should be applied in public open spaces so that it can better facilitate the free occurrence of pop-up urbanism in the future.

4.1 Core Concepts and Application Scenarios

The core concept of urban public open space regeneration from a pop-up perspective is to improve the quality of the space while taking into account as many future pop-up actions as possible, paving the way for future dynamic development. The aim is to build a nurturing base for pop-up urbanism and to maximize the tactical nature of pop-up experiments as they occur.

The applicable scenarios for this kind of urban regeneration are more similar to those applied by pop-up urbanism, both must be urban public open spaces that do not need to be considered to solve urgent social problems. Pop-up urbanism is only a relatively mild approach to urban regeneration. If the basic contradictions or decay in the area are so severe that it needs to be saved by extensive redevelopment, then such an area is not suitable for this regeneration method. If it is needed to solve more urgent issues, it needs to be used in combination with other POS regeneration tools according to the local context. For example, a strategic and holistic plan is required to address social issues such as housing crisis, lack of transportation, and aging difficulties.

4.2 Service Targets and Concerns

The people served by the POS regeneration from the pop-up perspective are all the residents who currently pass through and use the space and the citizens who may be attracted to participate in the space in the future, which includes a very diverse group of people. The number and variety of people that are served here is greater than the number and variety of citizens that are served by pop-up urbanism.

The contradiction in urban space is essentially a contradiction between space users,

so the primary problem that can be solved by space regeneration is the social problem between people. Through the regeneration of space, we can achieve the tolerance and coexistence of multiple communities and ultimately enhance the whole cohesiveness of the regional population. In the case of regeneration of open communities, it is feasible to increase the familiarity and sense of belonging among neighbors by promoting communication among different subjects.

In addition, this regeneration addresses a number of secondary issues.

First, it can enhance the potential economic value of the area. Urban pop-up action as an activity that directly attracts the enthusiasm of diverse people is bound to draw the attention and support of the business sector. For a public open space with pop-up possibilities, there are two aspects of economic potential. On the one hand, it can attract capital as investors and coordinators of pop-up actions, promoting the occurrence of pop-up urbanism; on the other hand, after the action occurs, the gathered crowds can provide considerable foot traffic and attention to the nearby commercial facilities.

Second, it could promote the flexible use of public space. The improvement of public open space must take into account the possibility of different pop-up behaviors in the future and provide flexible and resilient space for them. Such public space is also easier to change the venue facilities flexibly according to the actual needs of residents, thus further enhancing the efficiency of space use. This is especially necessary in locations where space resources are already limited.

Third, city culture can be manifested during pop-up actions. "The Culture of cities" is generally developed over a long period of time in the course of urban and social development^[56]. As the world enters the information age, urban pop-ups act as a highly effective catalyst here. The successful Park(ing) day, for example, took only a few months to turn the transformation into a citywide craze, and this craze was propagated into a cultural event supported and promoted by the San Francisco government. Even if a variety of pop-ups continue to occur in a place, the event itself becomes a regional influence and gradually becomes part of the urban culture with a

spirit of changement and vitality.

Fourth, multiple experimental regenerations allow districts to better adapt to the changing needs of the times. At present, citizens in more developed cities are gradually leaving the dilemma of lack of basic resources and entering the era of pursuing life quality. In this period, the needs of the main population have become more diverse and variable. In order to fit the changing needs of the times, public space should be compatible to facilitate multiple experimental transformations. Only in this way can multiple interests gradually find a suitable development direction to meet the demands of different communities in the process of mutual game.

4.3 Operation Conditions and Object

The existing concept of pop-up urbanism has certain limitations because it treats pop-up action as a remedial and salvific measure. If pop-up urbanism were considered as a tool with universal value, the conditions and objects of its operation would be different.

Pop-up urbanism occurs relatively irregularly in cities, and the possibility of pop-ups exists even in under-conditioned spaces. This irregularity is a tricky existence for regeneration with a clear purpose, and the obvious thing to consider for POS regeneration in the planning area is to limit and guide it in some way. However, if there is a need to consciously promote and control where pop-ups occur, certain restrictive conditions are imposed on the space itself. Considering the momentum of pop-ups and the impact they can have, it is best to choose areas with a large number of residents, good accessibility, abundant surrounding businesses and interfaces, and good spatial resources for POS regeneration from a pop-up perspective. Open communities in cities with a large number of residents and a rich variety of businesses are representative and workable areas where the conflicts faced by residents can be well directed to the impetus of pop-up urbanism.

POS regeneration from pop-up perspective operates on public spaces that are open to all urban citizens, however, not all POS need to be renewed. Urban designers

should focus on public open spaces that are not currently friendly to pop-up urbanism, but can be developed through regeneration. While focusing on such spaces, it is also important to pay attention to places that are inherently suitable for pop-up initiatives and to coordinate the overall spatial structure. The establishment of an integrated and connected spatial system is essential, as it will have an impact on the linkage between future pop-up actions in different areas.

4. 4 Space Strategy

Unlike the completely bottom-up pop-up urbanism, POS regeneration from the pop-up perspective requires a more macro design strategy to control how and where pop-ups may occur in the future. This top-down approach facilitates the construction of a systematic spatial system. This lays the foundation for the future occurrence of pop-up urbanism, giving full play to the advantages of the two different urban development approaches. Therefore, in terms of spatial strategies, it is necessary to consider regeneration approaches with regional characteristics from macro to micro.

4. 4. 1 Principles

The POS regeneration in pop-up perspective mainly follows the principles of flexibility and variability, respect for the place, leeway and crowd interaction. It is not only necessary to preserve the future development space, but also to take into account the comfortable use in the present. It is desired to build spaces with better quality and urban charm to provide the impetus for the following pop-up experiment that attracts more people to participate.

4. 4. 2 Network System

Pop-up urbanism from the urban design perspective no longer exists as individual projects, but as interconnected and mutually reinforcing system. When there is the first successful pop-up practice, the same type of pop-up practice will become easy to spread out. Therefore, urban designers should make certain guidance and demonstration of pop-up types and pop-up contents occurring in different areas, so as

to build a benign chain reaction and promote the prosperous development. During the practice, it is quite possible to plan differential development directions according to various regional characteristics to achieve complementary or joint use.

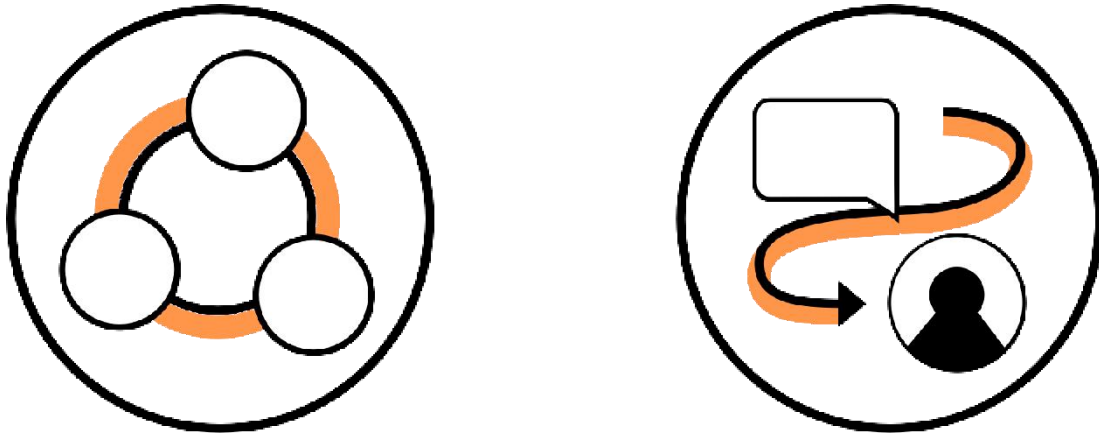


Fig. 4-1 Pop-up network system (left) and long-term operation system (right)

Illustrated by author (05/2022)

At this stage, non-profit social organizations can be introduced to exploit the potential self-organizing capacity of the community. However, a completely bottom-up approach is not a perfect solution, and it may lead to difficulties in coordination with other places because its positioning in the urban function is changed during the development process. It is evident that the traditional planning approach still has its irreplaceable role in the macro level of development. What social organizations have to do is to coordinate the two approaches of public participation and administrative planning, maximizing the advantages of both tactical and strategic aspects.

4. 4. 3 Street Space

Street space is the largest category of public open space in the city, and its primary urban function is commuting. However, with the increasing modern demand for convenience, a vibrant street must have a great variety of functions. Corresponding to the three different types of pop-up practices, the following three types of strategies are generally needed to transform node spaces.

(1) Localized Linging Space

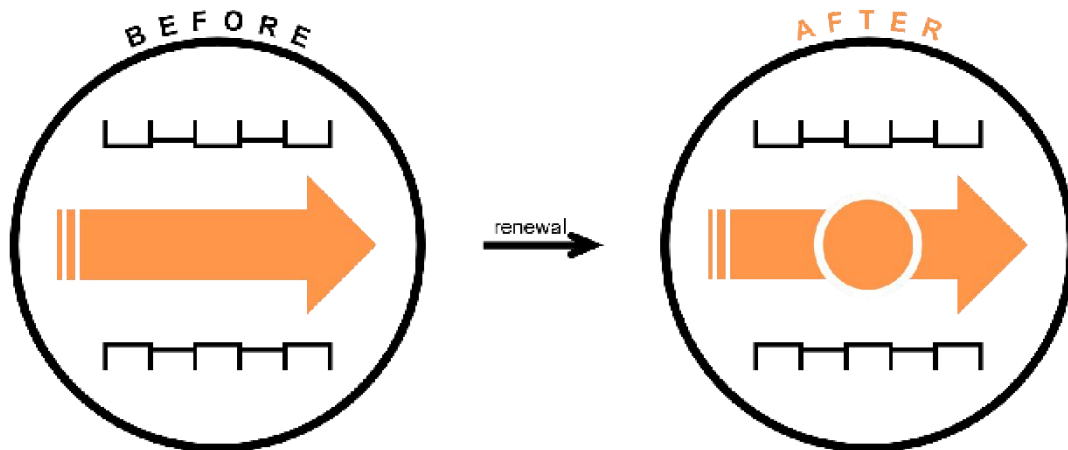


Fig. 4-2 Strategy of localized lingering space

Illustrated by author (05/2022)

Flexible and movable facilities are one of the most convenient ways to complement the function of the street, and they can be present at any time and in any place where they are needed. If the street itself does not provide space for people to stay in certain locations, then this pop-up practice will be greatly compromised or even rendered unworkable. Localized lingering spaces are also important and necessary for the city's public open space system. Regardless of the fact that monotonous and excessively long street spaces can make citizens bored and disoriented, the pass-through nature of such spaces itself kills the possibility of casual chitchat to a certain extent. Therefore, for any long and monotonous streets in the existing spatial system, it is necessary to consider some sort of resting node in the middle of the road. The addition of such stopover spaces on the street offers the possibility of temporary tables and chairs for pop-up facilities such as mobile libraries, and also provides a better environment for the daily social activities on the street.

(2) Resilient Passing Space

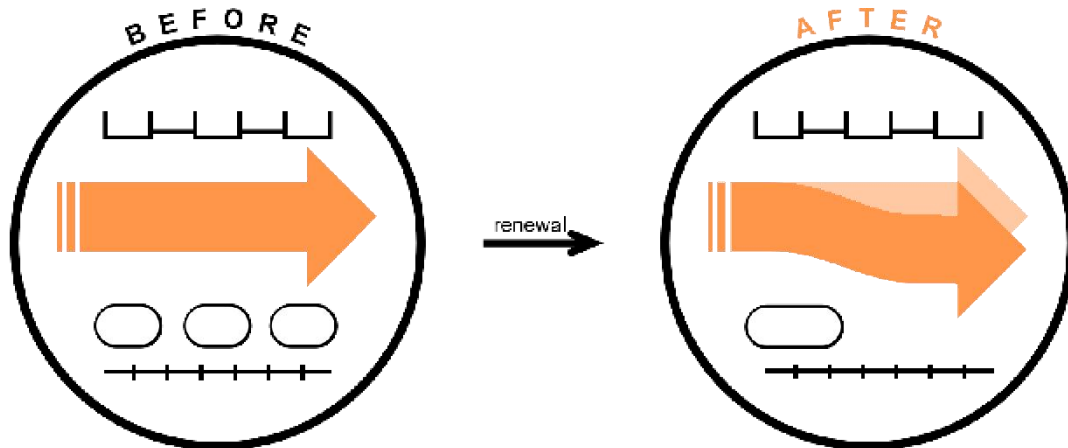


Fig. 4-3 Strategy of Resilient passing space

Illustrated by author (05/2022)

Some pop-up practices may make wholesale changes to entire sections of the street, such as converting driveways into striped urban squares. This requires the street to leave some spare space for future adjustments. In reality, the development of areas is more difficult to predict precisely, which leads to a mismatch between traditional urban planning methods and actual use frequently. This mismatch may be due to changes in the character of the people passing through or to the tidal nature of population movement. Ideally, the carrying capacity of the street should be able to show variability and resilience depending on the flow conditions. However, given the fixed buildings on both sides of the street, the consideration of resilience usually involves differentiating between different modes of traffic. For a few major urban roads, priority is given to the rapid passage of vehicles. For internal streets, more attention is given to ensuring the smooth flow of slow traffic. The height difference between the carriageway and the pedestrian space can be smoothed out appropriately when renewing the streets within the community, thus establishing a buffer zone for pedestrians and vehicles, and making flexible adjustments according to the real-time situation. With a high number of residents in the neighborhood, priority should also be given to ensuring safety and passability on foot, even if this comes at the expense of a limited driving experience. This flexible street design helps to accommodate changing

travel demands and provides adequate protection for citizens' daily lives and possible pop-up activities.

(3) Rich and Variable Interface

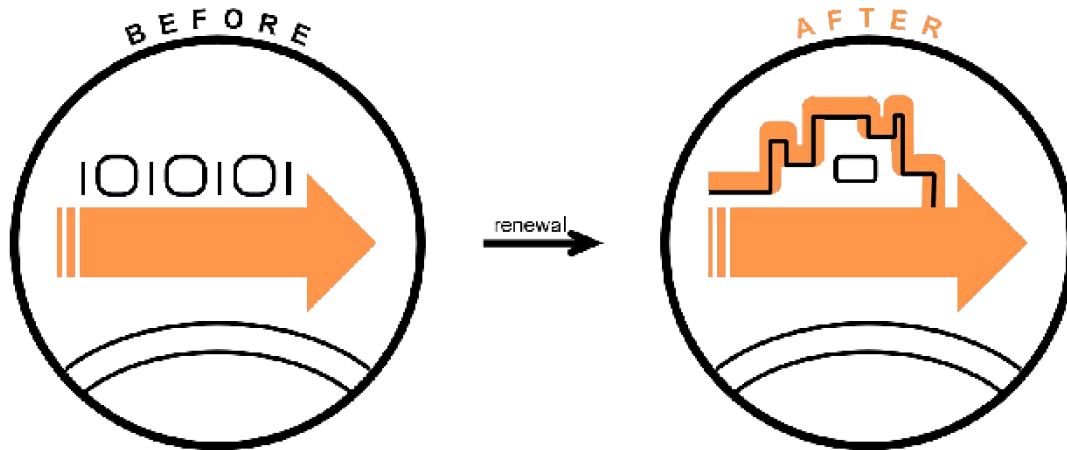


Fig. 4-4 Strategy of Rich and variable interface

Illustrated by author (05/2022)

Interactive interface types of pop-up actions have different requirements for street interfaces, which require a certain type of richness in the street interface at best. If the interface itself also has a certain degree of variability and interactivity, it can provide a good breeding ground for pop-up urbanism. The city as an organism is bound to have a variety of functional ratios within it. For those urban functions that do not provide external value, the public open space around them is bound to face a rather awkward situation. A gray and negative urban interface will make it difficult to stimulate the vigor of open space. Recently, the mixed use of architectural space has become a widely accepted way of urban development. To some extent, this planning approach has alleviated some of the problems by removing the gray interface from large areas. It is obvious that the mixed-use approach does not fundamentally eliminate negative interfaces, which makes it crucial to create new second layers of interfaces and transform otherwise uninteresting interfaces later on. When pop-ups occur, the street interface becomes a pleasant place for people to communicate and interact, contributing to mutual understanding and tolerance between different communities. As well, the rich and interactive street space itself is an attractive city card, which can

stimulate citizens' desire to explore the city streets and enhance their cognitive level.

4.4.4 Node Space

Node space refers to the space in the urban POS system mainly for people to rest, socialize, play and other activities, and it is the most important social living space in the urban spatial system. In response to the three different types of pop-up practices, it is necessary to adopt the following three types of strategies to transform node spaces.

(1) Tactical White Space

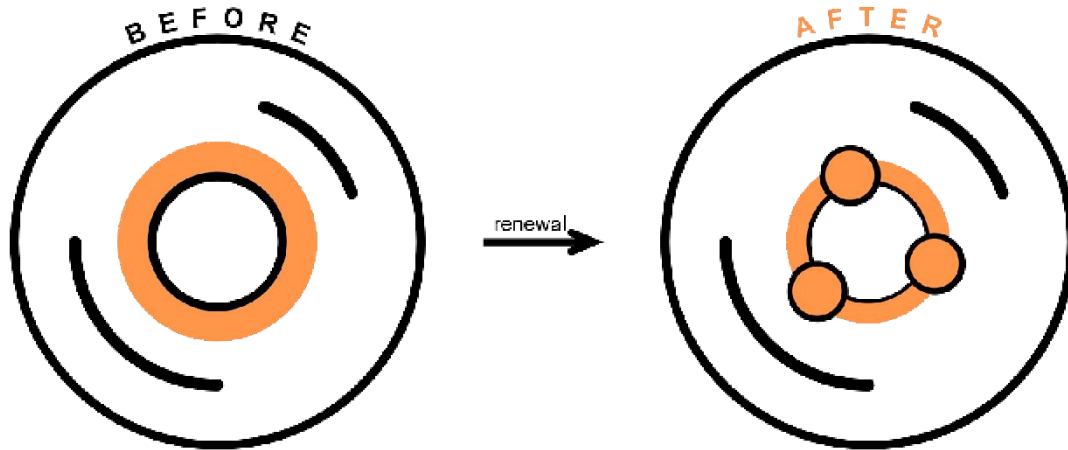


Fig. 4-5 Strategy of Tactical white space

Illustrated by author (05/2022)

In pop-up urbanism, creative catalysts are widely used as an important tool. These touchstones are large in size and need to take up some space. At the same time, the location of these catalysts is usually a key node in the space system of the city, which should play a good radiating role to enhance the atmosphere of the surrounding environment. If a fixed function is used, it is often not as effective as expected when it is placed in service. However, the use of the site can be better ensured if it is kept as open space by the planners and operated by the citizens in a careful and orderly manner. The spontaneity and organic nature of urban development has a unique vitality, and the arbitrary intervention may cause undue trouble^[57]. Therefore, there is a need to arrange tactical white space in the regeneration of the spatial system to

allow room for future construction and development or the installation of pop-up devices. Such white spaces are also small open squares that can provide a friendly environment for people's leisure life.

(2) Variable and Flexible Space

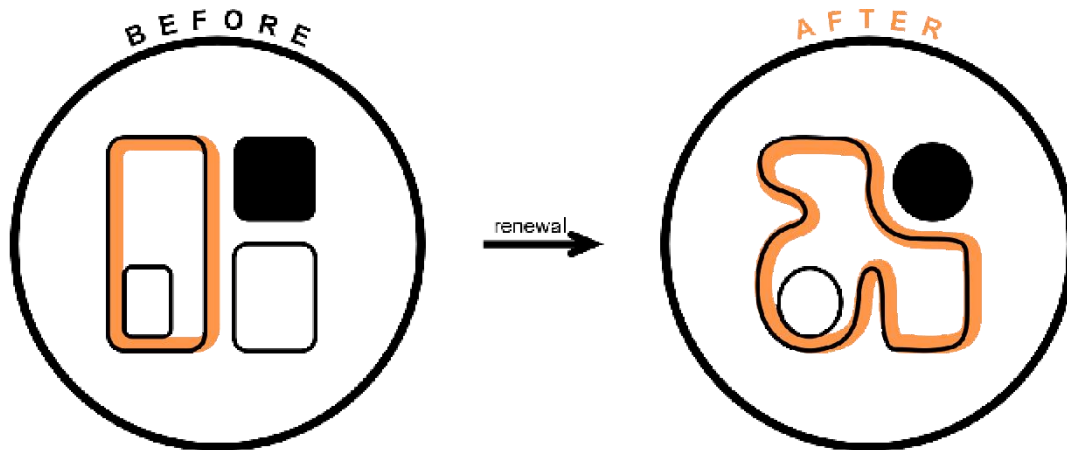


Fig. 4-6 Strategy of Variable and flexible space

Illustrated by author (05/2022)

Some of the pop-up practices will subvert the overall function of the site, and with it, the overall spatial appearance. Whether such transformations are periodic and temporary or experiments for long-term change, pop-up urbanism demands spatial variability. Many nodes of public open space in the city are suitable for resilient transformation, however, the regeneration strategy here is not specific to all spatial nodes. Resilient spatial regeneration focuses more on improving the efficiency of specific spaces in usage, such as changing a more mono-functional urban piazza into a resting space that can be adapted to multiple functional uses. It is not worth paying too much attention to the sites that are already fully used. Care should be taken to avoid excessive use of permanent facilities to fragment the site during the actual regeneration process. This will ensure that the site can be more easily modified in the future when its functions are not up to date.

(3) Interactive Urban Furniture

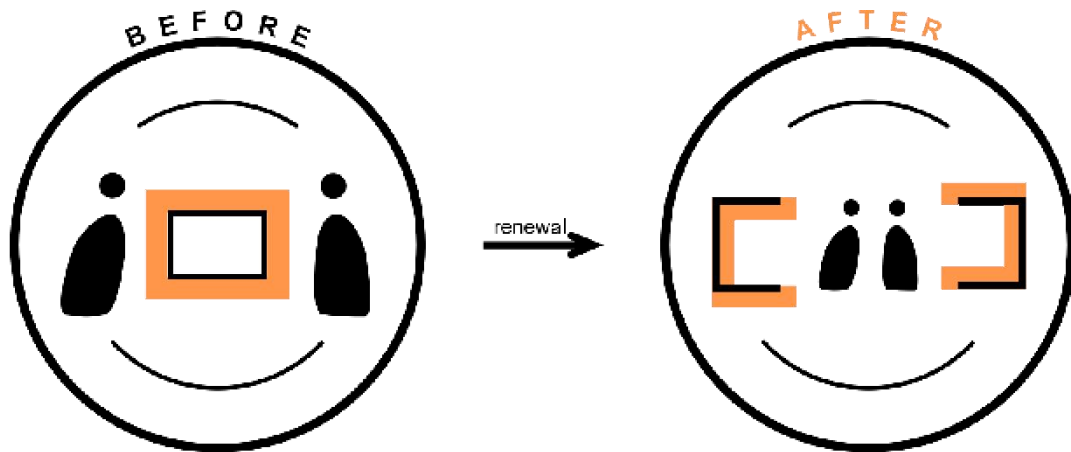


Fig. 4-7 Strategy of Interactive urban furniture

Illustrated by author (05/2022)

Pop-up actions with interactivity as the main feature do not change the nature of the venue itself and are easier to implement. This type of pop-up requires very little in terms of the venue itself and can attract participants to interact with others. The interactive urban furniture can stimulate people's instincts in practice and creativity, thus attracting more attention and facilitating communication and mutual support than the dull facilities. If the interactive pop-up is accompanied by interesting and variable urban furniture, it can further encourage friendly interactions between people. The public open space system of the city is not a homogeneous and perfect network, and it is largely influenced by the history of urban development. That results in some of the spatial nodes failing to be as guiding and fascinating as they should be. Placing small and flexible urban furniture at these necessary nodes can greatly improve their predicament and make them work as they should. Interactive urban furniture is not a prerequisite, but it can practically enhance the effect of pop-up urbanism when it happens, and they sustain enough social value on a daily basis.

4.5 Chapter Summary

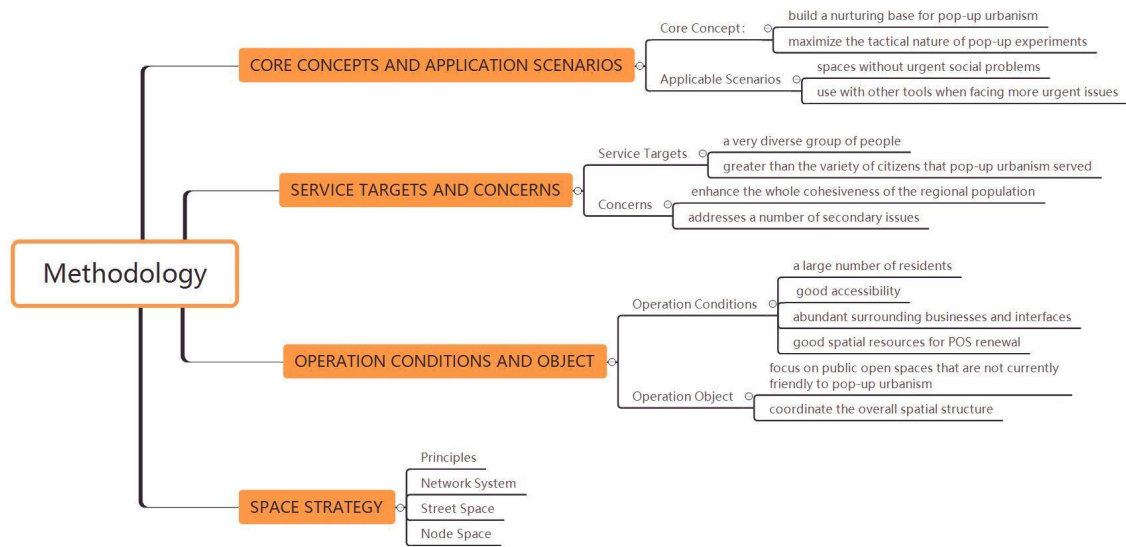


Fig. 4-8 POS Regeneration Methodology from the Perspective of Pop-up Urbanism

Illustrated by author (05/2022)

This chapter discusses the POS regeneration Methodology from the Perspective of Pop-up Urbanism. The chapter also explains the conditions of the methodology and how to use it in terms of core concepts, application scenarios, service targets, concerns, operation conditions, operation object, and space strategy. This lays the foundation for the later application.

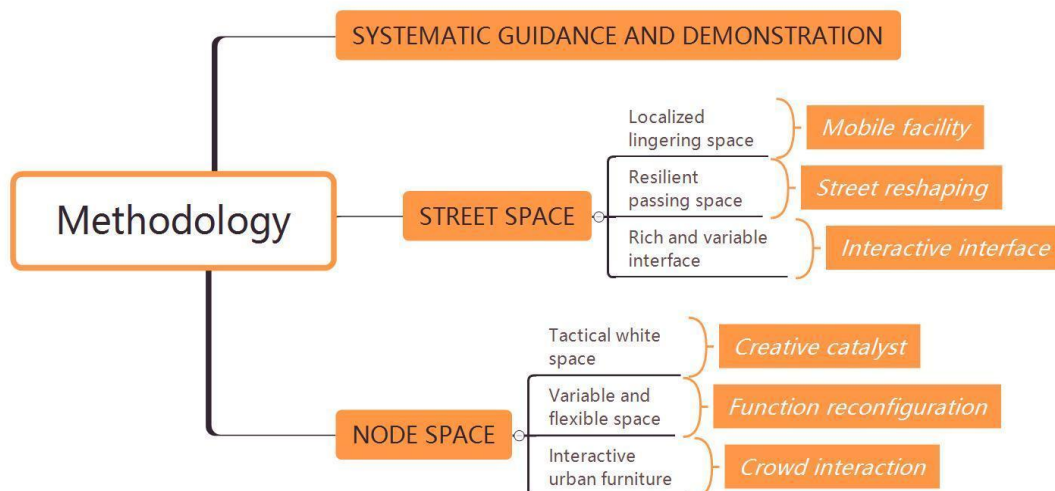


Fig. 4-9 POS Regeneration Strategy

Illustrated by author (05/2022)

POS regeneration strategies in pop-up urbanism perspective are closely related to the types of practices. Space as a vehicle for pop-up behavior must provide a good growth environment, while this improved environment exerts its unique spatial resilience and urban attractiveness in times without pop-ups. The figure shows the six strategies and their corresponding pop-up actions.

Chapter 5. Feasibility Analysis of POS Regeneration in Liuyun Community

POS regeneration from the pop-up perspective targets the regeneration of urban open spaces, among which the public open space in communities with a large number of residents living there is typical. As an existing open community with an early opening time, a high degree of openness and a large population of residents in China, Liuyun Community is a representative one among the typical ones. Therefore, it is imperative and meaningful to study the modification of space within Liuyun Community. This chapter focuses on why this POS regeneration could and should be implemented in Liuyun Community, and also analyzes which spaces inside the community have the potential to occur as pop-up urbanism.

5.1 Development of Liuyun Community in brief

5.1.1 Location

Liuyun Community is located in Tianhe District, Guangzhou City, and its location is very advantageous. Benefiting from the development of Guangzhou city and several space-scale sports games, the entire Tianhe District has developed rapidly in modern time.

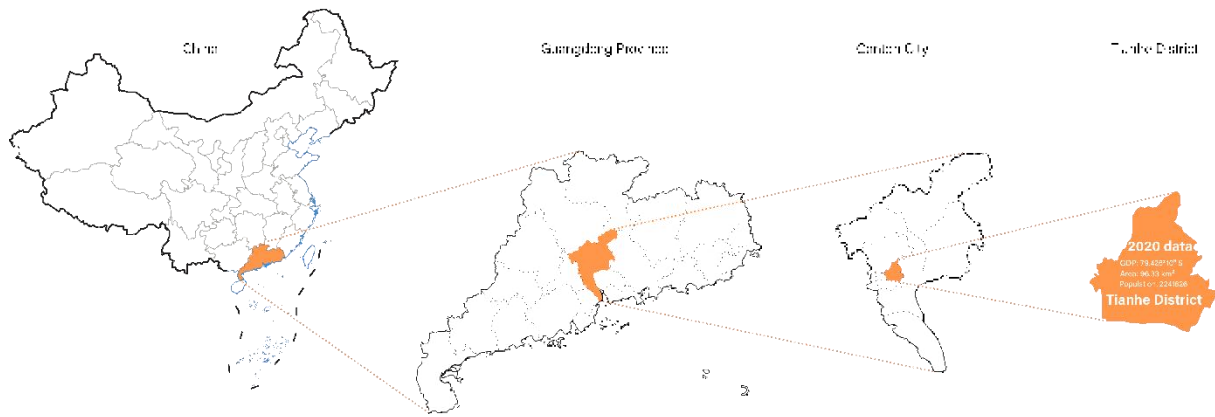


Fig. 5-1 Location of Tianhe District

Illustrated by author (06/2022)

Guangdong Province, with its large population, has always been the southern gate of China's foreign trade. During the period of China's reform and opening up, Guangdong Province was also one of the foreign trade ports. As the capital of Guangdong Province, Guangzhou has always been an important part of the economy of the Guangdong-Hong Kong-Macao Greater Bay Area. Guangzhou has a history of foreign trade since ancient times, and there have been many famous business families. Today, Guangzhou is one of the few existing megacities in China, with advanced technology and economy. Since the economic rise of Tianhe District, its GDP output value has continued to create new highs every year. Now, Tianhe District, where Liuyun Community is located, has become the most prosperous area in Guangzhou. The overall scale of the business cannot be underestimated.

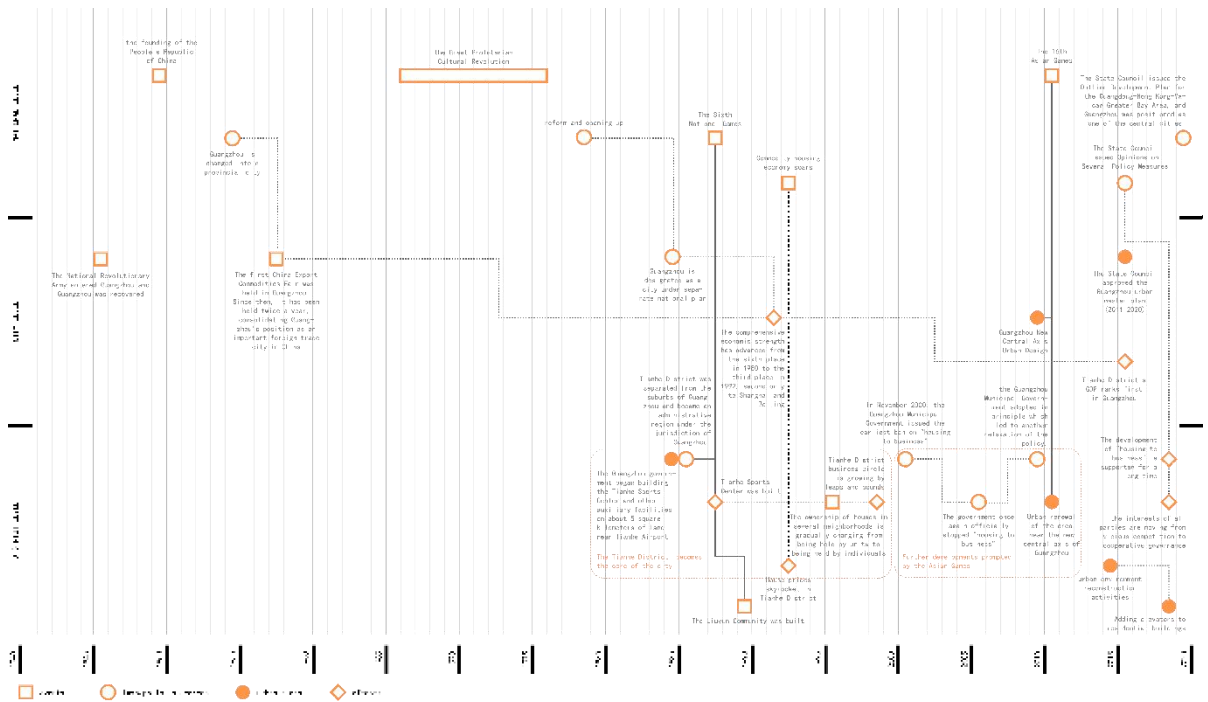


Fig. 5-2 Development History of Tianhe District

Illustrated by author (06/2022)

The overall development of Tianhe District has not been long. In the early days, In the early days, Tianhe District was a suburban area of Guangzhou, when the land was desolate and there was only one airport. Later, in order to host the 6th National Games in 1987, the Guangzhou Municipal Government built a huge stadium in the suburbs of the city. It was at this time that Tianhe District officially became an urban area and continued to prosper. In 2010, the Asian Games were held in Guangzhou, and the gymnasium in Tianhe District once again took on a major role. To coincide with the event, the city government joined forces with the design institute to plan the urban design of what is now Guangzhou's new urban axis. This was another great opportunity for the development of Tianhe District. The new urban environment has brought a tremendous increase in Guangzhou's GDP, and at the same time has made the place where Liuyun Community is located a true core area of Guangzhou.

5.1.2 Development History

As one of the first few open neighborhoods in Guangzhou, the development of Liuyun Community has been relatively tortuous. Its development history can be divided into

approximately four stages as follows.

(1) 1980s Sixth National Games period

The Tianhe District in Guangzhou City does not have a long history of development, as it originated from the 6th National Games in 1987 at the Tianhe Sports Center. To host the games, the Guangzhou government began building the Tianhe Sports Center and other auxiliary facilities on about 5 square kilometers of land near Tianhe Airport in 1984. Liuyun Community was also built as a residential area for athletes during the Games, and its name comes from the 6th National Games. At that time, most of the buildings in the community were still evenly laid out, mostly multi-story residences of about 8 stories, and did not have the various commercial functions that exist today. In the years that followed, the Tianhe district was converted from a large expanse of farmland where pheasants could be seen into a core metropolitan area. The Tianhe Sports Center is now in the heart of a first-class modern business district. Liuyun Community, on the other hand, turned into a scarce real estate resource in the urban heartland years later.

(2) 1990s rapid development of commercial housing period

After the end of the Sixth National Games, Liuyun Community became one of the first pilot projects in China to implement housing commercialization reform. Within the following years, the property rights of Liuyun Community gradually changed from public to private ownership. And, due to the rise of Tianhe District as a whole, the area became a fiercely contested area for real estate. At this time, some owners of Liuyun Community had already started to open some small stores under the residents, indicating that the location was good enough to attract commercial funds to move in. In early 1992, real estate entered the golden age, an unprecedented development boom in the whole of China. All kinds of financial majors speculated the price of housing to a smashing degree. According to newspaper statistics at the time, the price per square meter in Liuyun Community in 1992 was RMB 1,800-2,000, while by 1993, it had rapidly soared to RMB 6,000-7,000^[58]. The rate of increase was as high as a

staggering 300%-350%.

(3) 2000s government's vacillating attitude towards the "housing to business"

The rapid rise of Tianhe District in the past 10 years or so has made Liuyun Community a core location in the city, and its commercial value has induced local and foreign capital to compete to convert the ground floor of residential buildings into stores. By the year 2000, the ground floor shops in Liuyun Community had become quite numerous. However, a series of problems brought about by "housing to business" intensified the conflict between residents and commercial tenants, and the government began a 10-year-long erratic reform to resolve this conflict.

In November 2000, the Guangzhou Municipal Government issued the earliest ban on "housing to business", namely the "Notice on Issues Related to the Registration of Business Premises"(关于企业经营场所登记有关问题的通知) issued by the Guangzhou Bureau of Industry and Commerce at that time. On December 12 of the same year, the Bureau of Industry and Commerce issued another document, "On the Relaxation of Business Registration Policies"(关于工商登记放宽政策问题), in which the policy was loosened. In the following two years, the government issued two further liberalized policy documents in February 2001 and August 2002^[59].

On May 1, 2005, Guangzhou City implemented the "Guangzhou Housing Lease Management Regulations"(广州市房屋租赁管理规定), which stipulates that non-commercial leased premises cannot be used for business purposes. It means that the government once again officially stopped "housing to business". This year, the policy change attracted a lot of media attention and prompted a lot of discussion among scholars and the community. As seen in the October 27th report of that year, the relevant government officials also noted the damage caused by the total ban and said that the matter needed to be further evaluated^[60].

On October 1, 2007, "the Property Rights Law of the People's Republic of China"(中华人民共和国物权法) came into effect, which stipulates that "housing to business" must be agreed to by the majority of owners. In August of the same year, most of the

merchants in Liuyun Community were considered as special cases and were retained. 2009 was the year before the Guangzhou Asian Games, and there were many twists and turns in the policy to prepare for the upcoming event. At the beginning of the year, the government proposed to try to relax the "housing to business" policy. In May, the Supreme People's Court issued a number of interpretations on the issue, which stated that the consent of all building owners was required for "housing to business". This meant that the actual conditions were once again narrowed. In October of the same year, the Guangzhou Municipal Government adopted in principle the "Opinions on the Implementation of the Work of Promoting Employment"(关于做好促进就业工作实施意见), which led to another relaxation of the policy.

(4) 2010s Guangzhou Asian Games as an opportunity for renovation

Liuyun Community has a unique opportunity for development. After the 6th National Games gave it full commercial momentum, the area welcomed the even bigger 2010 Guangzhou Asian Games. The Tianhe Sports Center was also used as one of the major competition venues. At this time, Liuyun Community is located on the city's central axis and is an influential area to showcase Guangzhou's urban image.

In order to improve the overall image, the Tianhe District Government has invested more than 200 million RMB since August 2009 step by step. The renovation turned Liuyun II Street, which is closest to the central axis, into a European-style commercial pedestrian street, and the district was extensively remodeled according to that style. In just one year, the residential buildings in the area were gradually transformed into a brick-pink color with a light beige facade. Most of the exterior windows were replaced with new ones, and the downstairs signs were given a uniform size. The bottom two floors of many buildings along the street were designed as podiums with staircases at the corners. After that, the government carried out urban environment construction activities in 2014, and the environment and infrastructure in Liuyun Community were further improved. In 2018, many buildings in the district were retrofitted with elevators, making it easier for the elderly in the community to go up and down the stairs.

During this period, the government showed a trend of gradually relaxing the phenomenon of "housing to business". In June 2015, the State Council issued "Opinions on Several Policy Measures to Vigorously Promote Mass Entrepreneurship and Innovation"(关于大力推进大众创业万众创新若干政策措施的意见), which clearly stated that it "supports localities to relax the registration conditions for newly registered enterprises in conjunction with the actual situation"^[61]. The issuance of this central document seems to imply that the government will maintain a lax policy on "housing to business" for years afterwards.

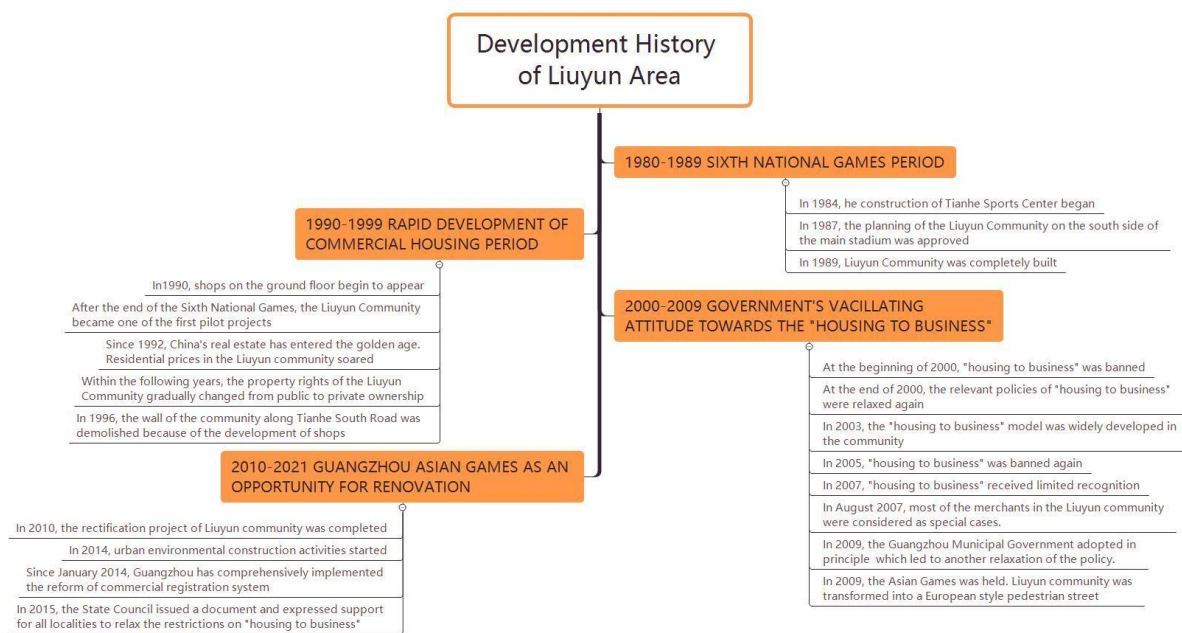


Fig. 5-3 Development history of Liuyun Community

Illustrated by author (05/2022)

5. 1. 3 Recent Status and Future Directions

Liuyun Community, a model of the open communities, has become a mixed-function community under the influence of the Tianhe District. The former semi-private community space was also turned into a part of the public open space of the city. Nowadays, Liuyun Community is divided into four different neighborhoods and is under the management of different property companies and neighborhood committees.

Early construction plans in China were dominated by closed neighborhoods and assumed only residential functions. Liuyun Community, on the other hand, was influenced by the commercial atmosphere of the Tianhe District in general, and became an open residential area after various businesses moved in. Under the autonomous regulation of the market, the economically oriented merchant community always responds to changes in external conditions, while the neighborhood committee is much slower to respond. This difference in sensitivity to changes in external conditions causes a difference in the time required for spatial reconstruction, which directly leads to the inability of the management body of the neighborhood to cope with the changes. The lack of management indirectly allows multiple interests to expand their scope in the grassroots realm, which leads to the intensification of conflicts in the process of opening up^[62].

The opening up of neighborhoods is the result of the market economy and the redistribution of spatial resources among the stakeholders in the city. The "housing to business" phenomenon reflects the competition and cooperation of multiple stakeholders for resources. The game is not completely fair. Due to the role of economic activities on the external space and the objective influence caused by the participants, their field of influence is actually larger than the boundaries of their space. This also leads to constant disputes between a series of interested parties, and the government is unable to determine a stable position for mediation in this process. Fortunately, in recent years the government seems to have found its role in the disputes. In the context of the current government's insistence on "openness", the interests of all parties are gradually moving from vicious competition to cooperative governance.



Fig. 5-4 Aerial view of Liuyun Community

Photo by author (04/2022)

Most of the houses in Liuyun Community are around 30 years old, which is a relatively old community. Nowadays, after several renovations, the public space has been significantly improved. In my interview, the residents also said that the legacy of "housing to business" has been optimized to some extent. For example, a number of standardized garbage collection points have been built in the area during 2021. There are no more garbage piles and food waste from stores is delivered to the garbage trucks regularly as required. It can be said that Liuyun Community has basically left the plight of "old and dilapidated" and has reached the stage of careful mediation of minor conflicts between interests and the pursuit of higher quality of life.

5. 1. 4 Demographics and their Development Needs

(1) Demographics

Liuyun Community covers an area of approximately 0.23km² including four residential clusters. On average, there are 300 households per hectare with a current residential population of 17,618 (2014 government data). The overall plot ratio is about 2.6, and

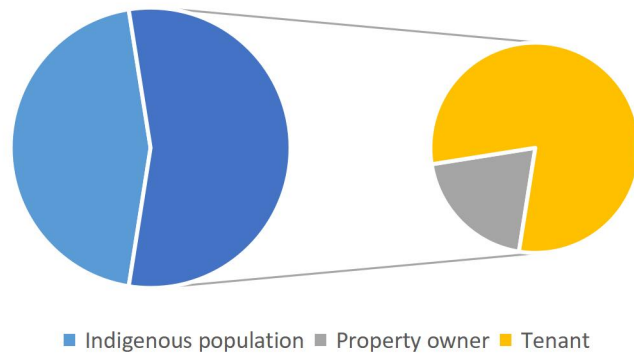
the population density here is high in the city. Given the large number of citizens usually attracted by the commercial function, the crowd flow inside Liuyun Community is very considerable.

Liuyun Community has been built for about 30 years and the percentage of occupants within it has changed a lot. Since 1995, the proportion of foreign users has continued to rise, from about 12% in 2000 to 35% in 2010 (government data). Tenants make up a significant portion of this population. As a result of soaring housing prices, the ratio of renters to second home buyers moving in has reached more than four times^[63]. Most of the landlords here rent their houses to young and middle-aged people who work nearby and value convenience. According to the author's survey, most of the tenants working at nearby jobs have a lease term of less than 3 years, and a small number of them have a lease term of 3 to 5 years.

There are many reasons for the current demographic situation, among which the influence of both policy and market economy plays a dominant role. Before 1995, the ownership of the houses was under the management of the units, so it was not possible for the rental phenomenon to occur. At this time, Tianhe District was just emerging, and the residents in the community were mainly employees of state-owned enterprises. With the property certificates, individuals had the right to do as they pleased. Some residents saw the market interest and began to use their houses for rent or just sell them when prices were high. Another part of the residents were more optimistic about the business conditions of the stores on the ground floor and chose to convert their houses into stores for operation or rent. After the year 2000, the sale of houses was completely regulated by the market, and the phenomenon of "housing to business" became more and more common. This phenomenon drew the attention of the government and various ordinances were issued to intervene. However, with its unique business atmosphere, Liuyun Community has become a popular shopping mecca for nearby citizens, and the trend of its opening is unstoppable. With the news of the upcoming renovation of Liuyun Community in the last two years, the selling price has suddenly skyrocketed. In 2019-2020 alone, the selling price of houses rose

from 50,000 per square meter to 70,000 per square meter, an increase of about 60%^[64].

PROPORTION OF NON-INDIGENOUS RESIDENTS



Tenants make up a large part of the total number of people

Fig. 5-5 Population ratio of Liuyun Community

Data from the government (06/2021)

From a market economy point of view, the people moving in get the advantage of a convenient location and the original residents get the corresponding rent, which is a win-win situation. However, the increasing proportion of short-term residents has created new problems for the management and daily life of Liuyun Community. In the early days of the "housing to business" phenomenon, the chaotic situation prompted the property company to introduce a third-party role, a landlord committee. However, as a large number of former residents moved out of the community, it became difficult for the landlord committee, which was composed of only the elderly who continued to live there and the tenants who had just moved in, to perform its role. It is a question to consider how to promote reasonable self-governance in the community and to promote the continuous healthy regeneration of public open space.

(2) Development needs

The conflict of Liuyun Community is both the development conflict of an urban core area and the development conflict of a community itself. As an open community, the main stakeholders in it are naturally the community's residents. There is a Chinese

idiom that "A near friend is better than a far-dwelling kinsman", which illustrates the importance of neighborhood relations. In a traditional gated community, the proportion of residents is high and the neighborhood is relatively harmonious. However, with a high percentage of the short-term tenants, it is not conducive to the building of neighborly relationships. According to the author's interview, about half of the residents said that the level of communication between them and their neighbors has decreased, which is a signal of not good long-term development. In addition, through research on Internet platforms, the author found that the percentage of rentals in Liuyun Community is many times higher than the percentage of resales in the second-hand housing market, and the frequency of transactions is more frequent. With the rapid development of the surrounding business, the change of people in Liuyun Community has also increased, resulting in neighbors not knowing each other. For short-term tenants, the neighborhood is more like a temporary dormitory in close proximity to office space. It has the absolute advantage of convenience, but it is difficult to form permanent relationships and place attachments. This also results in late arrivals who are unable to build relationships and integrate into the community very well. The gap between long-term residents and short-term tenants creates poor communication channels between neighbors, which prevents some people in the community from considering the neighborhood as a long-term place to live and lack a sense of belonging.



Stores spread above the first floor of residences

Fig. 5-6 Street-level stores

Photo by author (04/2022)

At the same time, the development and expansion of stores at the bottom of residential buildings has also had an irreversible impact on the internal environment of the community. Liuyun Community is located within the core business district of the city with commercial value that cannot be underestimated. The ground floor stores that used to serve only Liuyun Community and its surroundings have now become pedestrianized shopping streets that serve the entire city. The commercial activity in the area has gradually moved from internal digestion to public demand and has become a recreational mecca that continues to attract foreign visitors. The boom in business has somewhat disrupted the daily life of residents in the neighborhoods. Because of the gap in social class and experience, the former residents maintain a distance from outsiders, which has quietly led to the indifference of neighborhood relations. In addition, the business space in the community often occupies a favorable position, to a certain extent, encroaching on the public space previously used by residents for living. The presence of foreign shoppers in daily life further dilutes the desire for communication between neighbors. As can be seen, while the market economy and ground floor stores have brought convenience and benefits to the

community life of Liuyun, they have also created a gap that residents are unwilling to cross.

Liuyun Community is a place of opportunity and danger for shopkeepers and their employees. The good urban location and the construction of nearby mixed-use commercial complexes provide great opportunities for business development in Liuyun Community. However, the market economy is a very sensitive economic operation mode to changes in external conditions. As Liuyun Community opens up further, the stores within it will face greater competitive pressure. After visiting, some store owners who opened in more remote locations expressed concern about their business prospects. With landlords raising rent prices one after another, the pressure of operating costs is forcing store owners to try every possible way to maximize business efficiency. Evidently, the rise of the surrounding business district not only brings unlimited potential and opportunities for stores in Liuyun Community, but also brings far more daunting challenges than before.

In addition to the interests that have dominion over the area itself, another important part of the user population for open community is the mobile population that passes through or stays in Liuyun Community. The workers in the southern part of Tianhe District are a very important part of the mobile population. According to the author's visit, this type of group often comes to Liuyun Community for rest and consumption during the noon break and evening after work, and some company functions and small group activities also enter the community with the working population. Respondents said that in the past, the consumption level in Liuyun Community was not high, making it easy to find the stores of their choice in the vicinity. However, with the development of recent years, the prices of goods have increased, so commuters have started to go deeper into Liuyun Community to find stores that meet their expectations. For the even larger nighttime influx, the stores bring a quality of consumption above and beyond their own class. People are lured in and keep coming back, with a large percentage of young people. However, in terms of big data, there is still a significant discrepancy between the level of commerce and foot traffic in Liuyun

Community and the commercial complexes in the north, which indicates that there is still room for further improvement in the perception and attractiveness of Liuyun Community at the city level.



Fig. 5-7 Interviews on the life of the characters

Illustrated by author (05/2022)

In truth, openness is not only a negative influence on the users in Liuyun Community. During the interviews, it was noted that although some of the facilities in the community are in short supply due to their popularity, they also attract a lot of outside enthusiasts. For example, the users of the badminton court come from several surrounding neighborhoods, which increases the frequency of interpersonal interaction. Public spaces are small and crowded, but they are popular places for a lot of people. In a previous scholarly survey of the elderly, Wang Huiqin showed that most of the elderly are satisfied with public space and are willing to share public facilities with others^[65]. This points to the fact that the advantages brought by the opening of the community outweigh the disadvantages, which also suggests that the existing conflicts in the community should be solved under the premise of the wide-open community.

5.2 Positive Implications of POS Regeneration for Liuyun Community

The development of Liuyun Community has been tortuous but generally good, and the existing conflicts within Liuyun Community are not irreconcilable and urgent, but rather reconcilable and in need of further development.

5. 2. 1 Pop-up Urbanism Fits in with the Development Trend

On a macro level, pop-up urbanism fits in with the trend of Liuyun Community. From the previous analysis of the historical development of the community and its recent actual use, it can be concluded that Liuyun Community will only develop to become more open and diverse. Because of the interactive nature of its programs and the civic engagement of its implementation process, pop-up urbanism is a well-suited way to promote further openness in the community. Pop-up urbanism is also a good fit in regard to the actual contradictions faced. Since there is no such fundamental contradiction in Liuyun Community that leads to decay, pop-up urbanism can be very good at what it does well.

5. 2. 2 POS Regeneration Helps Facilitate Community Conflict Resolution

From the perspective of social issues, POS regeneration under the pop-up perspective can promote the resolution of social conflicts.

In terms of the main contradiction, pop-up urbanism can well facilitate the mutual inclusion and enhance the overall cohesion of different subjects in the community. As one of the few open communities in China, the main contradiction in Liuyun Community is the contradiction between different interest subjects brought by the opening itself. To resolve this paradox, it needs to increase the communication opportunities between different people and promote mutual understanding. Only by making the internal subjects tolerate each other can one further enhance the cohesion of the area and promote the development of the open community. For both long-term residents and short-term tenants living within Liuyun Community, pop-ups can facilitate communication and interaction between neighbors. It helps short-term residents to build a sense of responsibility to manage the neighborhood and enhance their sense of belonging. For the businesses that operate in the area, the pop-up

actions strengthen their sense of identity with Liuyun Community, thus sustaining the long-term operation in the area. For visitors passing through the area, the complex internal roads of Liuyun Community are often disorienting. The interactive nature of pop-up activities can make a difference in the perception of the area. Of course, the pop-up practice also has a unique appeal that enhances the overall vibrancy and openness of the site.

In terms of other social conflicts, this POS regeneration can also address a variety of different issues. First, the occurrence of pop-up practices can enhance the potential economic value of the surrounding businesses, which can tackle the lack of confidence and identity of some merchants in the area. Second, flexible public space design can enhance the efficiency of the use of the environment. The highly resilient spatial patterns created by the pop-up perspective of POS regeneration can help improve the efficiency of use in some parts of the neighborhood, and help localized places that are underused to reintegrate into the daily life of residents. Third, the conduct of pop-up activities highlights the regional culture and enhances the local recognition. This makes Liuyun Community more attractive to passers-by. Lastly, the pop-up model facilitates multiple iterations of experimental changes, and its ease of implementation allows updates to be constantly adapted to the changing needs of residents. This model also enhances the responsibility of residents and helps to establish a comprehensive self-regeneration mode, thus creating a long-term virtuous cycle.

5. 2. 3 Liuyun Community Fuels Pop-up Action

Population support:

The large population base of Liuyun Community allows for multiple and comprehensive modes of public participation. Moreover, for the management of the operation mechanism, the large number of residents allows the pop-ups to receive sufficient numbers of participants and feedback. The strength in numbers also facilitates the selection of quality management systems. Due to the commercial

attraction, the area has a highly mobile population, which stimulates pop-ups from the side.

Social conflict support:

With its large population base, the contradictions of Liuyun Community can also be a driving force for pop-up urbanism. For the young and middle-aged people who rent here, they have a strong desire for self-expression, but they are limited by the rental time to fully transform their desire for expression into a motivation for change. For the retired people in the community, their enthusiasm to participate in the regeneration of the space is high in general. Considering that there are also a large number of children in the community as well as three kindergartens, the fun and variety of the space will also contribute to their growth. In addition, the operators expect a higher commercial potential and they will take a part in the implementation of the pop-up action.

Space resource support:

Liuyun Community is located in the heart of Guangzhou, and its transportation and economic advantages speak for themselves. The great location paved the way for the pre-feasibility judgment and fund raising process of the pop-up. Secondly, the rich commercial interface around Liuyun Community helps to attract crowds and facilitate the pop-up activities. Moreover, the space potential inside Liuyun Community has not been fully explored, and the renovated open space can provide a quality carrier for the pop-up urbanism.

5. 3 Potential Analysis of POS in Liuyun Community

The potential described here refers mainly to the potential for pop-up activity to occur in that space. The POS updates from a pop-up perspective need to clarify who they are operating on. Therefore, it needs to be clear which areas are less in need of regeneration and which are in need of focused attention. In general, local areas with good accessibility, good interface richness, and space for renovation are the priority targets for regeneration. Spaces that are already suitable for pop-ups do not need much intervention.

5. 3. 1 Accessibility Analysis

(1) Traffic analysis

Liuyun Community was first established with only buses as a means of public transportation, and on June 28, 1997, Guangzhou Metro Line 1 was officially opened. Then with the establishment of the APM metro line and BRT transportation facilities, the Tianhe shopping district started to become a gathering place for massive urban office population. The current Tianhe Road shopping street has an average daily traffic of more than 1.5 million people, making it a veritable traffic core area.



Fig. 5-8 Public transportation and its coverage

Illustrated by author (05/2022)

Liuyun Community is well served by public transportation. It is only 300m from the nearby BRT line station and there are two subway stations in close proximity. In addition, there are more than 20 bus stops nearby for travel, making public travel easier and faster for the public. Liuyun Community is just to the north of the commercial complexes that have been particularly popular with young people in the last decade, and their huge commercial scale contrasts sharply with the small businesses within the community. It can be said that due to its good location, the

Liuyun neighborhood has excellent accessibility to the surrounding environment. The good accessibility makes it easy for residents from outside to participate in the pop-up activities, which also contributes to the occurrence of pop-ups in Liuyun Community.



Fig. 5-9 Motor vehicles and non-motor vehicle ' s transportation network

Illustrated by author (05/2022)

The transportation system within Liuyun Community has actually undergone several re-plans, and the pre-plan lane and curb locations can still be seen within the existing site. While most areas were converted to pedestrian-only, the government restricted automobile traffic mainly by placing stakes at key intersections. According to previous studies, residents in the community had low satisfaction values for traffic in 2010. After the "housing to business" incident, due to the presence of bars and other establishments, there are often outside vehicles passing through the neighborhood, exacerbating traffic conflicts.



Fig. 5-10 The status and sections of the West Cross Road (above) and the internal roads of the district (below)

Illustrated by author (05/2022)

The West Cross Road, which crosses the area, is a two-way lane with a parking lane attached. The space for vehicles to pass is narrow and prone to congestion. The lane inside the area is basically a one-way street, and there are many residents' private cars parked on both sides. Some of the cars are illegally parked on the sidewalk, leaving pedestrians to walk in the traffic lane at times. It is worth noting that the entrance of kindergartens and elementary school in the community also allow vehicles to pass, and their congestion during school drop-off and pick-up is a potential threat to the lives of children.



Fig. 5-11 Motor vehicle and non-motor vehicle ' s parking locations

Illustrated by author (05/2022)

In addition to the more intense conflicts between people and cars in some sections, there are certain other traffic problems in the community. For example, there is some illegal parking within the neighborhood that is not planned. In local areas, the number of parking fluctuates a lot during the day, indicating that it may be a parking spot for temporary use by commuters or nightclubbers. Through the visit, a high number of electric vehicles for delivery in the community was also found by the author. These electric vehicles travel fast and can pose a threat to the pedestrians near them in the areas they pass.

In summary, Liuyun Community has good accessibility within the overall city limits. Transportation inside Liuyun Community is predominantly on foot, with mixed

pedestrian and vehicular traffic in some areas. For the traffic organization within the community, there are still some issues, although it has been improved to some extent after the renovation. These are issues that need to be considered and addressed in the subsequent POS regeneration.

(2) Spatial syntax analysis

The theoretical prototype of spatial syntax comes from topology in mathematics, which has scientific theoretical and data support in modeling the accessibility of space in cities. The author calculated the integration of Liuyun Community in a large scale by creating an axial map and using dethmap software.

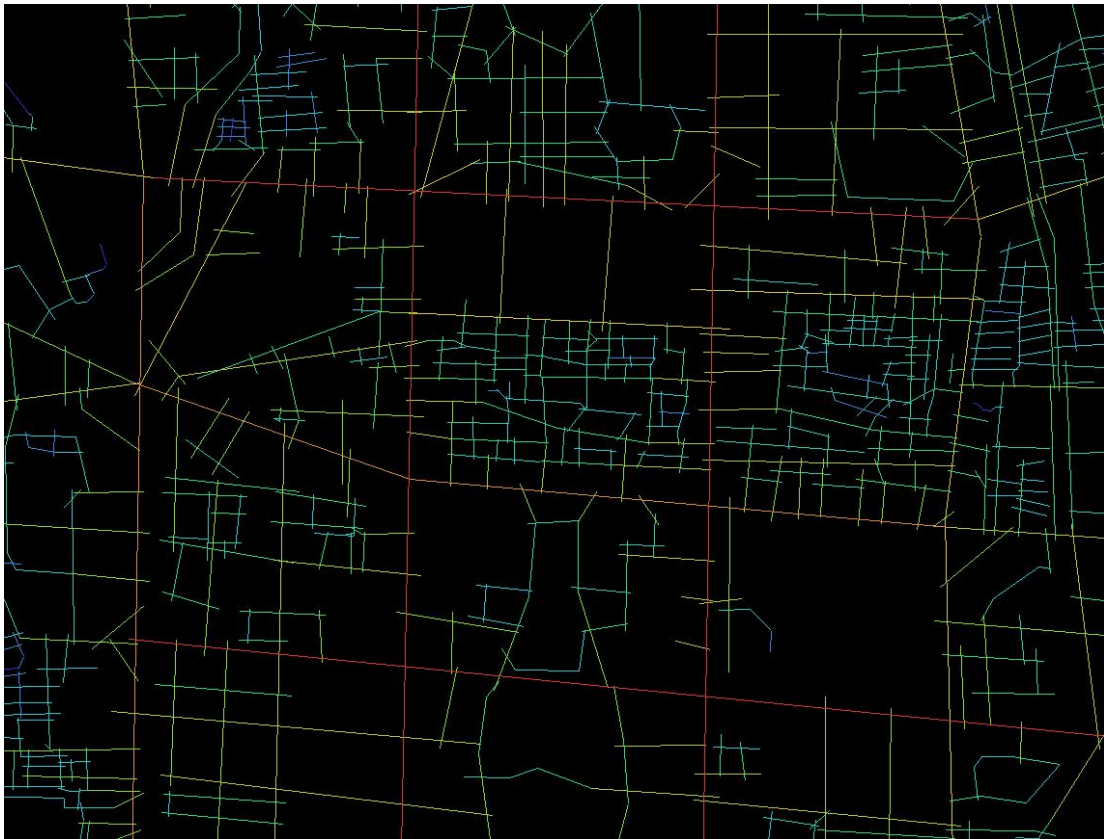


Fig. 5-12 The global integration degree analysis

Illustrated by author (05/2022)

The global integration degree reflects the degree to which a unit space is aggregated or discrete from all other spaces in the system. Simply put, spaces with high integration are relatively more accessible to people and generally have higher

accessibility. The analysis of the software results shows that the streets around Liuyun Community have a high degree of integration and good accessibility. The degree of integration within the neighborhood is relatively low, among which the east-west West Cross Street is the more accessible section, while the degree of integration in the north and south is not much different.

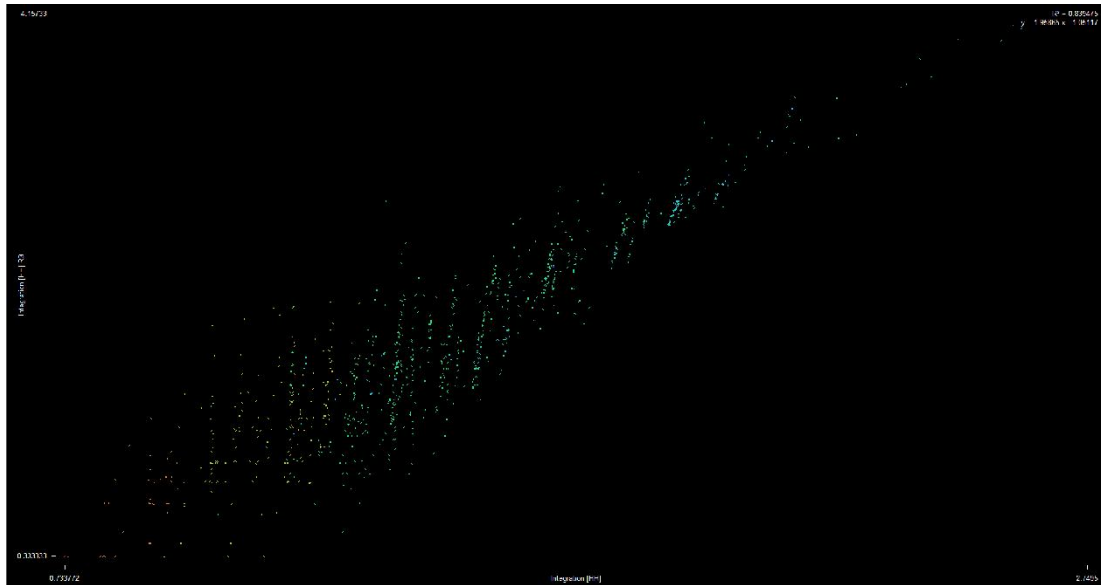


Fig. 5-13 Synergy Analysis

Illustrated by author (05/2022)

The analysis of global integration degree alone cannot fully reflect the actual accessibility of pedestrians. Therefore, it is required to analyze the integration degree for the radius of 3 and compare it with the global integration degree, and calculate the synergy degree for each axis. The software calculates the synergy value of 0.8394, which is greater than the reference value of 0.7, indicating that the global integration and local integration of the area are relatively consistent. In the overall comparison, the accessibility of the area is at a balanced level and there is no particularly low local integration. This shows that the overall accessibility of Liuyun Community is relatively balanced and can support POS regeneration in each internal location.

(3) Heat map analysis

Heat map analysis is mainly derived from POI searches and queries in web big data,

and some companies also provide their real-time heat map data. These data provide complementary research value for accessibility.

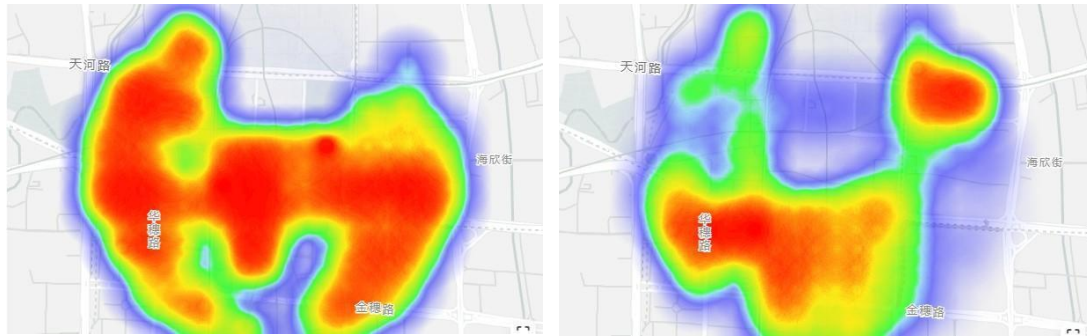
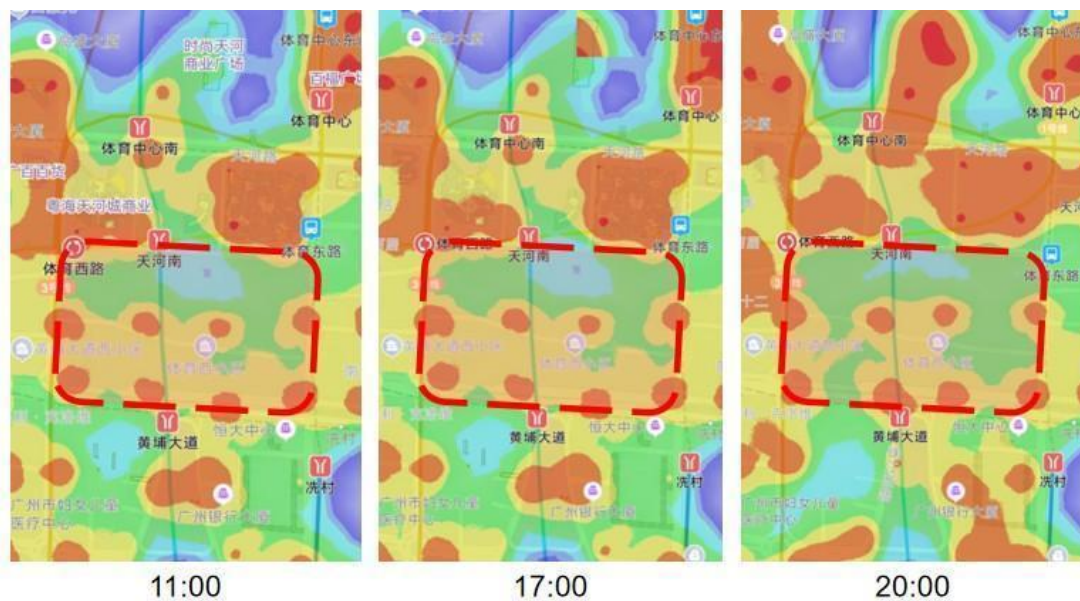


Fig. 5-14 Potential residential clientele (left) & Potential office worker clientele (right)

Data from Gaode Company (30/10/2021 - 01/05/2022)

The commercial businesses in Liuyun Community serve not only the local residents, but also the neighboring residents and various visitors. The heat map shows that the number of people living in the vicinity is large, with customers coming from various neighborhoods. In addition, office workers, as part of the stable consumer group, mostly work in the business buildings in the south and northeast corners of Liuyun Community. In the evening, the influx of office workers injects good vitality into the stores in the community.



Real-time population of Liuyun Community at different times of the weekend

Fig. 5-15 Real-time population over the weekend

Data from Gaode Company (07/05/2021)

From the real-time data of the map, we can observe that the overall population of Liuyun neighborhood is quite large and mainly concentrated at the intersection of West Cross Street and Central Pedestrian Street. Observing the connection of the yellow area, we can find that a part of the people who are on the south side during the daytime enter the interior of Liuyun Community one after another at night, which is also consistent with the previous analysis.

Overall, the crowds within Liuyun Community are not as numerous as the large commercial complexes to the north, but they are still very noticeable and are mainly located near the major transportation nodes. The relatively large population base is conducive to the implementation of public participation pop-ups, which indicates the high spatial potential of Liuyun Community in terms of accessibility and actual foot traffic.

5. 3. 2 Interface Analysis

(1) Interface analysis based on Function

Liuyun Community is located in the bustling Tianhe urban business district, in the heart of Tianhe District and in the northern section of Guangzhou's new central axis. It is bordered by mega commercial complexes such as Zhengjia Plaza and Tianhe City to the north and the Guangzhou CBD to the south. Surrounded by commercial locations on all sides of the city's main roads, it is a rarity with its residential intimate environment and distinctive stores. The Liuyun neighborhood's individual business model has even been labeled as a "petite paradise" and has gained a place in the hearts of young consumers.



Fig. 5-16 Functional buildings and their interfaces (excluding underlying commercial)

Illustrated by author (05/2022)

The different functions of use in Liuyun Community show different spatial interfaces, and their influence on the public open space is remarkable. There is one elementary school and four kindergartens in the community. For management and security reasons, the perimeter of the educational facilities is enclosed by railings, forming a more closed and homogeneous interface. In addition, the office buildings within the community have a less rich interface on the ground floor. Also with a more homogeneous interface are some ancillary facilities, such as the city water treatment facility in the north. The presence of these features somewhat reduces the richness of the surrounding interfaces and makes them less attractive to the outside world. Besides, the access to the educational facilities will accumulate a large number of parents at the end of the school day, which requires a high level of security.

(2) Interface analysis based on stores

After the emergence of the "housing to business" phenomenon, functional compounding became the most prominent feature of Liuyun Community. At the beginning of the overall development of Tianhe District, the residential buildings within Liuyun Community still maintained a homogenous residential function. Later, the establishment of the business districts led to the gradual shift of the commercial orientation from serving the community itself to serving the surrounding and foreign shoppers. In recent years, with the development of the market economy, some commercial types began to move to the second and third floors of the residential buildings, forming a sort of "podium". The vertical development of commerce has also further enriched the pedestrian interface of Liuyun Community.



The vast majority of residential buildings are used for commercial purposes at the bottom

Fig. 5-17 Residential building status

Illustrated by author (05/2022)

A wide variety of street-side businesses are the dominant form of interface in Liuyun Community. The phenomenon of "housing to business" began to develop mainly in 1995. After entering the 21st century, the scale of commerce grew rapidly, and some residents started to open their own stores in response to external influences. The development of commerce has improved the functional structure of the neighborhood and provided new employment for the laid-off residents. Now, the commercial function has penetrated into the interior of the residential group.



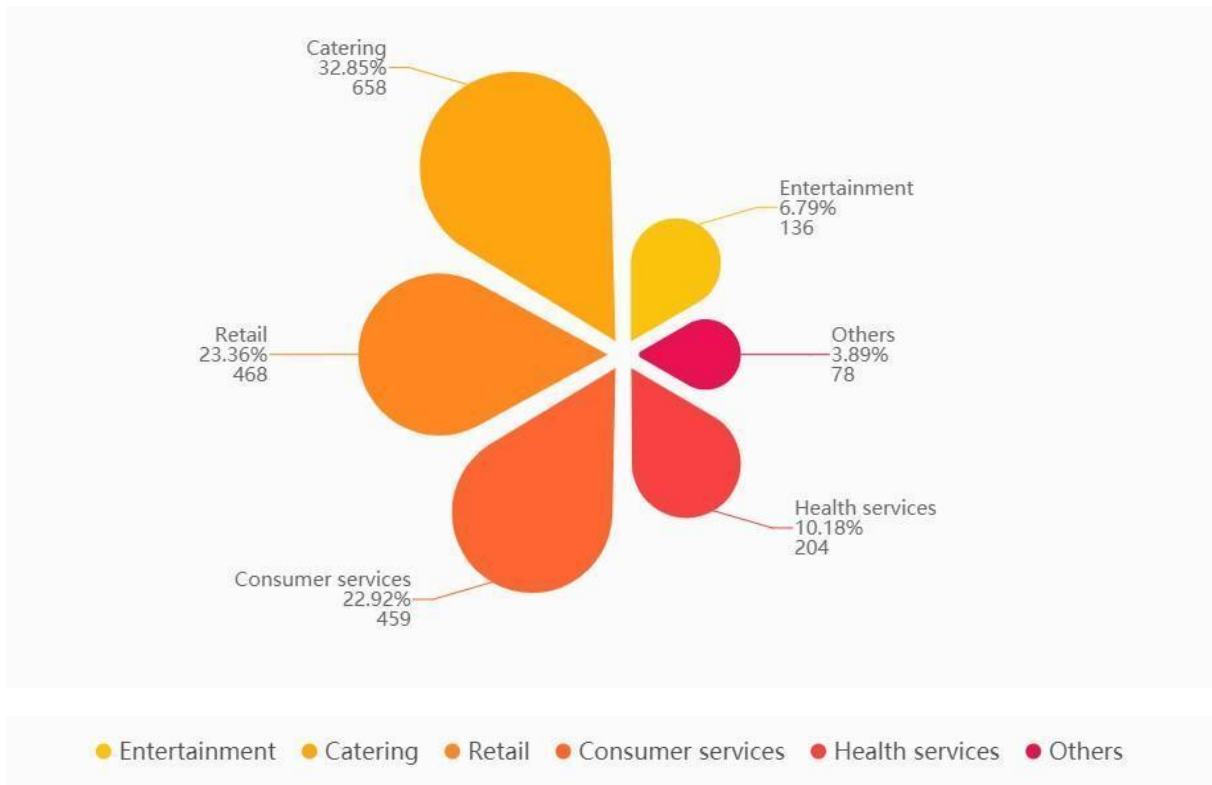
Various store formats in the community (30/10/2021-01/05/2022)

Fig. 5-18 Store formats analysis

Illustrated by author (05/2022)

The author conducted POI search of different types of stores through the network and

drew the commercial distribution map of the area by combining with the current situation research. The figure shows that the total number of businesses within Liuyun Community is very impressive and presents some vertical distribution characteristics. According to the author's research, the ground floor of the residences in the area is mainly occupied by lifestyle businesses such as restaurants, clothing and grocery stores, while the second floor is mostly occupied by businesses that attract purposeful and prolonged consumption. On the horizontal distribution, restaurants and lifestyle services are mainly located on the periphery of West Cross Street and the neighborhood, while other stores that are less dependent on passing foot traffic are located inside the neighborhood. In addition to the first and second floors being converted to commercial use, some buildings show evidence of being converted above the third floor. Some of the property company's office buildings are also occupied by commercial. It is noteworthy that the number of commercial inside the residential group on the north side is much higher than that on the south side, which should be related to the opening policy of the community.



Catering is the most popular type of store (30/10/2021-01/05/2022)

Fig. 5-19 Proportion of store formats

Illustrated by author (05/2022)

The largest number of stores in the area are restaurants of all kinds, followed by lifestyle stores and retail stores. According to statistics, the number of restaurants in the area is 658, accounting for 32.17% of the total. It provides a great reason for commuters and tourists to come here. The alternative lifestyle service and the retail sector, represented by boutique clothing, also help to form a distinctive business atmosphere. In terms of the possibility of pop-ups, the place with more spatial potential is the area with rich interface like that in the north side residential group.

(3) Interface analysis based on green space

Guangzhou has a subtropical monsoon climate, and most neighborhoods are built with a large number of green spaces in order to withstand the hot summer heat. These green spaces bring shade while affecting the interface directly perceived by pedestrians.



Roadside greenery affects the interface directly perceived by pedestrians

Fig. 5-20 Street status and sections in the northeast (above) and northwest (below) quarters

Illustrated by author (05/2022)

In the northeast area of the Liuyun Community, there are two green belts on multiple streets with a flexible distribution of trees. The tree-shade size is just right to cover the whole road, forming a secluded commercial atmosphere with characteristics. The northwest area also has a good proportion of greenery, but the shade of the trees is limited, and some of the wider streets are exposed to direct sunlight. The overall atmosphere is in a spatial rhythm of alternating light and dark.



Fig. 5-21 Green space distribution and its problem

Illustrated by author (05/2022)

There are also unjustifiable aspects of the greening approach within Liuyun Community. Due to inadequate coordination between the early residential greening system and the later renovated transportation system, the author observed in several places that the greening substantially encroached on the pedestrian space. In local areas, because the sidewalks are almost entirely covered with soil and vegetation, there is almost no way for residents to walk smoothly on the sidewalks, and they have to choose to walk on the more dangerous driveways. In other areas, private cars and greenery have joined forces to occupy large areas of open space along the street, making the originally abundant space strained just to carry the daily flow of people. Such green space in unreasonable locations could have a negative impact on the overall interface quality.

5. 3. 3 Spatial Pattern Analysis

(1) Space enclosure analysis

The high density and extremely high population have led to a shortage of spatial resources in Liuyun Community, which makes residents often struggle with the lack of sufficient activity space. The author investigated the spatial enclosure in the area and classified the open spaces.



Fig. 5-22 Space enclosure analysis

Illustrated by author (05/2022)

From the results of the survey, it can be seen that there are only five better qualified enclosed node spaces within the Liuyuan area. In addition to several small squares with good enclosure, the main pedestrian street in the center is also a place with good enclosure. The remaining street spaces are relatively less attractive to crowds. Although there are open spaces on some streets, most of them are occupied by residents' private cars and do not constitute a good atmosphere for places. And because of the large number of stores, there is spillover of business space. For example, a few stores have placed tables and chairs on the public space, and some stores have queues of people gathering on the curb. This further strains the space

resources left for residents to live.



Fig. 5-23 The status and sections of Square and pedestrian street

Illustrated by author (05/2022)

Among the locations with good enclosure, the small square next to the kindergarten on the west side is the most frequently visited place by residents. In addition, the wide street in the central axis is also a popular place for residents, with its good enclosure and wide road surface forming a rectangular square suitable for conversation. This main street and several surrounding side streets are spaces where visitors are pleased to move around. It not only accommodates a huge flow of visitors, but also provides a space for the pop-up urbanism.

(2) Space openness analysis

The openness of the space is a very important influencing factor in the implementation of pop-up urbanism, as it directly affects the way the public participates and the

feedback of the implementation process. The more open the area is, the higher the possibility, frequency and support of pop-up activities will occur. The author walked around and studied the openness of different neighborhoods.



Fig. 5-24 Space openness analysis

Illustrated by author (05/2022)

As it stands, the various small neighborhoods inside Liuyun Community do not exactly present a uniform openness. Some residential areas in the south and east have supervised access points at the entrances and exits, and their interiors are not completely open to all citizens. For the educational facilities in the area, they are also fenced off.

(3) Space usage analysis

The enclosed and open nature of the space does not directly represent the

preferences of residents and visitors to specific spaces, so it is also necessary to count the crowd gathering in each area. Accordingly, the influence of spatial form on residents' usage can be judged.

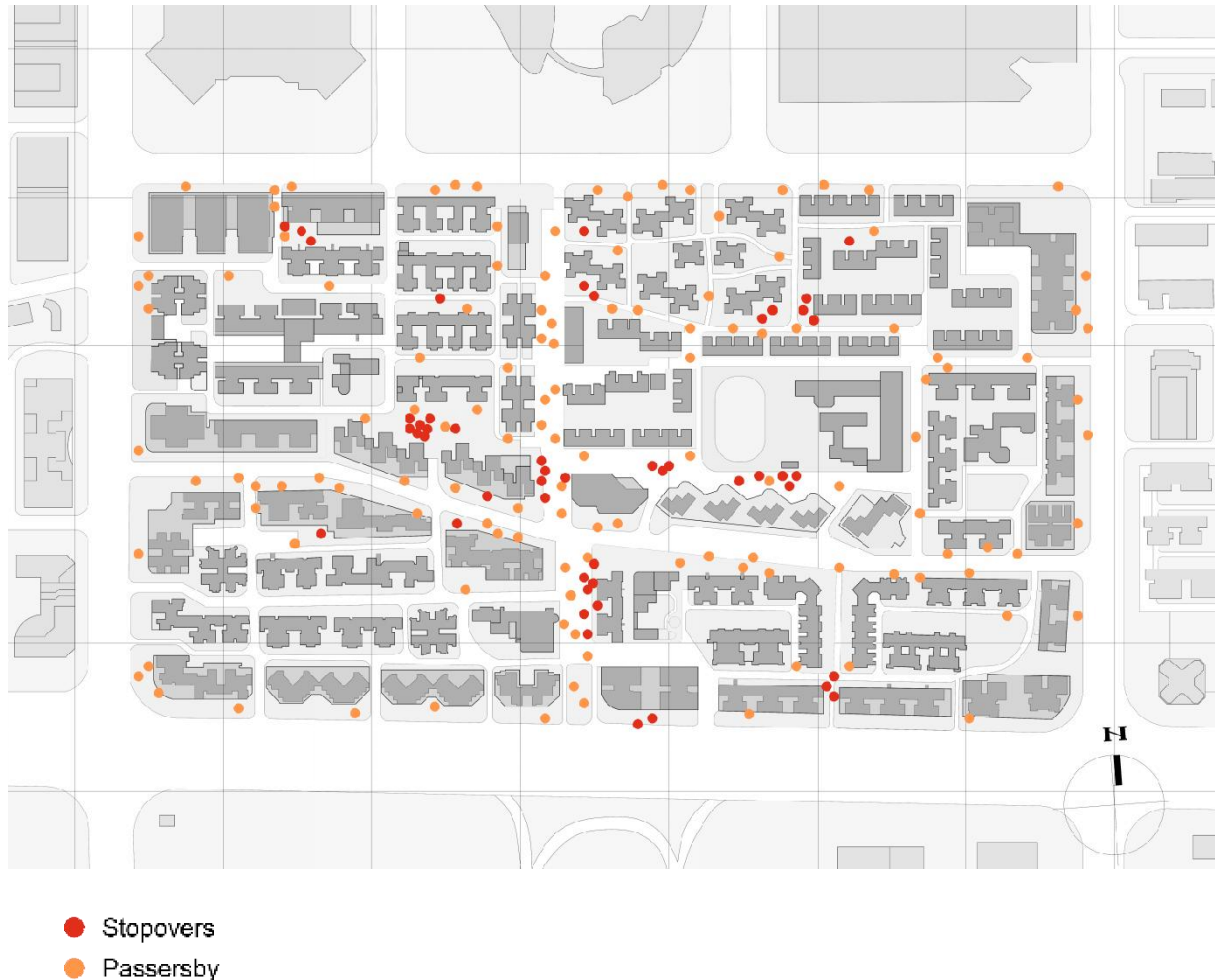


Fig. 5-25 Crowd gathering in Liuyun Community (each point represents 3 people)

Illustrated by author (06/2022) date: 23/05/2022 & 07/06/2022

According to the author's observations at various squares and intersections, the more popular venues are often crowded with people. Some of the less popular venues were completely unoccupied. Based on the number of foot traffic statistics, it can be found that the number of foot traffic in different areas shows a significant correlation with the opening of the area. In fact, the crowd gathered more in the north side area and the central pedestrian street.



Fig. 5-26 The status of the central pedestrian street and its surrounding area

Photos by author (04/2022)

The central pedestrian street has a large number of people passing by and shopping there both during the day and at night. The rectangular square space is undoubtedly popular with visitors, however, it is lacking in facilities such as chairs for resting. There are many places around the main street that residents visit in their daily lives. According to the research, among people of all ages, the elderly and children constitute the more active participants in the space, and they are also the subjects who play an important role in the neighborhood. As mentioned above, the indifference of neighborhood relations is the main social problem facing Liuyun Community. To further strengthen the cohesiveness of the neighborhood, an inclusive open space system is particularly indispensable.



Fig. 5-27 Daytime crowd activity from April to June

Photos by author (04 - 06/2022)

Combining the above analysis, it can be found that the existing public open spaces in Liuyun Community show different degrees of openness and enclosure. Even for spaces with the same degree of openness and enclosure, their popularity among residents and visitors varies depending on their actual quality. Therefore, to some extent, the spatial problems within Liuyun Community are mainly caused by the improper use and configuration of facilities, and there is a certain potential and room for optimization.

5.3.4 Comprehensive Potential Analysis

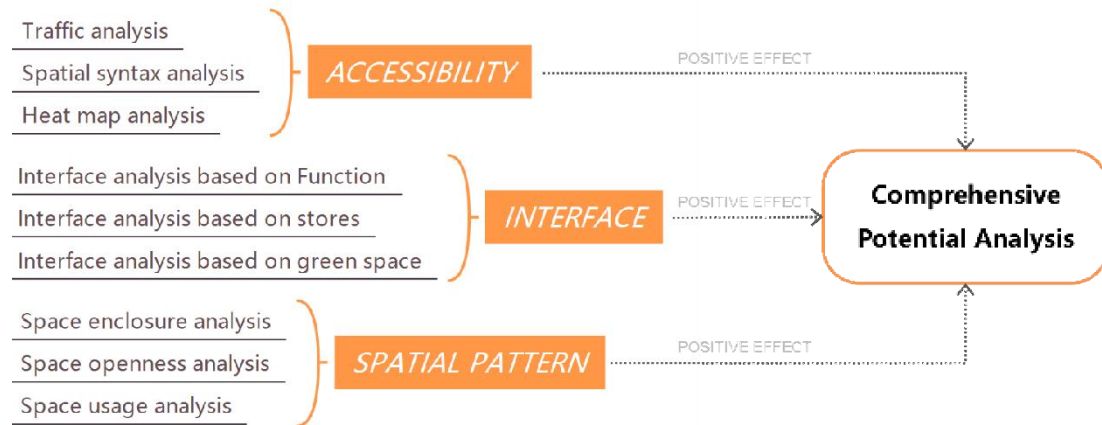


Fig. 5-28 Influencing elements of potential

Illustrated by author (06/2022)

The potential analysis in this subsection mainly involves three aspects of accessibility, interface, and spatial morphology. Among them, the accessibility of the space and the richness of the surrounding interfaces are positively correlated to the potential. The spatial morphology of enclosure, green space allocation and openness also contribute to the potential of space. The potential of different locations in the community can be quantitatively illustrated by means of radar maps.



Fig. 5-29 Different points in the community and their corresponding scores

Illustrated by author (05/2022)

In order to accurately measure the difference of potential in different areas, a mathematical formula can be established to quantify it. For any point in the public space, the spatial potential conforms to the following equation.

$$f(x) = \frac{\sum_{s=1}^n (a_s + b_s + c_s)}{n} \div 0.9$$

The value of n is the sum of unit area in the spatial region to which point x belongs, and a_s , b_s and c_s are the scores of accessibility, interface and space form. The spatial potential of each area can be drawn by detailed calculation, as shown in the figure below.

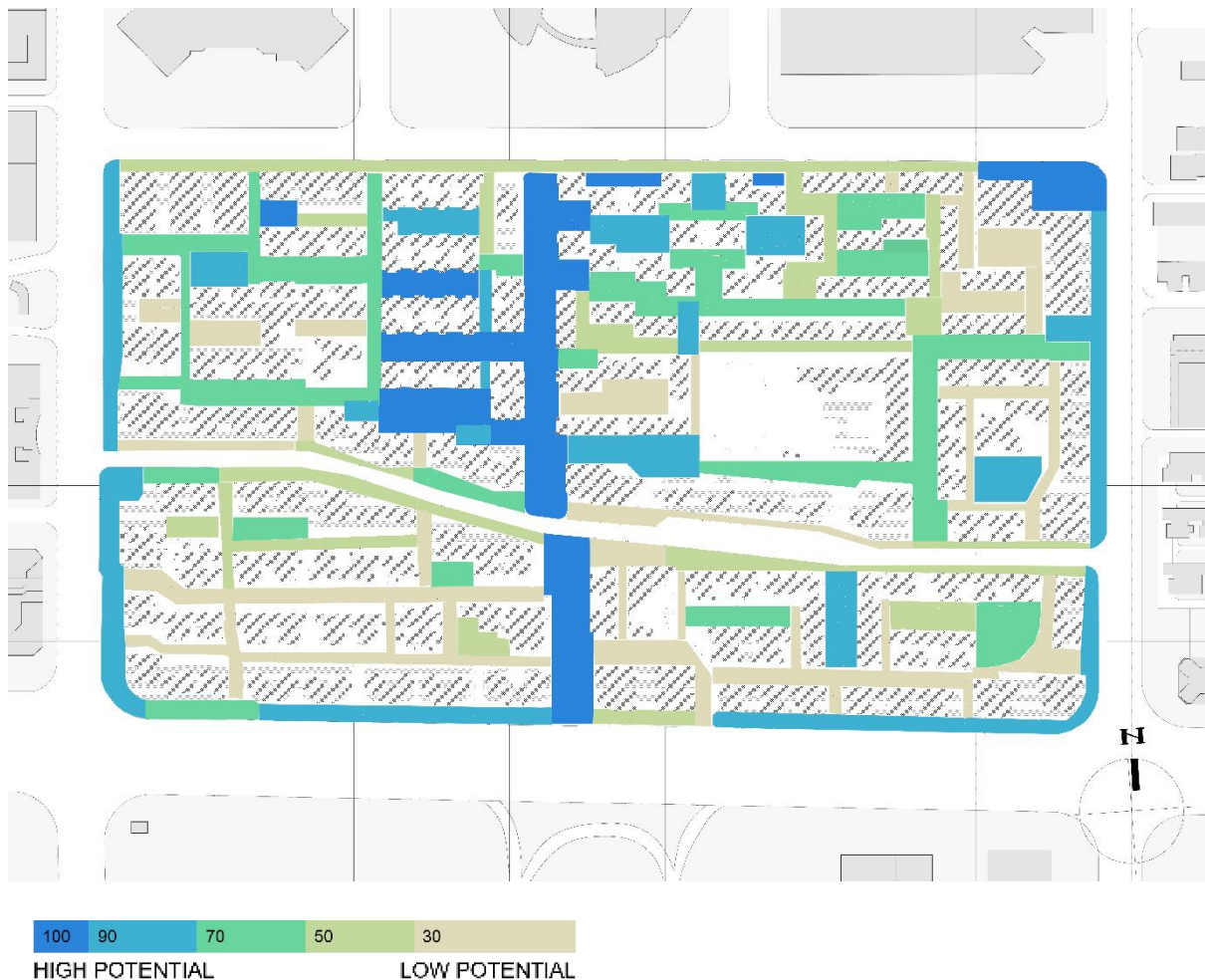


Fig. 5-30 Space potential analysis

Illustrated by author (05/2022)

Areas with higher spatial potential represent a higher likelihood of future pop-up urbanism, promoting long-term spontaneous regeneration by residents. Given that the overall accessibility of Liuyun Community is quite balanced, areas with lower potential generally have less room for enhancement due to the more restrictive conditions of the space itself. Taken together, the residential clusters on the north side of Liuyun Community have high values in three aspects: accessibility, interface richness, and concrete form. Therefore, the public open space on the north side of the area has relatively higher spatial potential and is more conducive to the future sprouting of pop-up urbanism here.

5.4 Chapter Summary

This chapter analyzes the feasibility of POS regeneration from the perspective of pop-up urbanism in Guangzhou's Liuyun Community. It is concluded that the area has a good potential for the development of pop-up urbanism. By analyzing the development history and existing problems in the area it can be drawn that the social contradictions in Liuyun Community provide sufficient conditions to allow for the occurrence of pop-up practice, and that it is essential for the community to adopt this approach to address future development issues. At the end of the chapter, the author provides a detailed analysis of the existing POS situation within the community and analyzes the potential for pop-ups to occur in different areas, which will serve as a guideline for subsequent specific regeneration strategies.

Chapter 6. POS Regeneration strategy and application in Liuyun Community

The analysis can prove that POS regeneration from the perspective of pop-up urbanism is implementable in Liuyun Community. Therefore, a reasonable regeneration strategy can be proposed based on the methodology described in the previous section combined with the actual situation of Liuyun Community, and this strategy can be presented in the form of detailed space making.

6.1 Purpose and Vision

Liuyun Community is a sensitive area with a large influence on the surrounding area, and its regeneration process needs to be very careful. The regeneration of public open space affects a wide range of interests and must go through a rigorous selection and testing process before implementation. If there is a space with flexibility and a trial and error process like pop-up urbanism, there is more guarantee for a good result in the end.

The history of the city is dynamic, and its social needs cannot be exactly the same from one era to the next. Therefore, the process of building a city cannot be done once and for all, but must be progressive and constantly adapt to new changes. The POS regeneration from a pop-up perspective provides the foundation for Liuyun Community to be able to renew itself cyclically over time.

(1) Purpose

The direct purpose of POS regeneration from a pop-up perspective is to build a public space that is suitable for the occurrence of pop-up urbanism in Liuyun Community. As a carrier and a foundational update before other small-scale developments, POS regeneration can provide enough possibilities and diversity for the community to develop in the future.

The purpose of spatial regeneration under the pop-up perspective is not only the pop-up action itself. This design concept, which takes into account short-term

changes and long-term development, can also solve a series of problems caused by the outdated conditions of Liuyun Community, such as inefficient use of fitness facilities, unreasonable parking locations, and dull interfaces in certain areas. Even if the pop-ups do not happen, the regeneration of this space still has its practical significance. The flexible space and appropriate scale of the street can still provide a good living environment for residents in normal times. At the same time, it also lays the foundation for a long-term and continuous regeneration behavior for the community spontaneously.

(2) Vision

The most important contradiction that Liuyun Community is currently facing is the lack of consensus and cohesiveness among the internal stakeholders. Through the combination of this POS regeneration and the possible future pop-ups, the spatial vitality of the urban potential can be enhanced. Further, this regeneration can promote mutual understanding and inclusive coexistence among different people to a greater extent, increasing community cohesion and a sense of belonging to the area. Of course, the ultimate desire of the regeneration is to make Liuyun Community continuously adapt to new demands of urban development and become a distinctive area in Guangzhou.

6.2 POS interventions

The guiding principles in interventions are derived from the methodology described in Chapter 4 of this paper. For the specific urban context of Liuyun Community, POS regeneration should focus on primary and secondary relationships. Urban regeneration from a pop-up perspective requires that the potential of public space be fully utilized. The process of implementing interventions should focus on areas where the existing situation and spatial potential are more mismatched. Based on the space potential analyzed in the previous section, combined with field research, it can be derived that different levels of interventions are needed within the community.

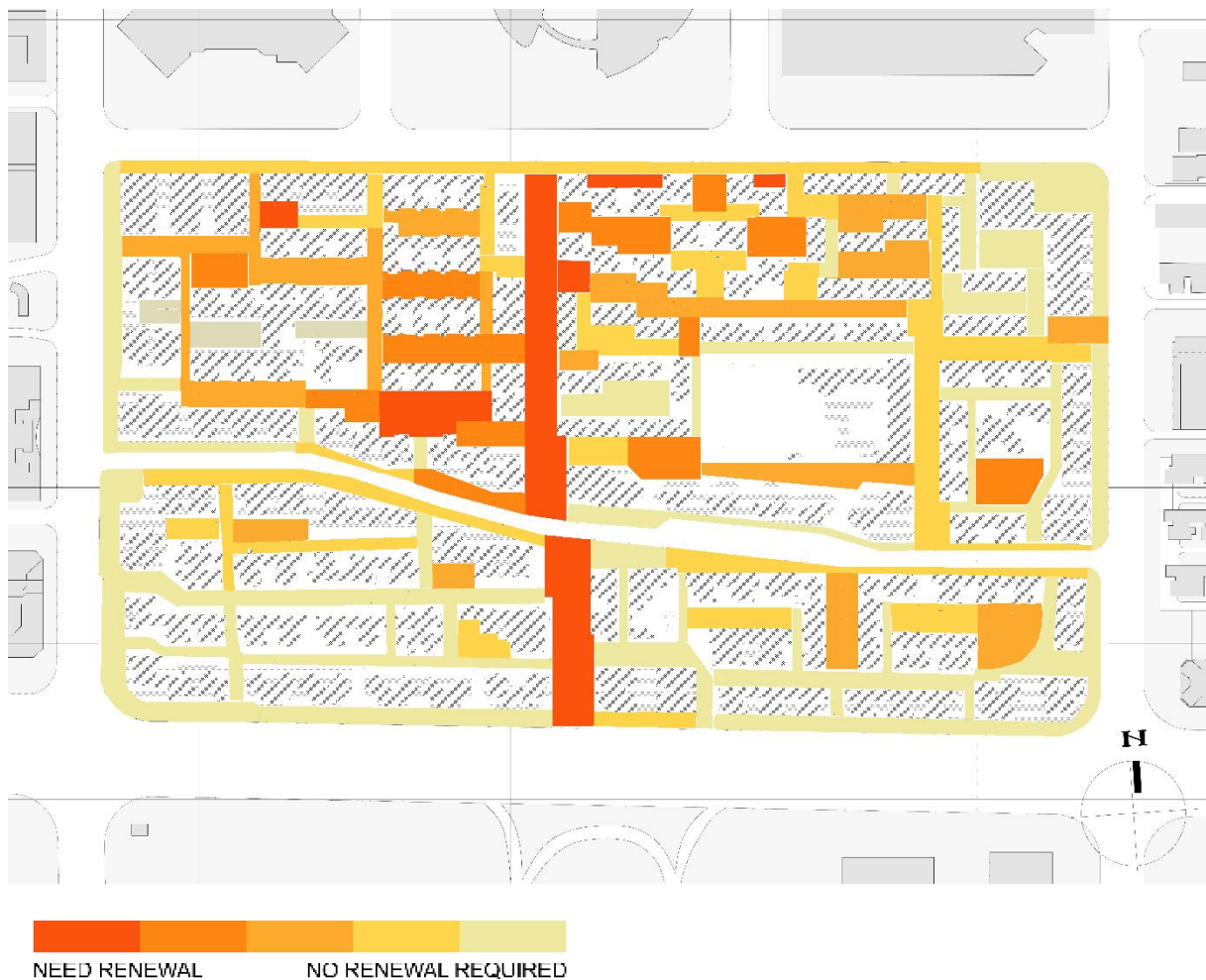


Fig. 6-1 Space regeneration necessity analysis

Illustrated by author (05/2022)

6.2.1 A Spatial Network Offering Multi-point Pop-up Possibilities

(1) Pop-up topics with local characteristics

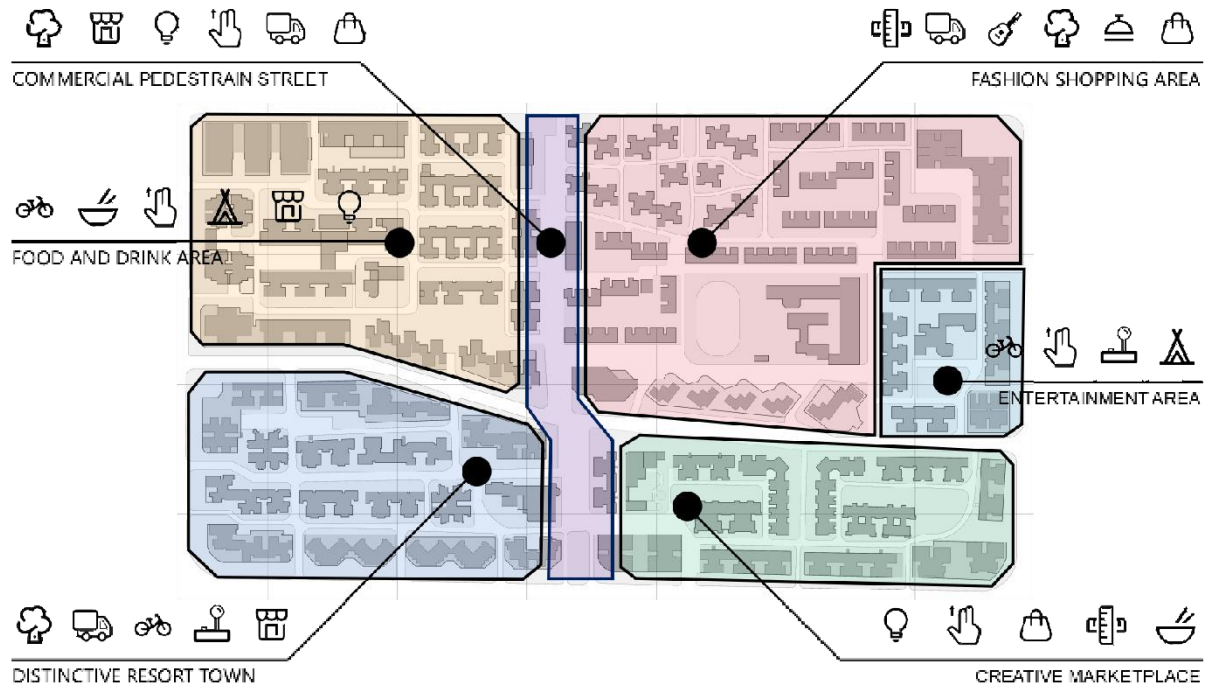


Fig. 6-2 Suitable pop-up types and their zoning

Illustrated by author (05/2022)

As different areas have different degrees of openness to the city and their own spatial forms, their suitable pop-up types vary. The author divided Liuyun Community into six areas and planned pop-up themes according to the characteristics of each area. The differences between the areas make it possible for the pop-up activities to be complementary or linked in terms of function. In practical application, the ongoing pop-up activities should ensure a certain minimum number in order to allow for continuous self-regeneration within the area.

(2) Operating system to maintain pop-up actions long-term occurrence

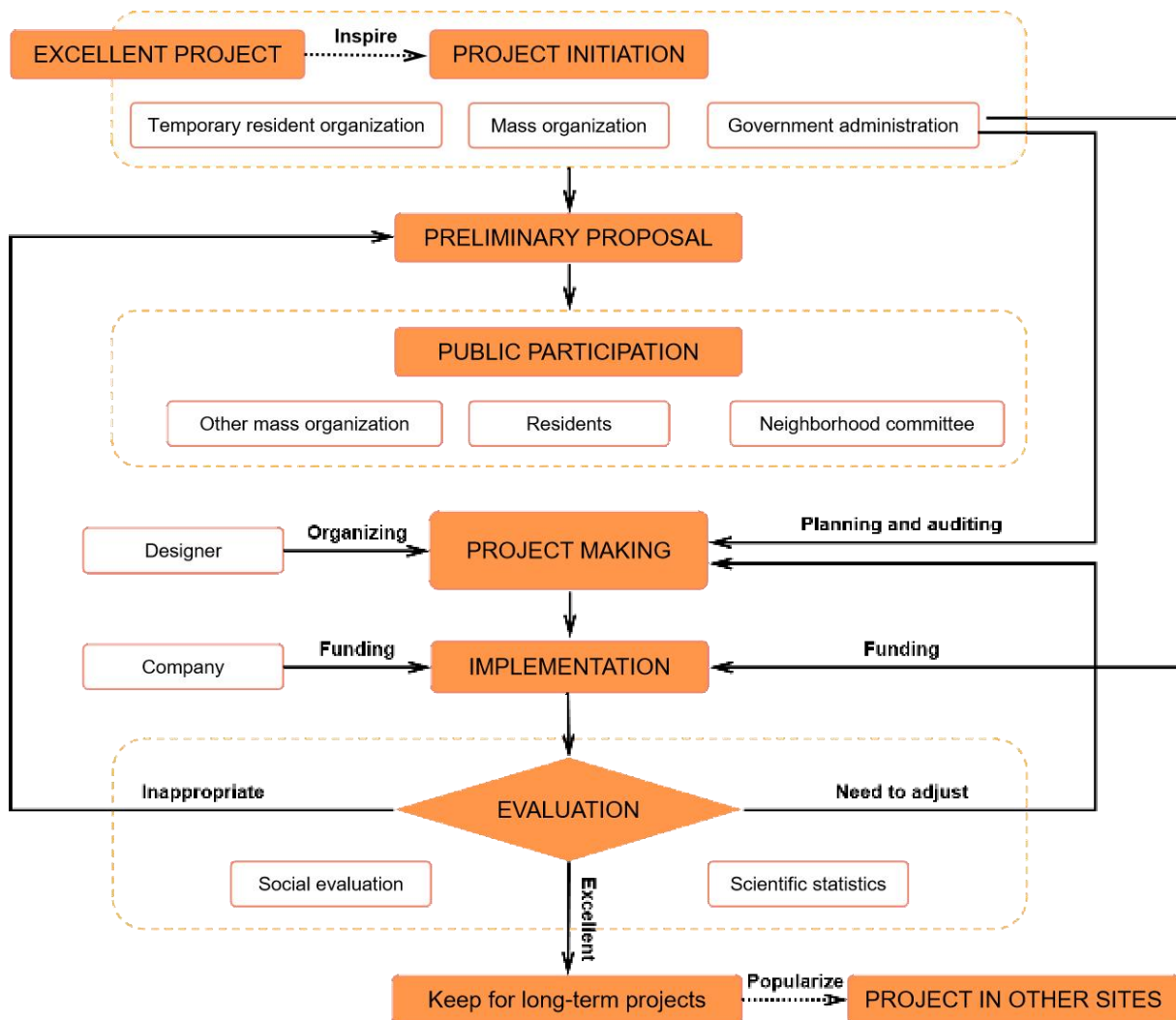


Fig. 6-3 Pop-up project operation process

Illustrated by author (05/2022)

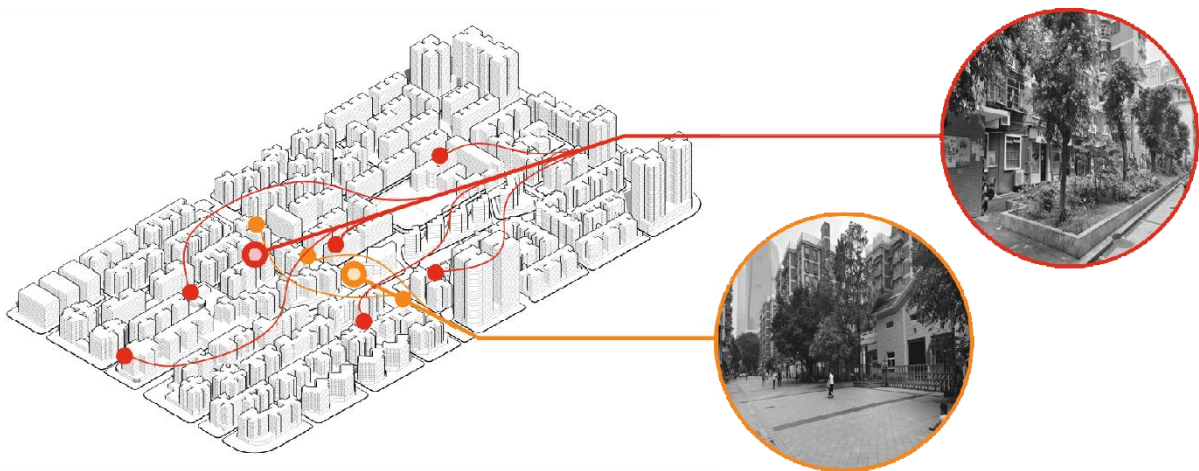
Pop-up urbanism is an experimental process, which is strict in the evaluation process and often requires re-planning. Therefore, instead of waiting for a project to end before starting the next one, several different pop-up experiments should be carried out at the same time. This way, when a successful project emerges, it can be replicated to some degree in other regions. To maintain a system over time, the government needs to take the lead and the communities need to be involved. The predictability that comes with pop-up urbanism will lead to a virtuous cycle of more citizens willing to participate in the projects, as long as the projects are brought to the

implementation stage. For Liuyun Community, it is essential to give full play to the power of the neighborhood committee and various social groups.

6.2.2 Street Interventions that Facilitate Pop-ups Occurrence

(1) Localized Linger Space

The pedestrian street in the center of Liuyun Community is about 20 meters wide and over 200 meters long, and lacks space for people to stop and rest. According to the author's research, visitors who want to rest must walk into the side bypass, which seems unreasonable. In addition, some of the green spaces inside the district have been mismatched with the actual usage scenarios due to changes in traffic organization. Therefore, a certain amount of renovation is necessary for both streets with unreasonable green space locations and wide streets that lack resting spaces.



The arrangement of greenery and open space in some streets is not reasonable

Fig. 6-4 Street Status No. 1

Illustrated by author (05/2022)

For these two types of street conditions it is necessary to adopt the regeneration method of "Localized Linger Space". In pedestrian streets, the presence of lingering spaces should be implied by different paving materials. Specifically, peninsula-shaped outdoor cafes can be added to create leisure places. Streets with unreasonable green space arrangement need to reorganize the green space system

and increase the dwell space by inserting small squares at intervals. This type of intervention gives residents and visitors the possibility to have short conversations and rest on the street, and at the same time such spaces are conducive to the occurrence of pop-up urbanism represented by mobile facilities.

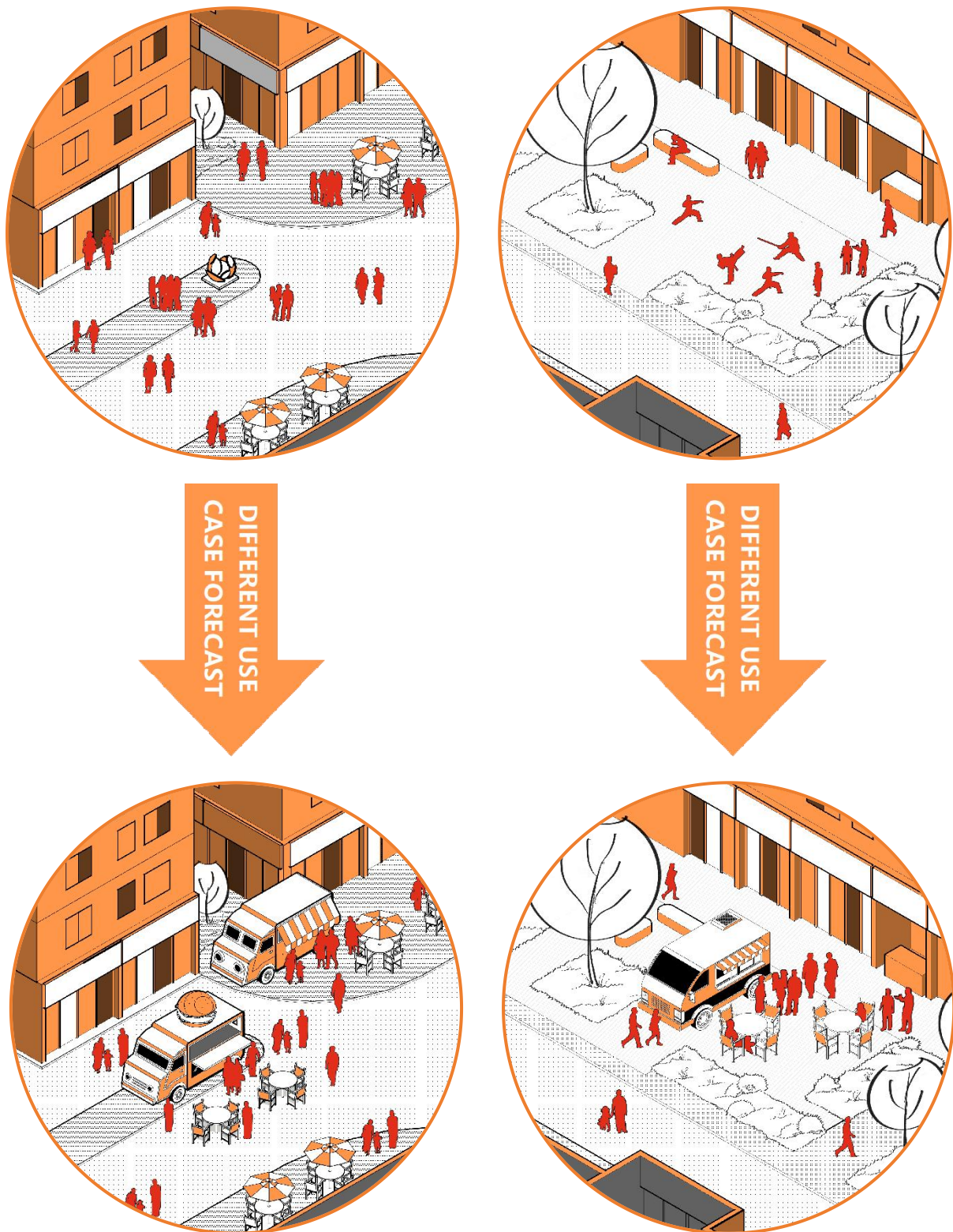
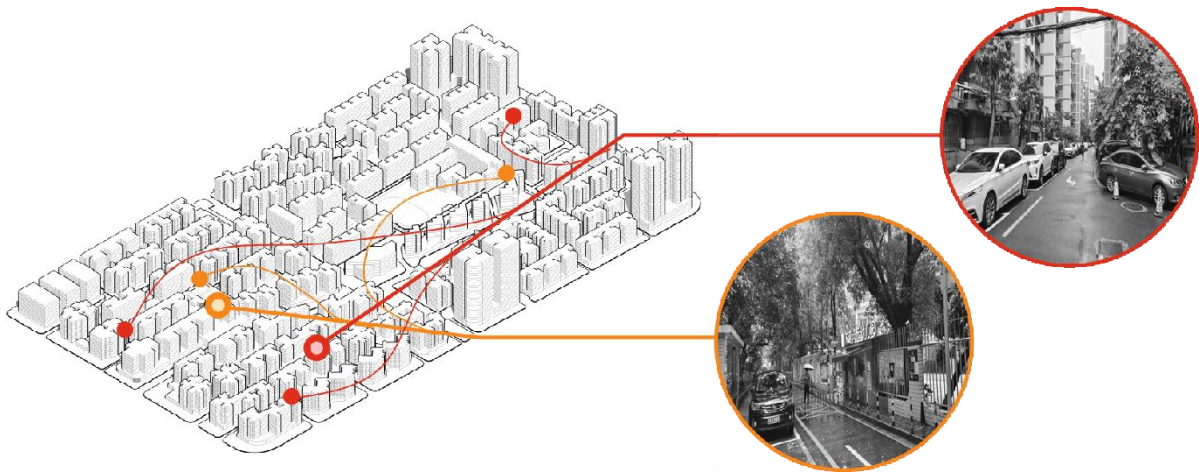


Fig. 6-5 Application of "Localized Linging Space" strategy and different use case forecast

Illustrated by author (05/2022)

(2) Resilient Passing Space

There are many driveways inside Liuyun Community, some of which are one-way and narrow in width. Due to the early age of the neighborhood, the building spacing is not so wide. After leaving space for driveways and on-street parking, the remaining space for pedestrians is obviously insufficient. This results in the actual need for pedestrians to use the driveway for walking, which poses a significant safety hazard. With three kindergartens and one elementary school in the Liuyun neighborhood, the safety concerns are exacerbated by the surge of pedestrian traffic at the end of the school day.



Mixed pedestrian and vehicular traffic in some streets

Fig. 6-6 Street Status No. 2

Illustrated by author (05/2022)

When considering street resilience, different levels of roadways need to be treated differently. For roads inside Liuyun Community, priority should be given to meeting the basic walking needs of the community's residents. The need to travel by car should be considered as a second priority. Therefore, a shared street approach from the Netherlands can be used to ensure that the streets in the community are prioritized for walkers and children, while easily coping with the traffic flow at the end of the school day. This approach also reduces the desire to drive in the community laterally, thus reducing the amount of parking in public spaces in the community and freeing up

some space stock.

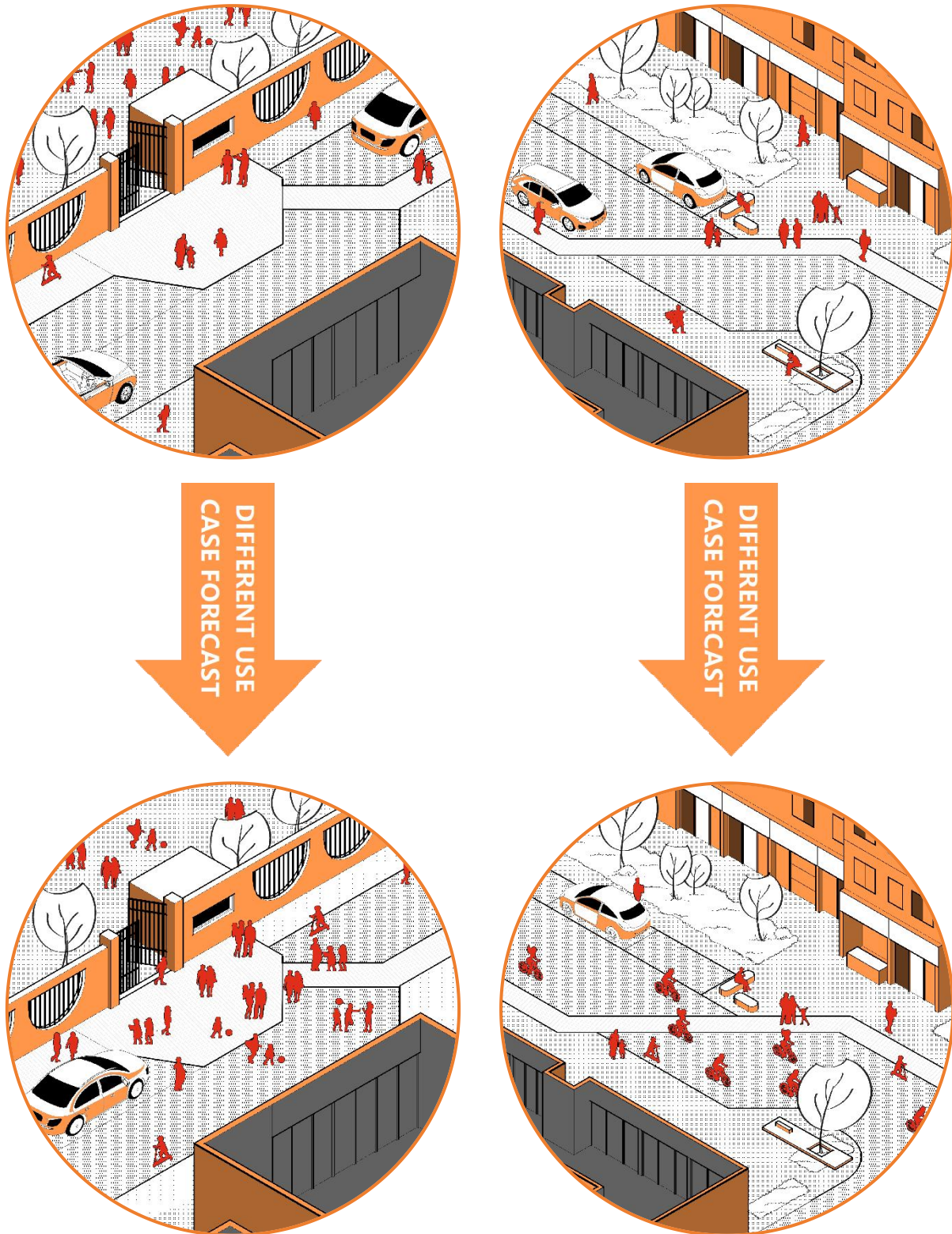
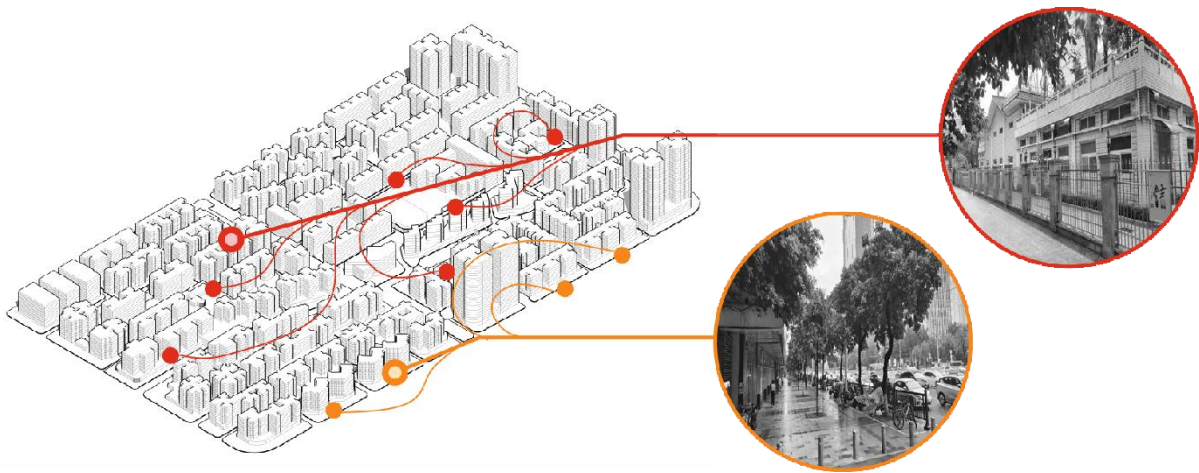


Fig. 6-7 Application of "Resilient Passing Space" strategy and different use case forecast

Illustrated by author (05/2022)

(3) Rich and Variable Interface

Liuyun Community is bordered to the south by the city highway and can only be reached by an underpass to the south side. This broad highway is an uninteractive and negative interface for Liuyun Community, contributing very little in terms of richness. Thanks to the wealth of commercial variety, the interface within the community is mostly more positive. However, except for the residential buildings, there are various other buildings in Liuyun Community that cannot be "housed to business" due to their function. For example, the kindergarten in the community is surrounded by fences to protect children from strangers, and the city's drainage facilities are required to have fences for their work.



The interface of some streets is negative

Fig. 6-8 Street Status No. 3

Illustrated by author (05/2022)

An interface update is needed for the negative interfaces created by urban roads and facility walls. Walls and cabinets with interactive nature could be installed alongside the urban expressway to increase the richness of the interface. For example, the placement of courier cabinets with dismantling function can be considered for temporary activities. Around walls of a homogeneous nature, different variable interface facilities could be placed according to the size of the street space. For example, the use of curved walls to build exhibition spaces is a good choice. These

interface facilities on the street can also be well suited for interactive street pop-up activities in the future.

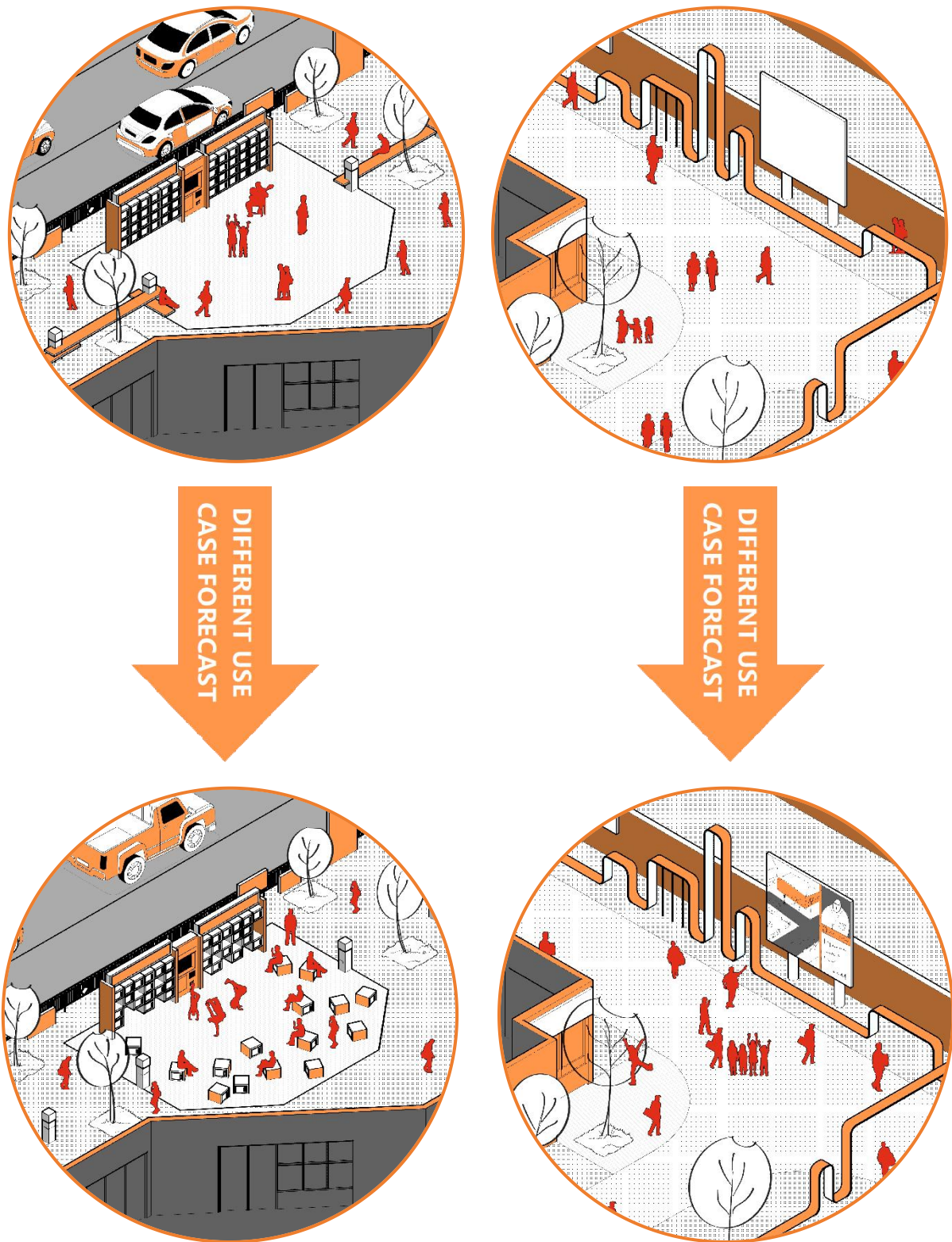


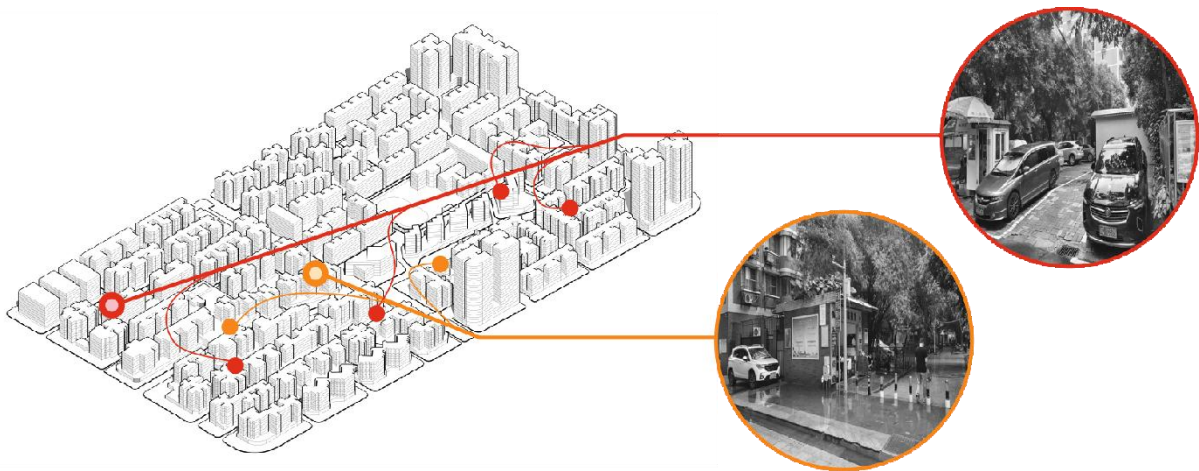
Fig. 6-9 Application of "Rich and Variable Interface" strategy and different use case forecast

Illustrated by author (05/2022)

6. 2. 3 Node Interventions that Facilitate Pop-ups Occurrence

(1) Tactical White Space

In addition to the residential buildings, there are some auxiliary facilities in the area that are only one level, such as garbage stations, distribution stations, public toilets, etc. One of them is a restaurant renovated from the original security booth. Its poor business condition and overall appearance are not unified with the environment. Besides, the vehicles parked in the area also occupy many important node spaces. For example, the open space near the entrance of the subway station in the northwest corner is full of parked cars. This open space has an important strategic value as the nearest square from the subway station into the district, which is not reasonable to use it only as a place to meet the parking demand.



Some important node space is occupied

Fig. 6-10 Node Status No. 1

Illustrated by author (05/2022)

In these areas of unsatisfactory use, important intersections and corner spaces should be strategically vacated by removing existing low buildings or parked vehicles from the site. Their locations are key nodes in the urban spatial system. Rashly using them for a fixed function may lead to insufficient use in the future. Therefore, it is better to keep some important nodes as open space. "Tactical white space" does not mean that no facilities are installed in the open space at all. On the contrary, it can

carry innovative catalysts and become an important node for attracting people and marking the orientation of the surrounding area.

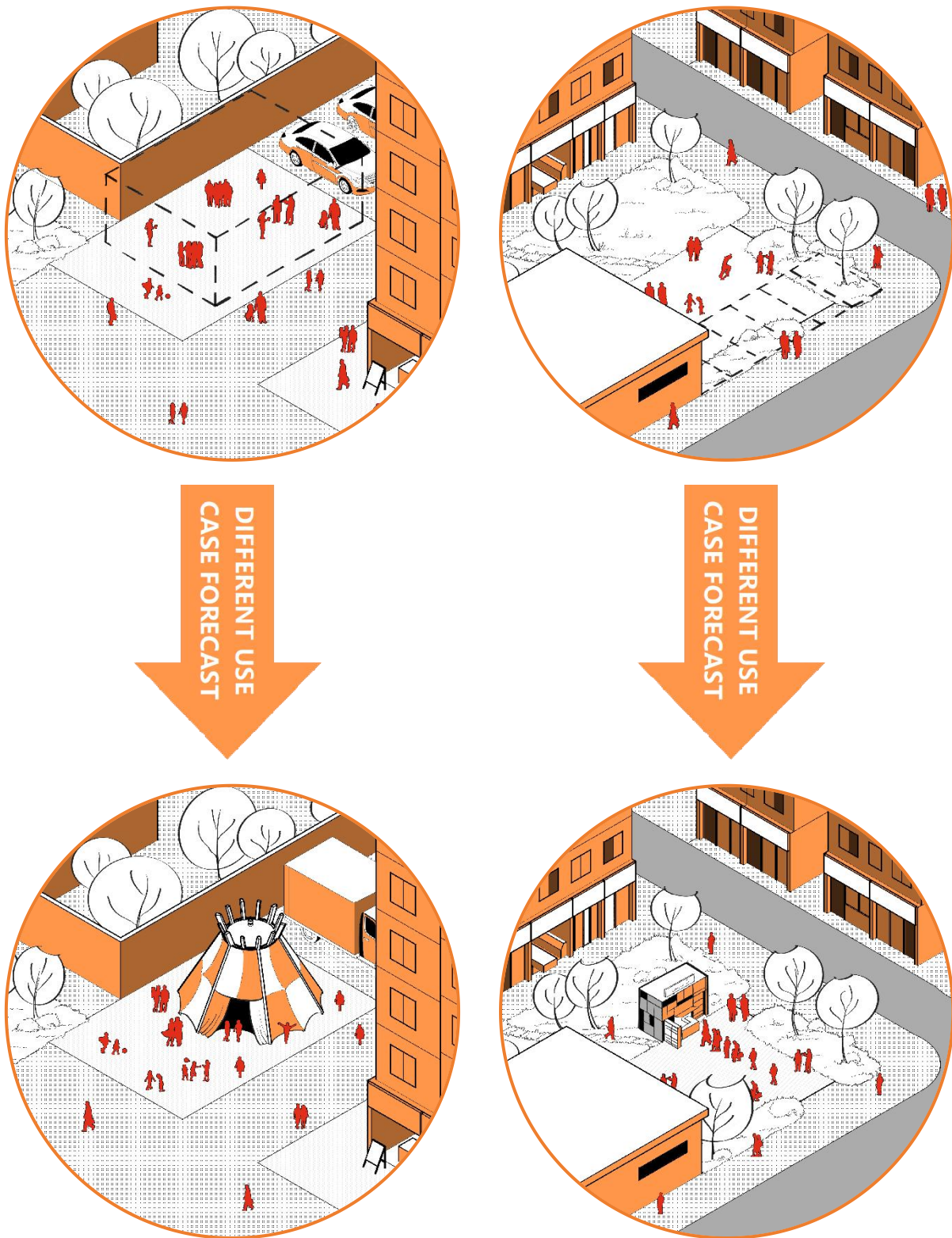
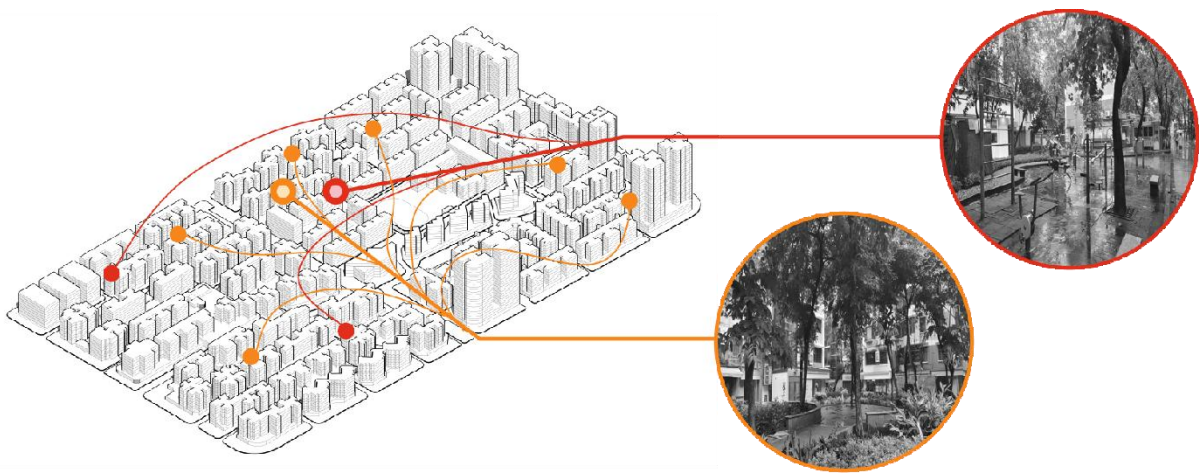


Fig. 6-11 Application of "Tactical White Space" strategy and different use case forecast

Illustrated by author (05/2022)

(2) Variable and Flexible Space

A limited amount of square space exists in Liuyun Community for residents and visitors to use. According to the research, while a few squares have a large number of people gathering, others are in consistently little favor with the residents. Several of these squares are underutilized mainly because the relationship between the space and the surrounding greenery is not good enough, resulting in a serious blockage of the surrounding vision. In addition, the elderly fitness facilities in some squares have become less popular than before due to the changing needs of urban residents.



Part of the square space is not used efficiently

Fig. 6-12 Node Status No. 2

Illustrated by author (05/2022)

The best way to revitalize these squares is through a greater degree of regeneration. In order to ensure that the same mistakes are not repeated, the renewed squares should be flexible and resilient to carry future functional changes. Scenes should be created without undue separation, and permanent movable features can be used to accommodate the possibility of different activities. A flexible regeneration strategy helps to find the most suitable activities for each time period, improves the overall efficiency of use, and leaves room for future experimental transformations guided by pop-up urbanism.

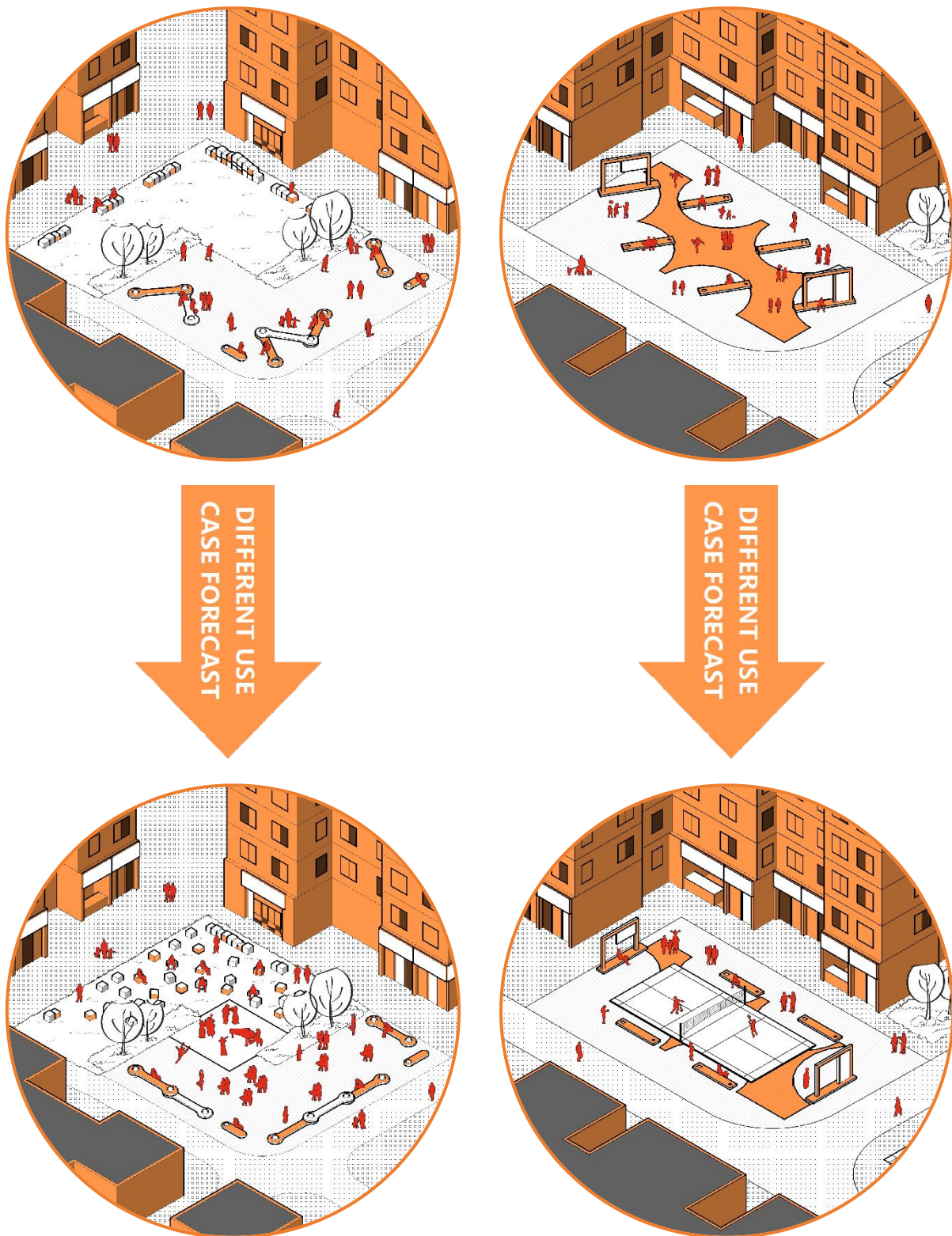
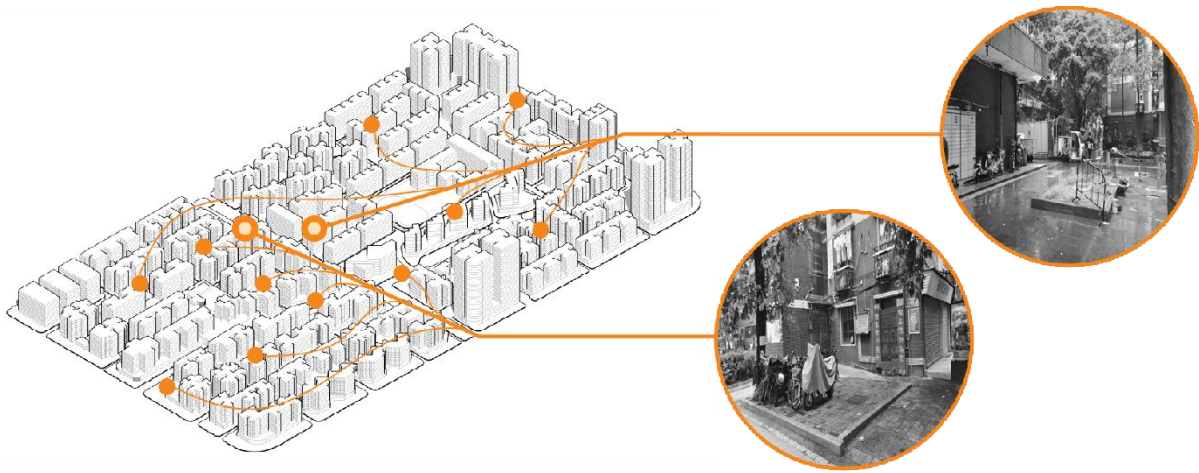


Fig. 6-13 Application of "Variable and Flexible Space" strategy and different use case forecast

Illustrated by author (05/2022)

(3) Interactive Urban Furniture

Liuyun Community has many small buffered nodes in addition to the intact piazza space. There are small crowds at these nodes in the evenings when the traffic is high. However, in the morning and afternoon hours, these areas are less frequented due to the lack of available urban furniture. It is evident that these nodes are unable to take on the role of a guide and attraction during the low-traffic hours due to the lack of suitable urban furniture.



Lack of urban furniture in some node spaces

Fig. 6-14 Node Status No. 3

Illustrated by author (05/2022)

The best solution to the problem of the tidal nature of crowds is to adopt urban furniture that can be adapted to different modes of use. For example, liftable panel systems and collapsible mini-galleries can be used in a form that takes up less space during high-traffic periods, and can be transformed into another form of space suitable for sitting during the day. The public open space system in the community is largely constrained by the uniform construction of 30 years ago, and there are many imperfect node spaces. Placing appropriate urban furniture in these areas can help improve the existing environment. At the same time, when pop-up urbanism, which is characterized by interactivity, occurs, these flexible urban furniture can react with it in a linked way, further enhancing the catalytic effect of pop-up activities on urban

vitality.

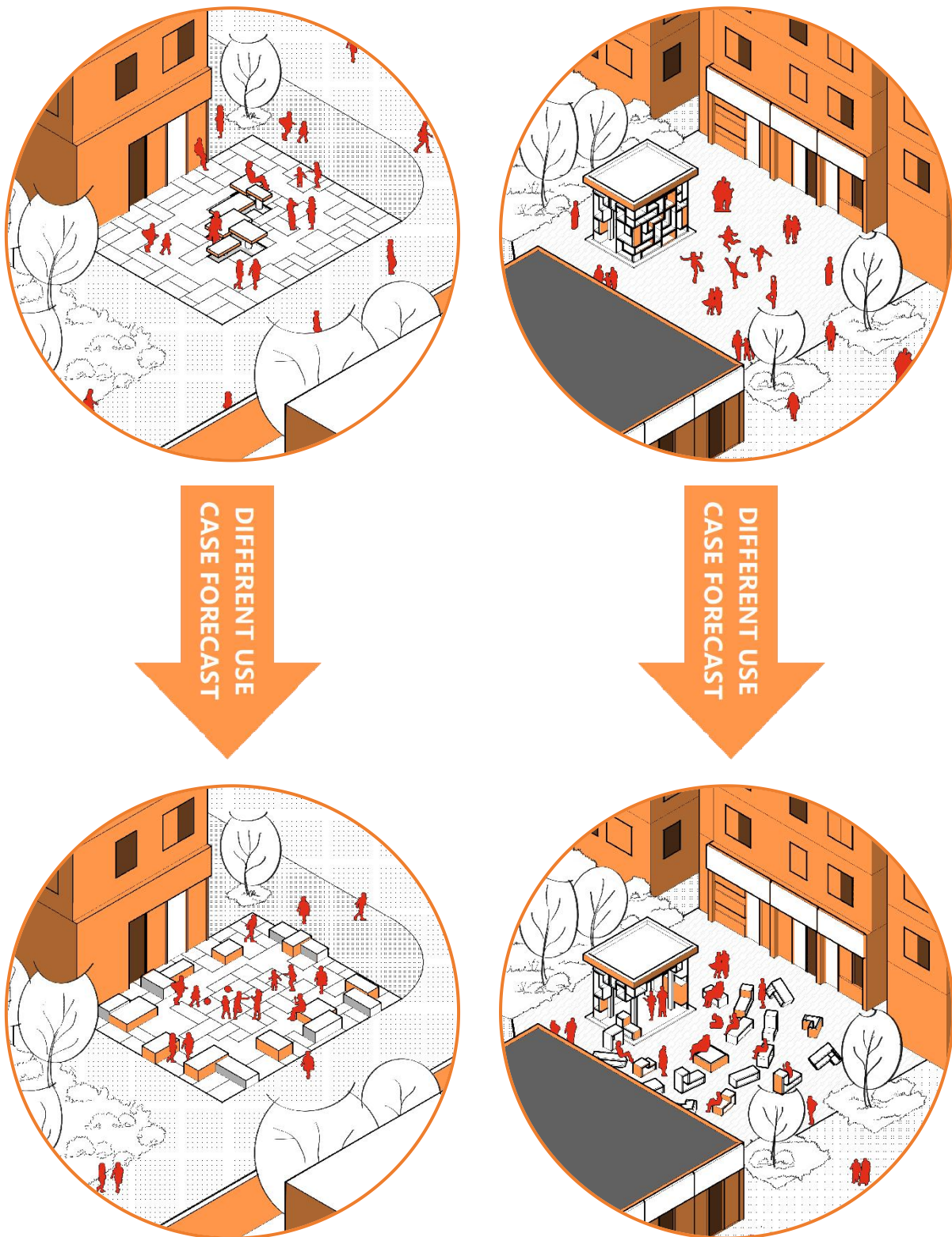


Fig. 6-15 Application of "Interactive Urban Furniture" strategy and different use case forecast

Illustrated by author (05/2022)

6.2.4 Summary of the Interventions

POS regeneration from a pop-up perspective as a novel approach to regeneration addresses existing problems in the Liuyun Community to a certain extent, and also leaves ample room for the implementation of possible future pop-up urbanism. However, when implementing specific interventions, it is not a completely independent state from each other. Faced with specific problems and contradictions, the advantages of different kinds of measures should be combined and multiple approaches should be applied to create a truly good public open space. The figure below shows how different interventions can work synergistically to solve problems within a site, and which strategy should be primarily used for different problems.

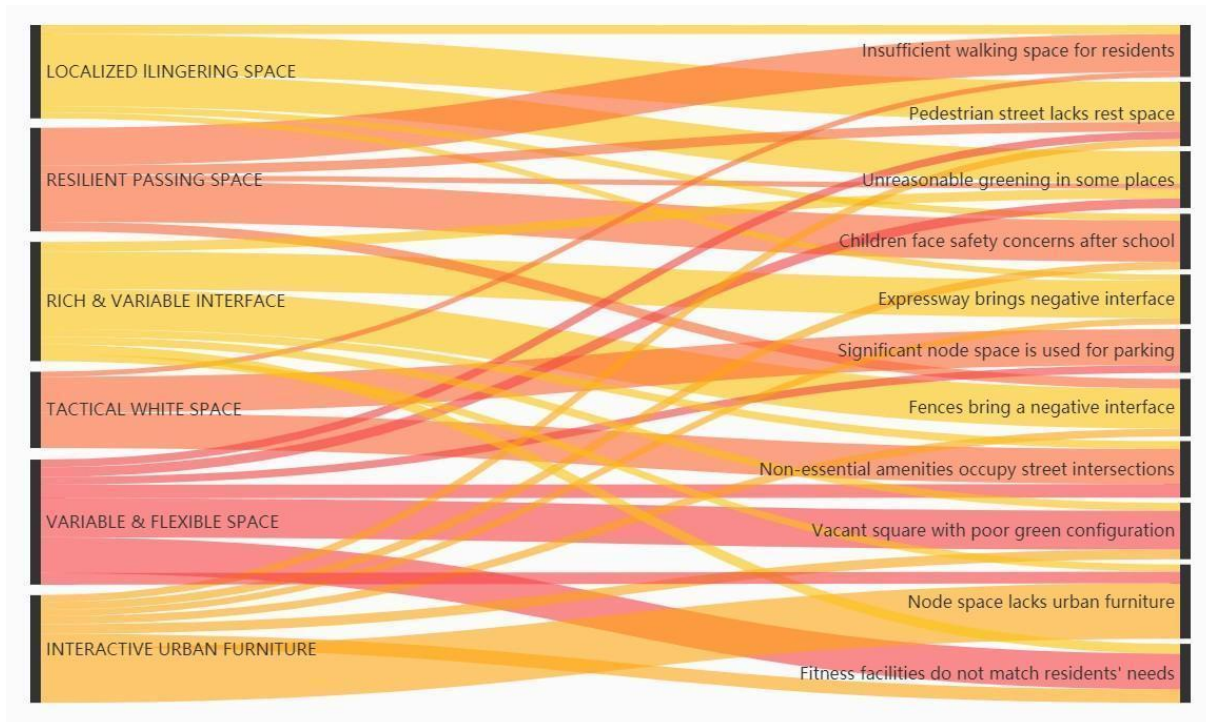


Fig. 6-16 Six interventions and the problems they target in Liuyun Community

Illustrated by author (05/2022)

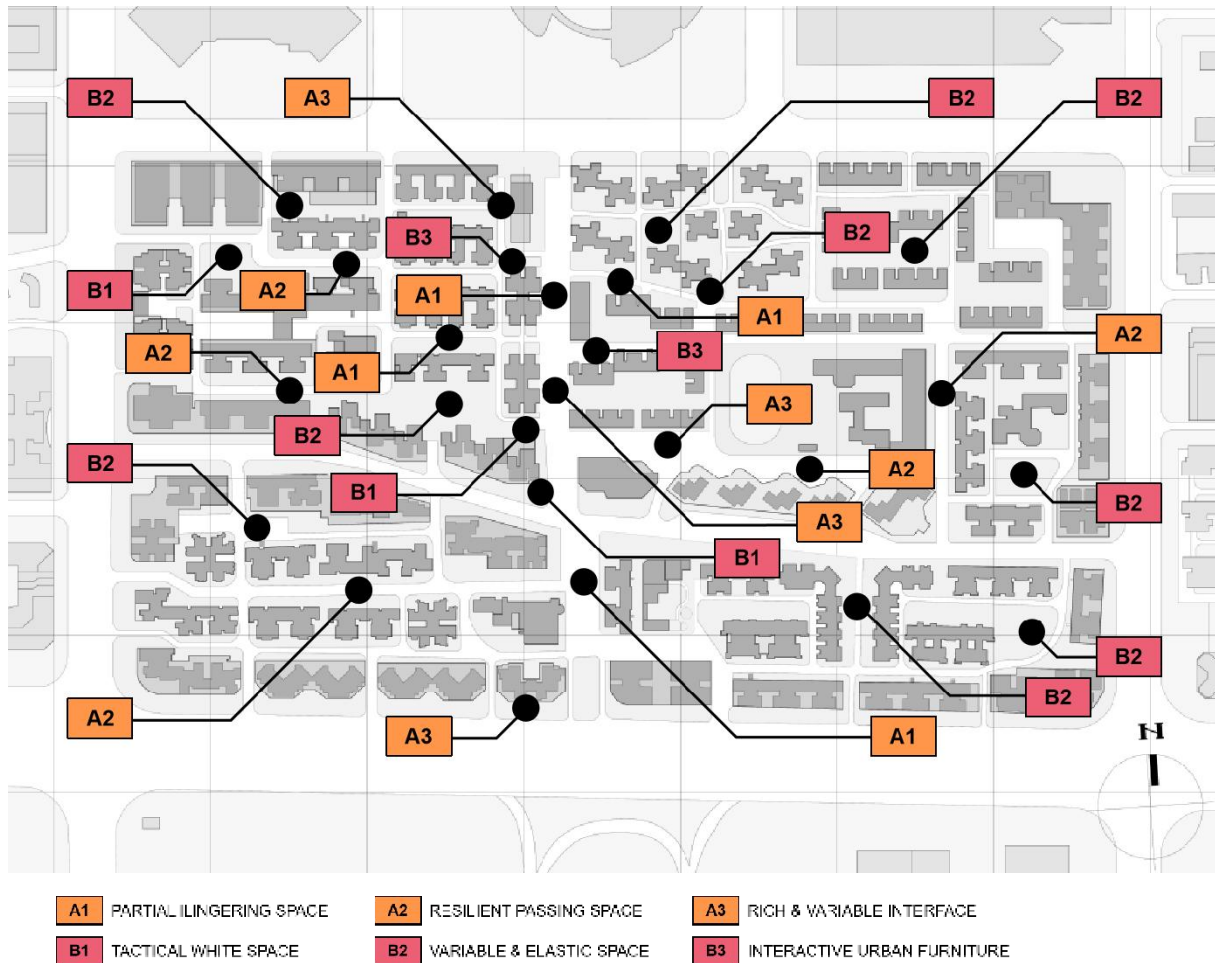


Fig. 6-17 Site specific application of interventions within Liuyun Community

Illustrated by author (05/2022)

According to the existing spatial scenario of Liuyun Community, a certain degree of regeneration is required for the areas where the spatial form and the pop-up potential are mismatched. The specific methods of regeneration are mainly the three street-specific interventions and three node-specific interventions mentioned in the previous section.

6.3 Public Open Space Making for Local Area

Based on the previous analysis, it can be concluded that for Liuyun Community, the POS regeneration is mainly concentrated in the central pedestrian street of the site and in the community to the west of the pedestrian street. The area shown in the figure is not only the more necessary site for regeneration, but also reflects the specific application of different strategies. Therefore, the author chose this area for detailed spatial creation in an attempt to create an application example for POS regeneration from the pop-up perspective.

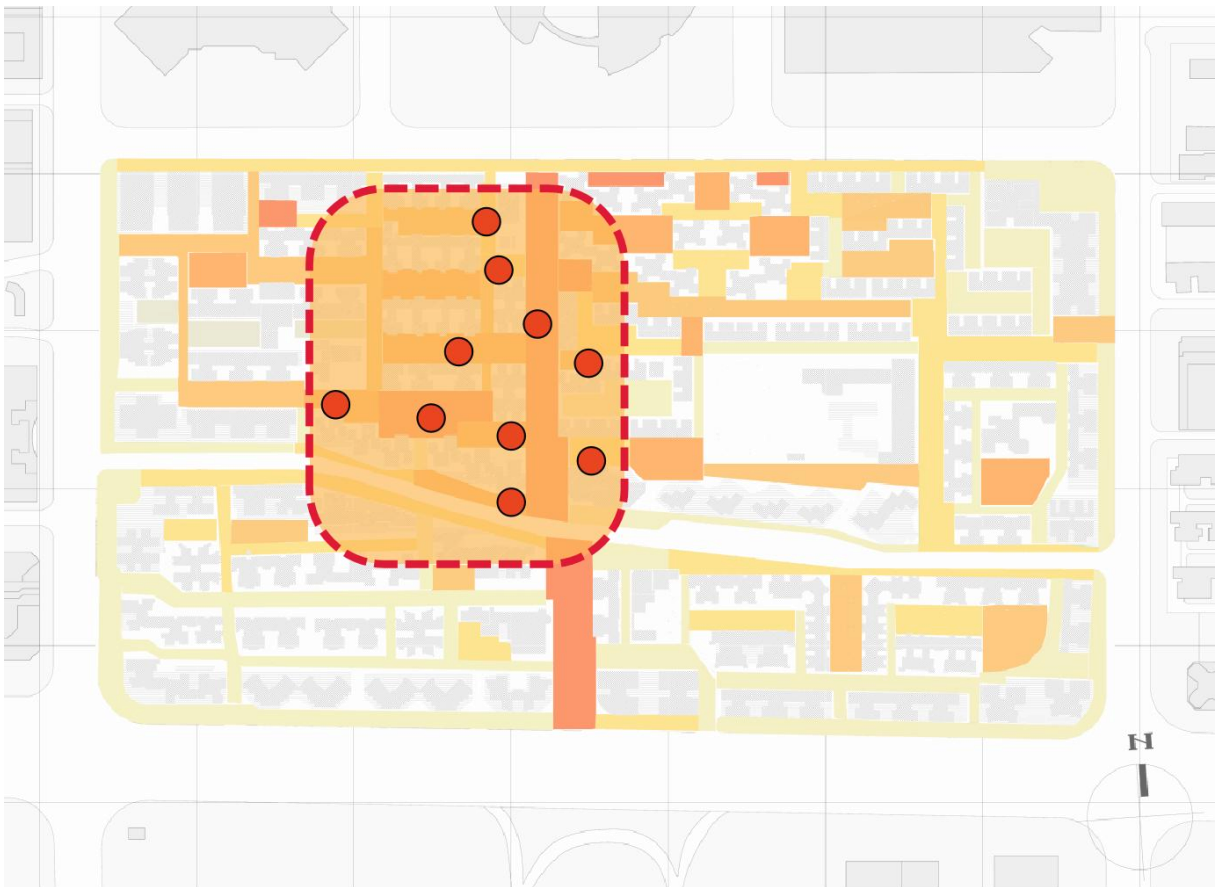


Fig. 6-18 Local Area selection range

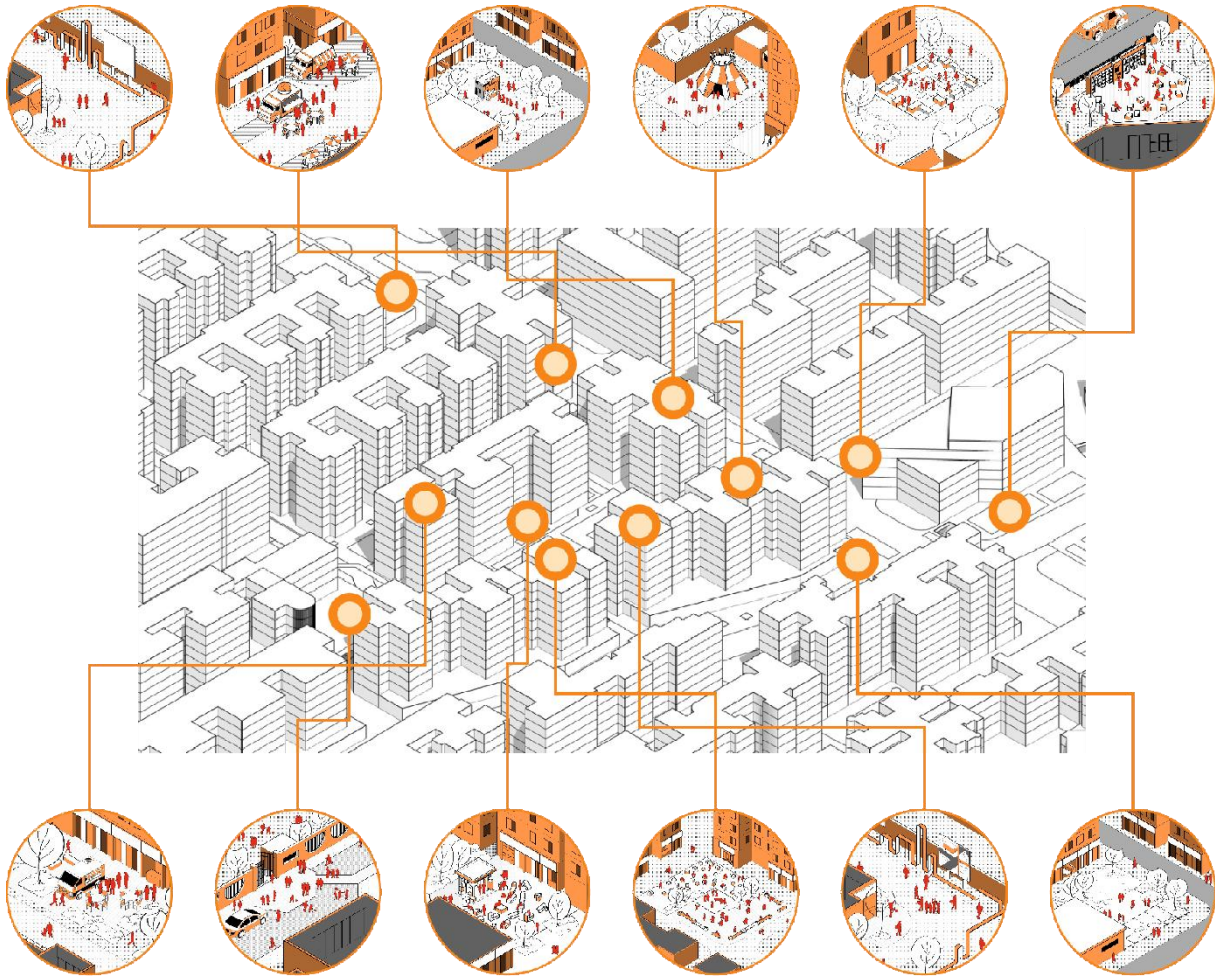
Illustrated by author (05/2022)



Fig. 6-19 Site Status

Illustrated by author (05/2022)

The current problems of the local area have been summarized in the previous section, mainly including unreasonable greenery, streets lacking leisure facilities, node spaces lacking vitality, etc. One or more appropriate strategies should be selected for application to different realities, using the POS regeneration method and its flexible kernel of thought to solve the existing paradoxes of the site.



Apply different strategies to different site conditions

Fig. 6-20 Specific application sites for interventions

Illustrated by author (05/2022)

Specifically, for wide pedestrian streets that lack open space, we can use the method of adding "Localized Linging Space"; for the problem that the entrances of side streets are occupied by inefficient low-rise buildings, we can use the method of removing buildings and leaving "Tactical White Space"; for the problem that the interface around garbage disposal facilities is poor, we can use the method of creating "Rich and Variable Interface". Other strategies not listed and their implementation locations are shown in the figure (Fig. 6-20). It is important to consider the future development of the site while updating it, and to allow room for future spontaneous use of the space by residents.

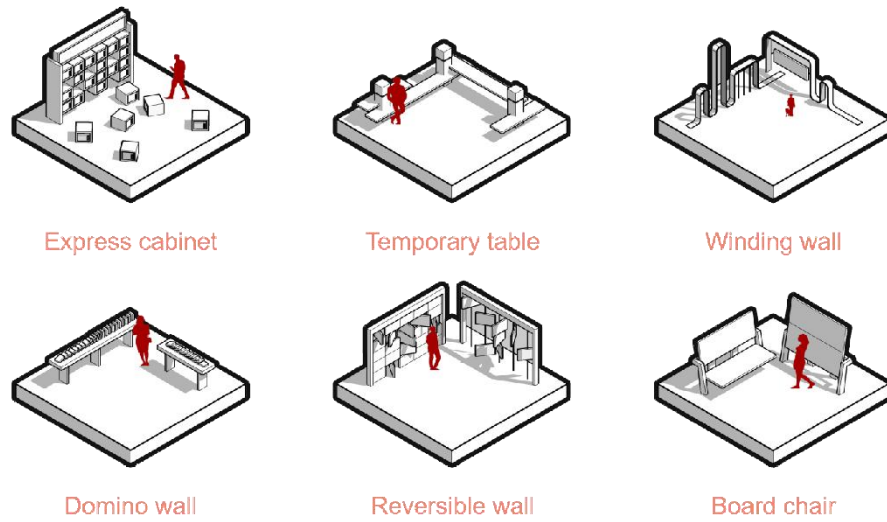


Fig. 6-21 Interface facilities with variability and interactivity

Illustrated by author (05/2022)

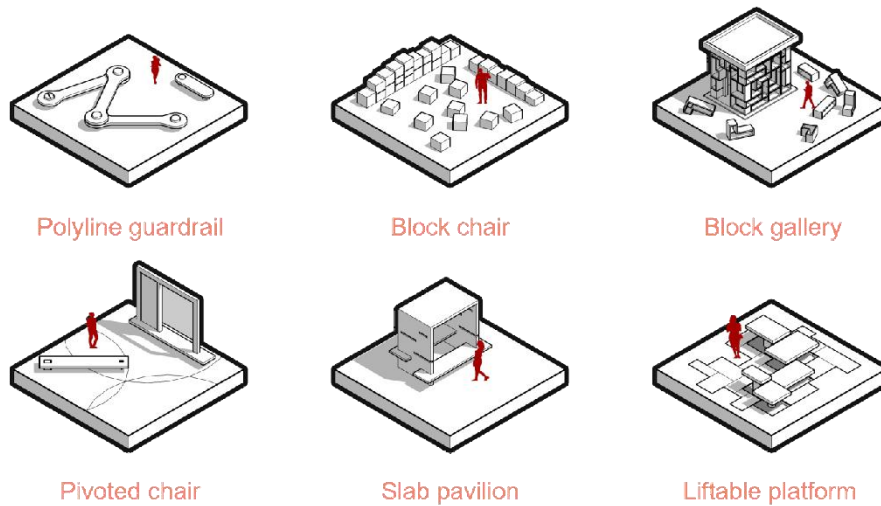


Fig. 6-22 Urban furniture with flexibility and variability

Illustrated by author (05/2022)

When faced with site-specific problems, the advantages between different strategies should be combined to improve the living environment. The strategies themselves are universally applicable; the same strategy can be used to solve different conflicts, and different strategies can be combined to better improve the same space. For example, the application of specific strategies can consider the placement of generic interface facilities (Fig. 6-21) and urban furniture (Fig. 6-22) in appropriate locations. These infrastructures fully embody the spirit of flexibility of pop-up urbanism, which can be adapted to the different daily needs of residents.

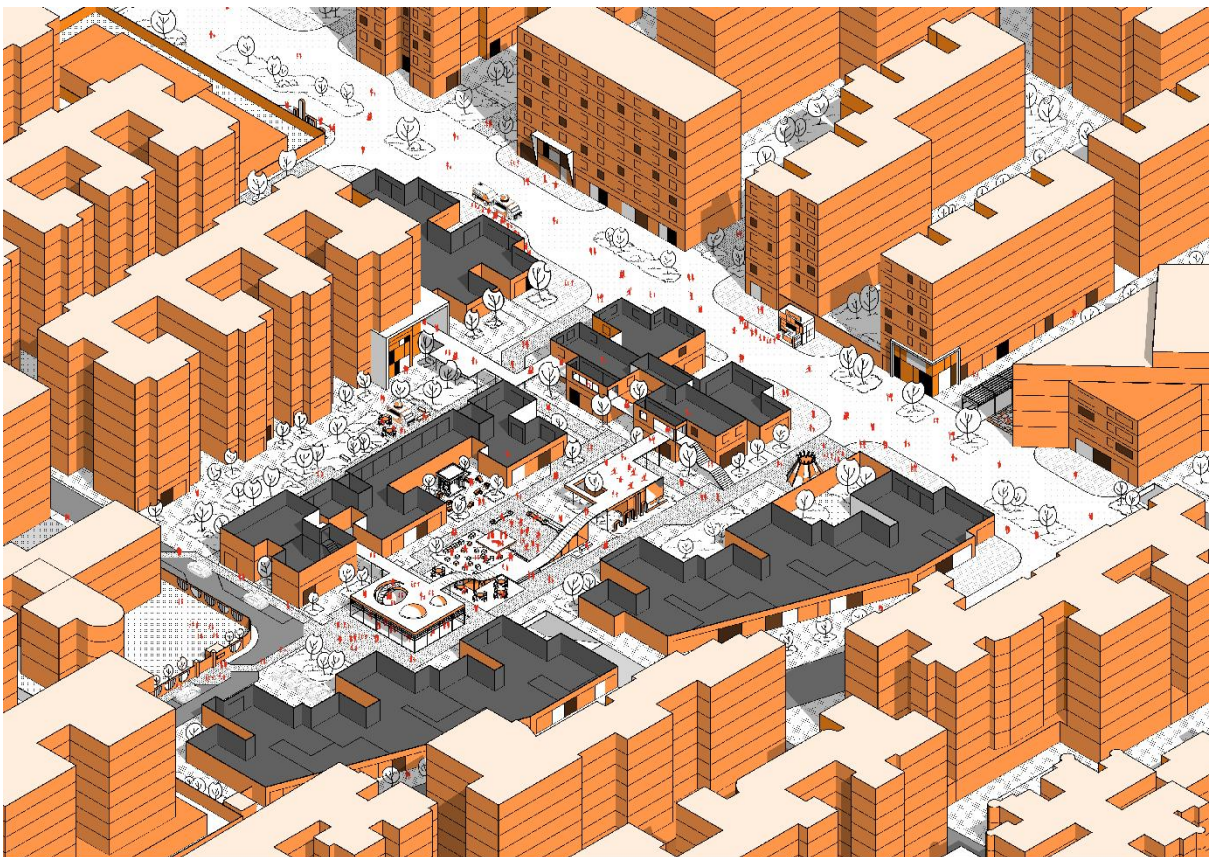


Fig. 6-23 Axonometric view of overall space making

Illustrated by author (05/2022) (the larger image can be found in the appendix)

The overall space making should not only consider the specific forms of the interventions mentioned before in the actual scene, but also the complementary and collaborative relationships between different measures. In the process of solving contradictions, it should also focus on the creation of an overall spatial structure to build a network system friendly to pop-up urbanism.

For an open neighborhood full of commercial atmosphere like Liuyun Community, just solving the current spatial problem does not fundamentally solve the community's development issue. Due to the sensitivity of business to the economic environment and the fast-changing needs of urban residents, it is difficult to ensure the long-term effectiveness of ordinary regeneration methods. Therefore, pop-up urbanism is necessary to introduce it here as an effective method that can promote self-regeneration of the community. The purpose of the POS foundational regeneration in this case is that a good spatial foundation can be established, or rather a petri dish for pop-up urbanism (Fig. 6-23).

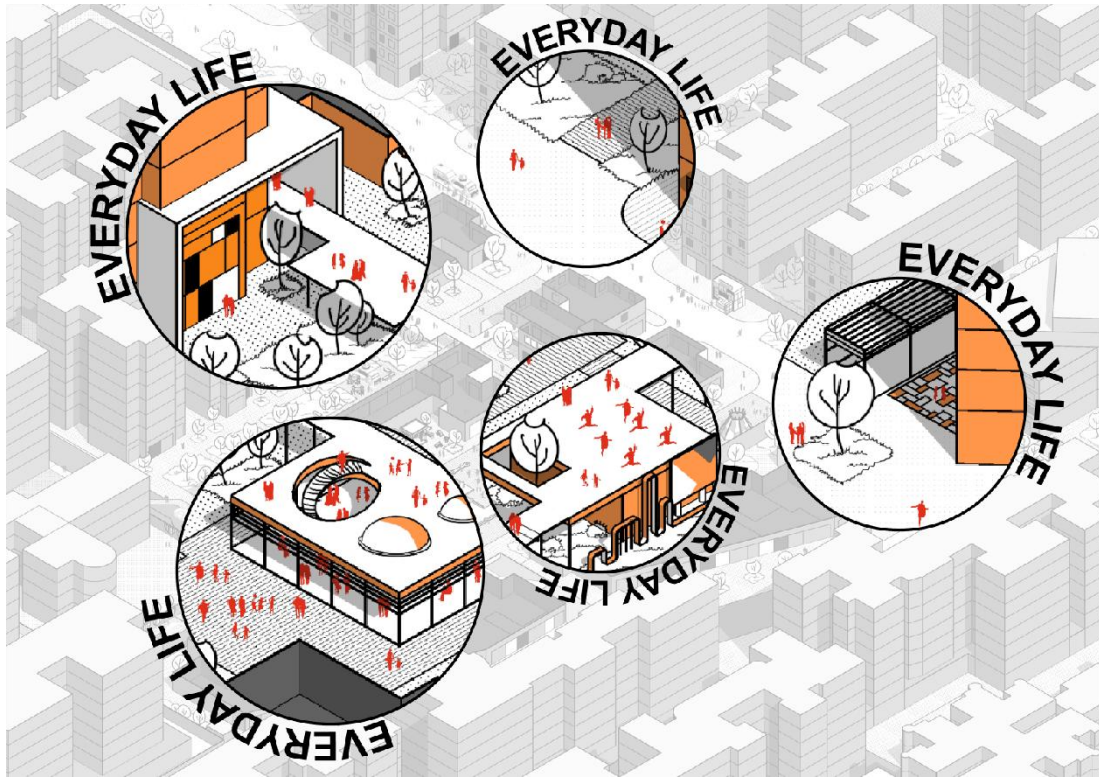


Fig. 6-24 Everyday life scenario

Illustrated by author (05/2022)

A spatial network friendly to pop-up urbanism is a prerequisite for the production of all kinds of pop-up actions. This type of space making, which leaves flexibility everywhere, can in a sense facilitate the self-development of the community, thus solving the problem of mismatch between the use of space and the needs of citizens that may occur in the future. Of course, this kind of petri dish type of space has its own

flexibility, which makes it possible to meet the activity needs of different residents in their daily lives, instead of relying entirely on pop-up urbanism (Fig. 6-24).



Fig. 6-25 Pop-up activities scenario

Illustrated by author (05/2022)

After this POS regeneration as a precondition is completed, the community can then consider introducing pop-up activities in some of these places (Fig. 6-25). The duration of such activities is not long, usually 2-3 months, but it is meaningful. Short-term pop-ups mean that the breeding ground for pop-up urbanism begins to function, and Liuyun Community is thus taking the first step in a long-term process of continuous self-regeneration.

6.4 Chapter Summary

This chapter focuses on the specific ways in which POS regeneration from the perspective of pop-up urbanism is applied in Liuyun Community. By building a site model and a strategy model, it illustrates how the regeneration methodology translates to the practical application level. In the second half of the chapter, the study

selects representative locations and integrates six interventions into specific scenarios to clearly illustrate the practical application of the POS regeneration from the pop-up perspective in the urban environment.

Summary and Outlook

Research Summary and Advantage Analysis

This study has analyzed and proposed a strategy for the regeneration of public open spaces from the perspective of pop-up urbanism. By studying different types of pop-up activities and their hosting spaces in history, the commonalities that exist between different spaces were summarized. Based on this, the paper proposed and constructed a methodology for POS regeneration from the perspective of pop-up urbanism, and applied it to a specific urban environment. In the process of intervention in the public open space of Liuyun Community, the corresponding strategy is presented in a concrete way.

The relative strengths of this study are reflected in the following aspects. First, this paper has analyzed the current conceptual deficit of pop-up urbanism at the regional scale and proposed a corresponding concept of POS regeneration. Secondly, this paper derived and constructed the POS regeneration methodology under the pop-up perspective by means of cases studies. Then, the paper selected a specific location to analyze its pop-up potential. Lastly, the paper proposed strategies and applications for specific spaces in Liuyun Community, providing inspiring ideas and approaches for subsequent research and design.

Limitations of Application Scenarios

The POS regeneration from the perspective of pop-up urbanism is not a perfect solution and has limitations in its application scenarios. First, such a regeneration approach has a certain dependency on the flexible use of space. If pop-up urbanism or other resilient use systems cannot be established in the later management process, the potential of the resilient space in each part of the site cannot be realized. Second,

the pop-up model can respond to and raise awareness of ongoing problems in the community, but it cannot address the pressing underlying social issues. This also means that it cannot be used as a stand-alone tool to rescue decaying urban areas, but rather as a complement to other tools. Finally, given the frequent use of "pop-up" as a propaganda point in the recent commercial and new media spheres, it is necessary to distinguish between pop-up urbanism, which is beneficial to urban development, and inelegant marketing techniques.

Future Research Directions

Currently, the research on pop-up urbanism is in a developmental stage, which indicates that there is still some potential to be explored. For example, the POS regeneration needs to analyze and judge the pop-up occurrence potential of specific areas to enable subsequent strategy designation. In this study, the author mainly used qualitative and empirical judgment, which is far less accurate than constructing a scientific and rational value judgment system. In addition, the evaluation and feedback mechanism of pop-up activities is also one of the key directions to be studied in the future. This is not only the evaluation of a single pop-up project (this feedback mechanism has been studied by many scholars), but also the overall evaluation system when multiple pop-ups occur at the same time. Finally, given that there is still relatively little discussion of pop-up urbanism in China, it is important to study and build a city management system that is suitable for pop-up actions. The localization of pop-up practice is of great significance to the urban development in China.

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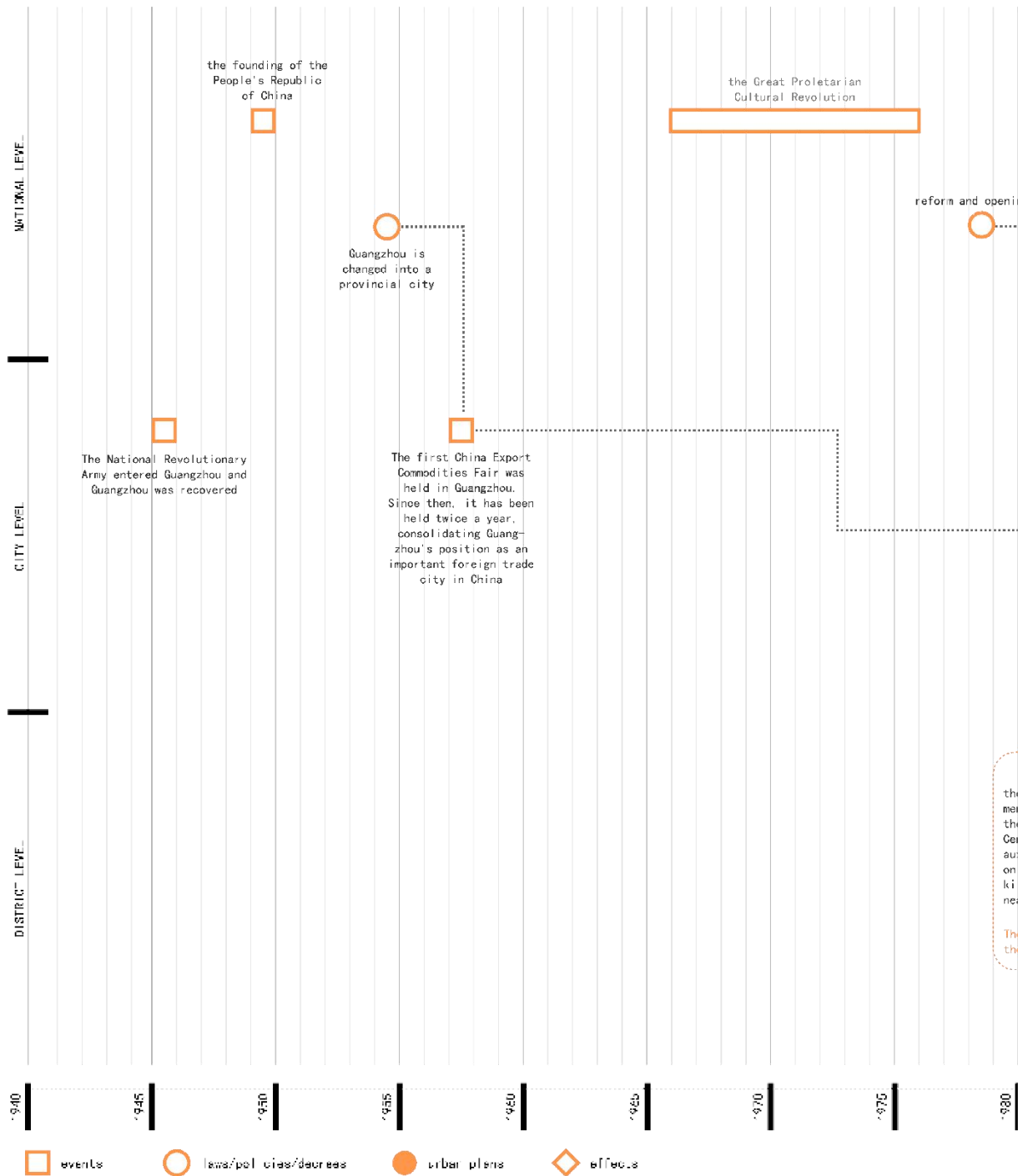
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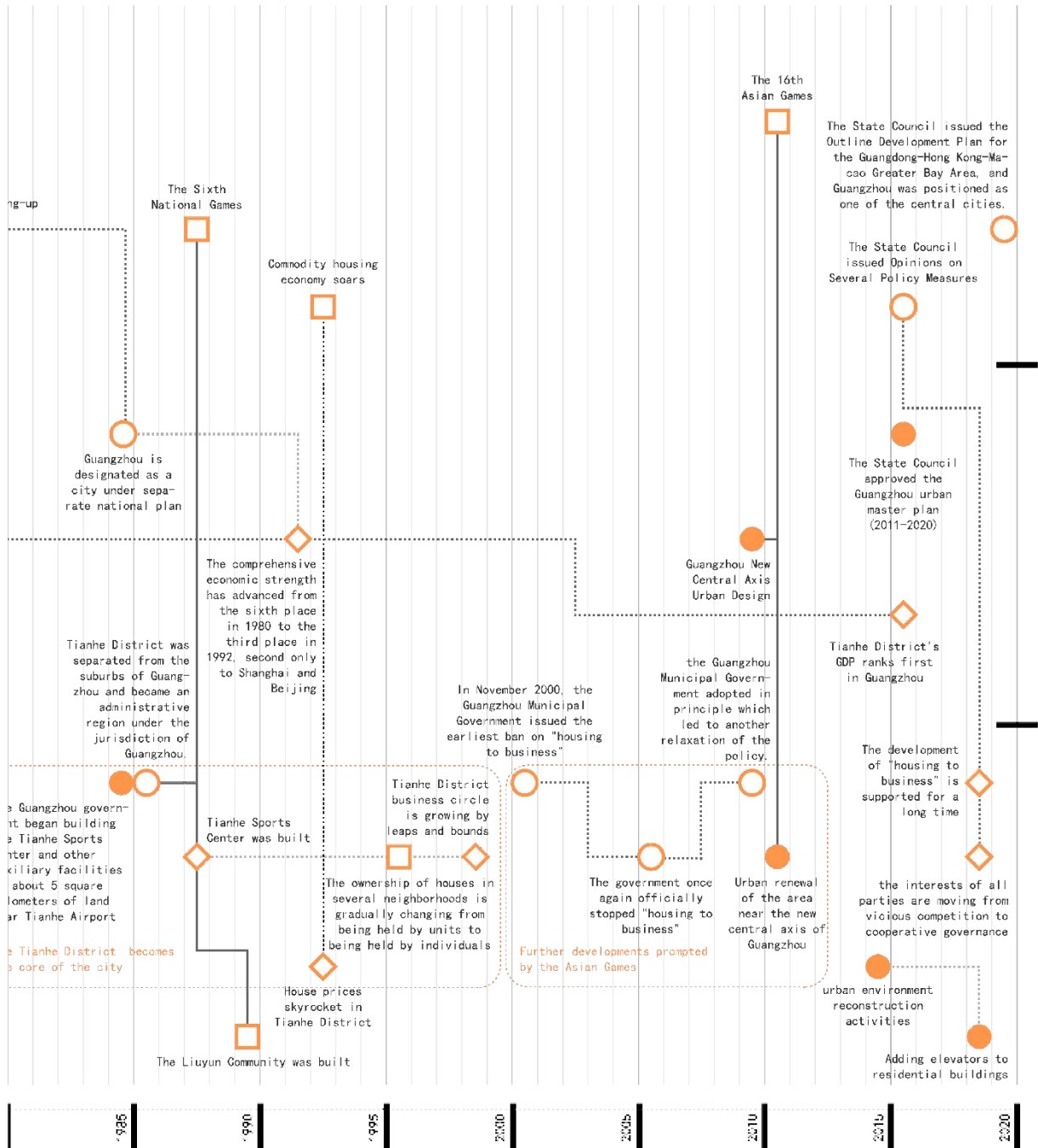
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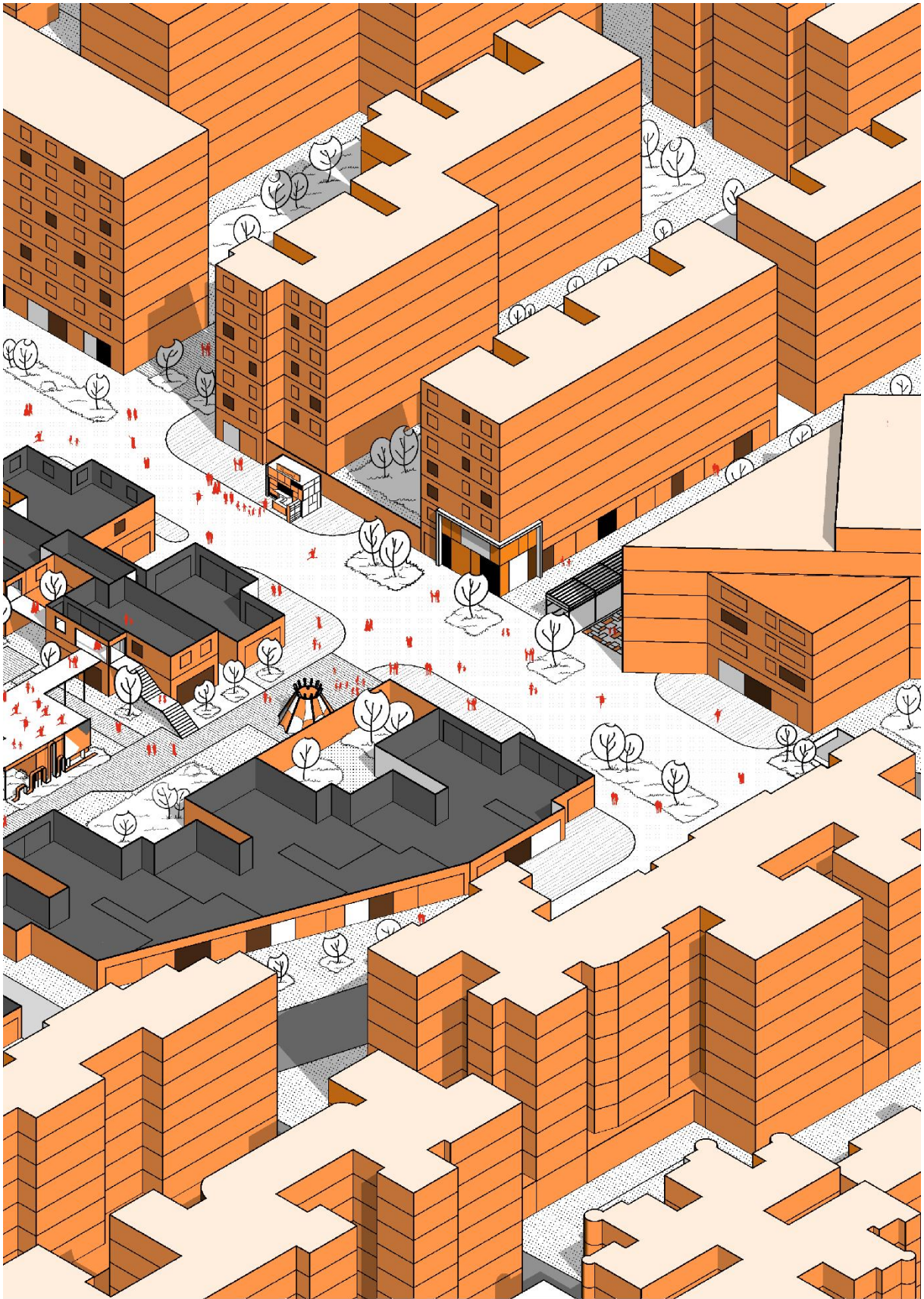
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Appendix









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