

**Study on the Rehabilitation of Plot Morphology in the
Historical District of Anye Li Block, Yuexiu District,
Guangzhou from the Perspective of plot pattern**

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Abstract

Ensuring the continuity of historical urban fabric during the process of urban renewal holds significant practical importance. One of the central concerns of urban regeneration in the age of stock-based development is how to reconcile the spatial forms supported by the original fabric with current functional requirements, and how to improve the environmental quality of the block while preserving the unique historic fabric. As the basic unit of urban spatial organization, the configuration of plots determines the spatial structure of the city and is a key factor in shaping urban fabric. Morphological control at the plot level is an effective approach in urban renewal to balance urban fabric and spatial functionality.

Against this background, this thesis selects the Anye Li Block in Yuexiu District, Guangzhou, as the research subject. By reviewing theories of plot-based urbanism and Japan's land readjustment system, the study extracts applicable design principles and practical procedures for plot morphological adjustment. It also investigates the formation process and current issues of Anye Li's traditional linear historical fabric, integrates existing conservation plans for historic and cultural districts, summarizes the needs for both preservation and renewal, and defines the scope and strategies for plot morphological adjustment. Finally, it conducts design interventions and implementation guidelines at the plot morphological level, exploring methods to protect traditional urban fabric and optimize spatial renewal in historic districts through plot-based control.

The thesis mainly includes the following contents:

Chapter One introduces the research background, objectives, and significance, and proposes the research framework.

Chapter Two reviews theories of plot-based urbanism and Japan's land readjustment system, clarifies the use of plots as the basic starting point for regulation, as well as the principles for preserving the density, diversity, and sustainability of traditional urban fabric, summarizes land reorganization procedures in Japan's high-density areas, and offers localized perspectives.

Chapter Three analyzes the morphological characteristics and current issues of the Anye Li Block. It examines the current status and functional composition of Anye Li, reviews the formation process of its linear fabric and the plot patterns and built features of different historical periods, identifies elements and values worthy of preservation, and raises the existing spatial form problems.

Chapter Four, in light of conservation plans, analyzes preservation and renewal needs to

propose urban renewal strategies, and defines the scope of plot adjustment.

Chapter Five presents an urban renewal design based on plot configuration. Under the principles of preserving and improving the original fabric, maintaining diversity, and continuing the traditional style of the block, it proposes plot morphological adjustments for the study area and formulates relevant implementation rules.

The conclusion summarizes the research and puts forward limitations and prospects.

Key words: Urban Morphology; Urban Regeneration; Urban Fabric; Plot-based Urbanism; Historic District

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Chapter 1 Introduction

1.1 Research Background

As China's urbanization process enters the stage of stock-based renewal, urban development is gradually shifting from a “demolish-and-rebuild” model to a mode of “refined regulation and control,” and the demands for the preservation and renewal of historic and cultural districts are also increasing. How to enhance the spatial environment of historic urban districts, realize the rational use of spatial resources, and optimize functions on the basis of preserving and continuing the historical fabric has become a critical issue in the current renewal of historic city areas.

Since the *Venice Charter* of 1964 first proposed the concept of holistic protection of cultural heritage, the promotion of this idea has expanded the scope of historic district preservation from individual buildings to broader elements such as urban fabric and spatial structure. Driven by this concept, the urban land plot—as a basic unit of spatial organization—has become an essential component in the preservation of historic and cultural districts. The morphology of a land plot not only directly affects the form and scale of the buildings within it, but also determines the spatial structure of the block, and thus influences the preservation and continuation of the urban fabric in historic city areas.

The reorganization and optimization of land plot forms within historic districts plays a significant role. The configuration of land plots directly impacts the integrity of spatial structure and the sustainable development of the block. However, in current domestic practice, strategies for protecting urban fabric and land plot morphology in historic districts remain at an early stage in both institutionalization and practical application. The role of the land plot as a regulatory and protective tool for the morphological structure of historic urban areas needs to be further strengthened.

As a key historic and cultural district in Yuexiu District, Guangzhou, the land plot configuration and regional fabric of the Anye Li (安业里) block have undergone continuous evolution and fragmentation over time, resulting in issues such as plot fragmentation and spatial-functional disjunction. Therefore, studying the repair of land plot morphology in the Anye Li historic district from the perspective of plot configuration holds not only significant theoretical value but also offers practical insights for the preservation and renewal of historic blocks.

1.2 Literature Review

1.2.1 Research from a Plot-Based Perspective

The plot is a fundamental concept in the European school of typo-morphological studies. Scholarly attention to the plot as a key determinant of urban form began with investigations into historic urban patterns, particularly the work of M.R.G. Conzen in the 1960s. In his theory of the urban landscape unit, Conzen identified three core elements—plan unit, building type, land and building utilization—that together define morphological regions. Among these, the street and plot patterns form the structural foundation, as they condition the development of the other two. The individual plot was seen as the most appropriate spatial unit for such studies, as it represents the smallest indivisible expression of land ownership and, therefore, of spatial decision-making.^[7]

Building upon this theoretical foundation, Professor Sergio Porta and Dr. Ombretta Romice from the University of Strathclyde proposed the concept of Plot-Based Urbanism in 2010. Plot-Based Urbanism is a spatially oriented planning framework that emphasizes adaptability and long-term sustainability in urban environments. It recognizes the foundational role of plots in shaping everyday urban fabric and focuses on the spatial relationship between plots and streets, as well as their influence on urban functions. This approach promotes plot systems that are small-scale, flexible in combination, and street-oriented, supporting incremental and resilient urban transformation.^[13]

Jonathan Tarbatt further advanced the theory into practical application in his book *The Plot: Designing Diversity in the Built Environment*, where he demonstrated the effectiveness and feasibility of using plots as a design tool to generate spatial diversity and fine-grained urban textures at the block scale.^[10]

In China, plot-based research has been primarily conducted within the framework of typo-morphology, which was introduced in the 1980s and initially applied in architectural design theory. In recent years, researches on urban spatial morphology have increasingly focused on plot patterns. For example, Liu Quan's *Plot Patterns: The Morphology of Land Subdivision* (2018) examined the relationships between plot, building, and street textures.^[37] In 2019, Dong Yinan analyzed plot organization in *the historical Xiaoxihu area of Nanjing and proposed a phased land expropriation model based on morphological principles*.^[19] In 2020, Liu Peng and Markus Neppel investigated the protective dimensions of plot patterns in *historical Chinese cities, covering aspects of urban form, planning control, and land ownership*.^[35] In 2022, Han Dongqing et al. further identified key mechanisms of plot-based urban design and suggested practical pathways for implementation.^[26]

The plot-based approach has proven to be particularly compatible with the integrated conservation of historical urban heritage in high-density environments. Consequently, research on plot-based interventions for regulating urban form and preserving traditional spatial structures has gained growing attention in recent years.

1.2.2 Research on the Traditional Linear Street Fabric along the Pearl River

Xiguan, as a traditional commercial and trading area in Guangzhou, possesses distinctive urban fabric and spatial characteristics that constitute valuable elements of regional cultural heritage. Among these, the linear street fabric developed along the Pearl River shoreline, shaped by the area's historical reliance on river-based transportation, is a notable form of urban morphology deserving preservation.

Existing scholarship on Guangzhou's traditional spatial patterns, the transformation of the Pearl River waterfront, and the bamboo tube houses of Xiguan has occasionally addressed this linear fabric. For example, in *A Study on the Morphological Evolution and Mechanisms of Guangzhou's Old City since 1949*, Huang Huiming defines such patterns as linear mixed-use street-block units.^[30] In *Urban Residential Form and Evolution in Guangzhou Since the Early 20th Century: A Typological Perspective*, Chen Jintang categorizes them as comb-like fabrics, further linking their formation to river transportation and the settlement patterns of the Danjia (疍家) people.^[16] However, current discussions on the traditional linear street fabric along the Pearl River are largely fragmented and lack systematic or dedicated research efforts.

1.3 Research Objectives and Significance

(1) Research Objectives

This study aims to examine and develop both theoretical and practical approaches to repairing land plot morphology in historic and cultural districts. Taking the Anye Li block in Yuexiu District, Guangzhou, as a case study, it analyzes the evolution of its plot configuration and the key issues currently faced, with the goal of proposing plot optimization strategies tailored to the needs of historic district renewal. The study seeks to achieve the following three objectives:

① To establish a theoretical framework for plot morphology repair

Through a theoretical review of plot-based urbanism and a practical analysis of Japan's land readjustment system, the study clarifies relevant concepts and influencing factors, highlights the critical role of plot morphology in the preservation and renewal of historic districts, and extracts a methodology suited to the current conditions of Guangzhou's historic areas and urban fabric. On this basis, it constructs a foundational framework for plot repair.

② To analyze the evolution of plot morphology in Anye Li

Using methods such as historical map comparison and field investigation, the study examines the formation of street networks, the transformation of historical fabric, the evolution of plot structure, and the spatial characteristics of Anye Li. It explores the close relationship between plot morphology, block functional order, and urban fabric.

③ To explore strategies and methods for plot morphology optimization

Drawing from domestic and international case studies where land plots are used as tools for regulating historic district renewal, the study analyzes various types of plot restructuring approaches. Based on the specific conditions of Anye Li, it proposes strategies such as plot recombination, spatial reconfiguration, and land-use optimization, with the aim of supporting the sustainable development of historic cultural districts.

(2) Research Significance

① Continuity of Urban Context: Preserving the Urban Fabric of Historic Districts

Urban heritage serves as a repository of cultural memory and a symbol of historical accumulation, carrying the past, present, and future of the city. In the process of urban renewal, the preservation of historic urban fabric and the continuity of spatial order in historic districts are vital tasks that must not be overlooked. Many existing historic districts are gradually losing their original cultural character in the course of modernization due to problems such as plot fragmentation, irrational land use, and the disruption of urban fabric.

This study seeks to repair and reorganize land plot morphology in order to preserve the historical fabric and spatial structure of blocks, enhance the appearance of internal buildings, protect traditional street layouts, and coordinate land use patterns—ultimately ensuring the continuity of urban fabric and fully presenting the spatial characteristics and values of historic cultural districts.

②Renewal of Historic Districts: Promoting Urban Regeneration and Block Vitality

Urban renewal has become a central issue in contemporary urban development. Historic districts within cities not only embody rich cultural and historical resources but also possess considerable development potential due to their favorable locations.

At the same time, many historic districts face problems such as inefficient space usage, industrial decline, and reduced community vitality, while traditional demolition-and-redevelopment approaches no longer meet current renewal demands. In response, this study aims to explore renewal models suitable for revitalizing historic districts through plot optimization and spatial restructuring, so that blocks can retain their historical character while

achieving functional improvement, economic revitalization, and enhanced spatial adaptability and sustainability.

③ Providing a Perspective for Plot Morphology in Historic District Conservation and Renewal

In current domestic studies on historic district renewal, more attention has been given to topics such as architectural preservation, landscape and visual character control, and industrial upgrading. However, research on plot morphology and its influence on urban fabric, spatial configuration, and land use remains underdeveloped and warrants further exploration. This study attempts to approach the issue from the plot level, conducting systematic analysis based on the interrelationship between plot configuration, spatial form, and block development. It aims to enrich the theoretical framework for plot morphology repair in the context of historic district renewal and to provide new perspectives and directions for future research.

1.4 Research Content and Methodology

This research focuses on the analysis and repair of land plot morphology in the Anye Li historic and cultural district along Renmin South Street in Yuexiu District, Guangzhou. It aims to explore how rational plot adjustments can optimize the spatial structure of the block while balancing the needs of historical preservation and modern urban development.

The study begins with a theoretical framework, centering on the theories of plot-based urbanism and Japan's land readjustment system, to examine the role of plot morphology in urban regeneration and historic district preservation. Plot-based urbanism emphasizes the land plot as the basic unit of urban spatial organization, playing a decisive role in land use, building form, and public space layout. On the practical level, Japan's mature land readjustment system offers a model for spatial redevelopment through property rights restructuring, road optimization, and functional reconfiguration. The integration of these two approaches provides both theoretical support for plot morphology repair and a systematic operational framework for spatial regeneration in historic districts. Building on this foundation, the study incorporates plot configuration analysis to investigate how plot morphology influences urban spatial order, and attempts to develop a methodology for plot adjustment suitable to the conditions of Anye Li in Yuexiu District, Guangzhou.

On this basis, the study conducts a systematic analysis of the plot configuration in Anye Li. By comparing historical maps, the research explores the historical changes in plot morphology in Anye Li, analyzes its spatial characteristics and patterns of transformation, and reveals how plot configuration changes have affected the block fabric, land use, and functional

layout. In addition, through on-site surveying and spatial structure analysis, the study identifies major current problems in plot morphology—such as fragmentation, mismatched functions, and inefficient space utilization—providing a foundation for the formulation of future repair strategies.

Drawing on practical experiences in plot optimization in historic districts, the study further compares different models of plot repair and summarizes the applicability of various approaches, including plot consolidation, functional substitution, and land use optimization. Based on the specific conditions of Anye Li, the study proposes appropriate plot optimization strategies—such as boundary adjustments, spatial reconfiguration, and functional restructuring—aiming to preserve the original urban fabric while improving land use efficiency, enhancing block vitality, and offering practical solutions for the sustainable development of historic cultural districts.

Finally, the study takes Anye Li as a case study to carry out practice-oriented urban renewal design and implementation guidelines from the perspective of plot configuration. It explores the application of plot morphology adjustment in urban renewal and provides theoretical and practical references for the preservation and regeneration of historic districts in Guangzhou and other regions.

The specific research methods employed include: (1) field investigation; (2) historical data collection and analysis; (3) theoretical research and literature review; (4) case study analysis.

1.5 Research Framework

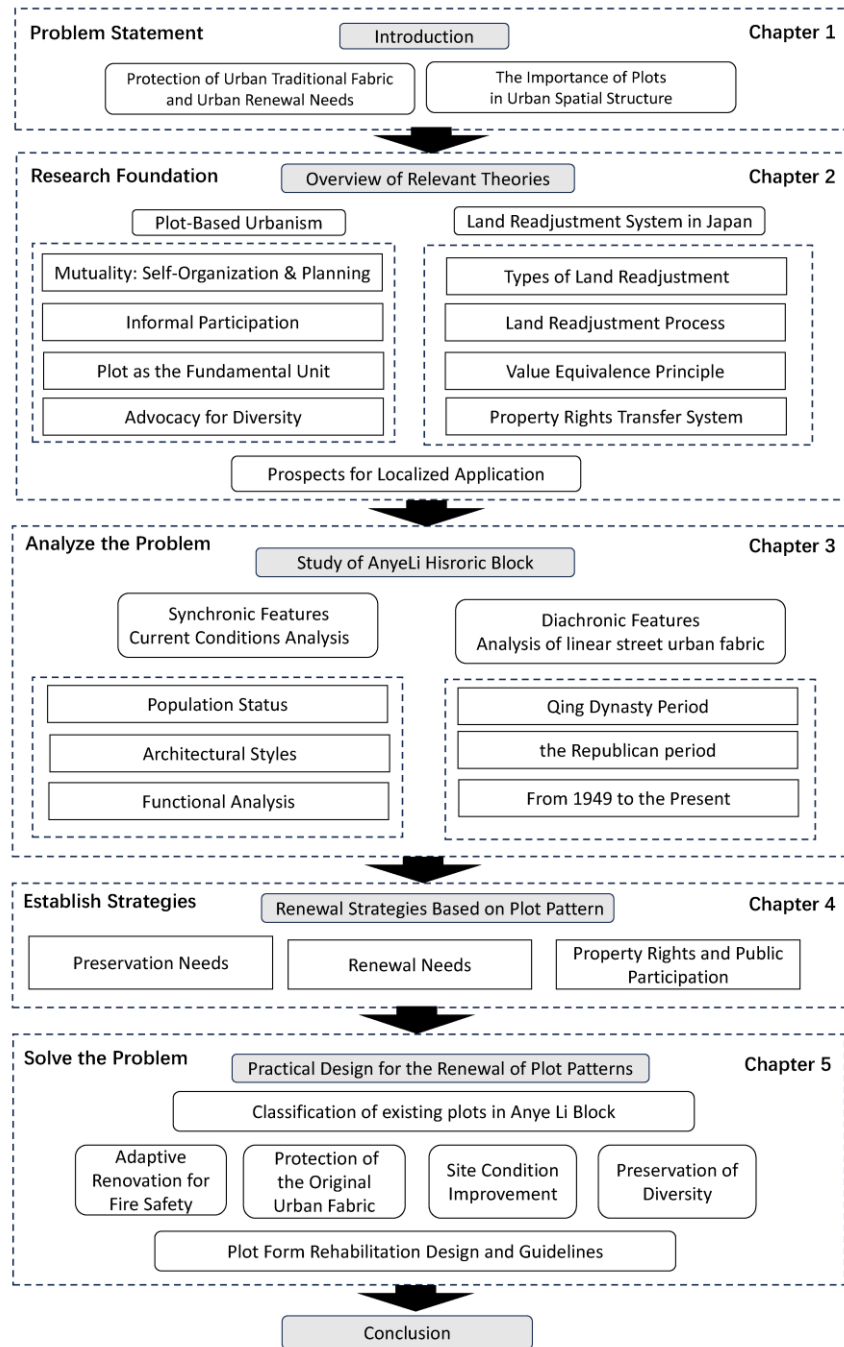


Fig.1-1 Research Framework

(Source: the Author)

Chapter2 Overview of Relevant Theories

The preservation and renewal efforts for the Anye Li historic and cultural district along Renmin South Street in Yuexiu District, Guangzhou, are primarily focused on its internal linear street-based urban fabric. The core research question centers on how to reconcile this historic fabric with the evolving demands of contemporary urban development.

As the smallest unit in the cadastral system, the plot serves as a fundamental element of urban development and plays a critical role in the preservation and continuation of historical urban fabric. This study derives its methodological foundation for understanding the functional role of plots and their practical restructuring from two sources: plot-based urbanism and Japan's land readjustment system.

Plot-based urbanism takes the land plot and the building forms it produces as primary tools for shaping dense and diverse urban communities. It emphasizes that the morphological diversity of buildings generated through plots can help blocks achieve environmental, economic, and social sustainability. This theory shows strong relevance to Anye Li's urban form, which features linear streets and densely packed small plots.

Japan's land readjustment system is a mechanism developed to consolidate land resources and redistribute value-added gains during rapid urbanization. Under the legal frameworks of the Land Readjustment Act and the Land Readjustment Enforcement Order, it clearly defines the implementation entities, funding and land sources, value assessment methods, modes of redevelopment, and degrees of public participation. This system offers high adaptability and guidance for managing the complex property rights landscape of the Anye Li Block.

2.1 Plot-Based Urbanism

Sergi Porta and Ombretta Romice from the Department of Architecture at the University of Strathclyde first proposed the concept of plot-based urbanism in 2010, advocating for a shift toward temporal awareness in place-making. As large-scale, single-use developments continue to dominate new urban areas, these emerging districts are increasingly losing their diversity and the fine-grained texture that once characterized vibrant cities.^[13]

A plot is the smallest unit of developable land. Within both the systemized, plan-led approach and the incremental, organic mode of development, plot-based urbanism identifies

the land plot as the key point of reconciliation—by reintroducing plot types with compact and mixed-grain textures into master planning frameworks, it seeks to harmonize the agendas of top-down and bottom-up processes, thereby maintaining diversity and resilience in the built environment.

2.1.1 Historical Context

The discourse surrounding the Garden City and the Radiant City gradually evolved in the latter half of the 20th century into the movement of New Urbanism—referred to in the UK as Place Making. In the wake of the Industrial Revolution and World War II, Western countries launched large-scale suburban housing developments in response to the rapidly growing demand for residential space. Massive low-density, low-rise housing zones emerged, with automobile-dependent, single-use suburban developments sprawling across the landscape. This uncontrolled spread led to a host of serious social problems, including racial and social segregation by geography, environmental degradation, traffic congestion, and monotonous housing patterns—often referred to as "cookie-cutter" suburbs.

The discipline of urbanism required a more fundamental transformation to address these issues. In the early 20th century, architecture shifted from being a practical art and experimental science—as it had been since the era of Palladio—to a branch of the visual arts, where the extraordinary came to dominate the ordinary, even though the everyday has always comprised the bulk of the city. As John Habraken noted, “The demands of the everyday environment are vastly different from what is required to create the extraordinary. Nevertheless, the profession’s self-image, publications and ways of working still cling to its roots in monumental architecture”.^[9]

Contemporary urban design still largely operates as an extension of architectural thinking. The everyday built environment, which is the city’s most fundamental and permanent structure, has long driven urban creation and evolution. Architects and urban planners should not treat the city’s everyday spaces as exceptional or peripheral cases.

In the writings of Christopher Alexander, systemic elements gradually adapt and interact over time, giving rise to complex geometric patterns. This process, rooted in common sense and characterized by subtle, incremental adaptation, is difficult to model using algorithms or algebraic formulas, yet it is essential to the functioning of the real world.

“The planners, building officials, construction companies, and engineers who have redefined everyday processes during the last 100 years, working in a broad context of algorithmic thinking, have, without explicitly intending to, destroyed a far more subtle process.

Until that subtle process is acknowledged, and then redefined in modern terms, it will not have the status it requires to play an effective role. The deep adaptation that nourishes the physical world requires this kind of adaptation. We can think of this adaptation process as a highly sophisticated computation, performed on real sticks and stones, producing deep and subtle results (...). All this is hardly more than common sense. Yet the fact remains that this kind of adaptive process does not currently have an acknowledged part in theories of algorithms, in developmental biology, in architecture, or even in system theory. It is not part of the mental models in our current toolkit.”^[5]

The central challenge, therefore, is to rediscover the fundamental properties and enduring structures of space, so that we can once again design the everyday environments of contemporary cities.

2.1.2 Organization and Planning Forms

S. Porta and O. Romice argue that the key lies in recognizing the role of self-organization within the composition of urban space. This implies conceiving the city as a layered and semi-networked structure composed of billions of projects and plans, with these layers continuously interacting over time. It brings recognition to a long-overlooked idea: self-organization is not synonymous with disorder; it is, in fact, a more advanced form of order. In reality, the most vibrant and successful parts of cities are often those that are least planned, meaning they are, by definition, more complex. The crucial element is adaptability, the ability of spatial configurations to evolve in response to changing needs over time. Moreover, self-organization in cities is not a substitute for planning; on the contrary, it is always the result of planning. What are often regarded as organically or spontaneously developed historic cores are in fact the outcome of layered transformations over time. Since their inception, these structures have largely been subdivided through planning, with such transformations commonly shaped by the accumulation and overlap of individual planned developments. ^[13]

Therefore, the notion that planning and self-organization are opposing concepts should be abandoned. To effectively manage vibrant everyday urban spaces and achieve human-centered design, what is needed is not a resort to unplanned scenarios or anti-planning alternatives, but rather an understanding of what forms of planning best support the establishment of spatial structures capable of adapting to future change. The realization of once-shared, even unconscious, knowledge through conscious and organized efforts, our "spontaneous consciousness".

Participatory planning has emerged in recent years as a commonly proposed model in anti-planning discourses. It involves formal public engagement processes through which residents or stakeholders reach consensus, aiming to resolve conflicts and balance interests through bottom-up coordination. According to S. Porta, the negotiation process and the “consensus” it produces in participatory planning amount to a tautological reasoning detached from reality: the agreement itself is seen as proof of its correctness, a logically self-validating position. Moreover, the consensus achieved is not immune to issues of populism or manipulative democratic appeal. As a result, public decision-making in urban contexts tends to yield the most competitive outcome under specific circumstances—an outcome that may not necessarily benefit the system as a whole. ^[12] On the other hand, participatory planning tends to focus on present-day stakeholders, often neglecting how design structures will respond to future change. Without adaptability to future changes, spatial structures—regardless of how democratically they were created—may ultimately prove unsustainable and even anti-democratic. The value of formal participation lies in its ability to bring information from residents’ lived experiences into the decision-making domain, making it indispensable for addressing large-scale urban challenges.

Beyond this, informal participatory processes, grounded in residents’ everyday, hands-on control over personal and collective space at various scales, are also seen as vital for reactivating flows of information between citizens and power structures. As illustrated in Jamel Akbar’s typology of ownership, control, and use over space (Fig.2-2), the forms of submission or compliance among stakeholders significantly influence the driving forces behind the creation, maintenance, and transformation of the built environment. ^[4] When ownership, control, and usage rights are separated, there is often a lack of intrinsic motivation for environmental upgrading. The overall rigidity of the system depends on both the number of stakeholders involved and the hierarchical structure of their mutual subordination. The self-organizing spatial conditions supported by pre-modern urban fabrics are unlikely to re-emerge under contemporary circumstances. If self-organization is to function in today’s cities, it must be supported by a specific mode of urban planning.

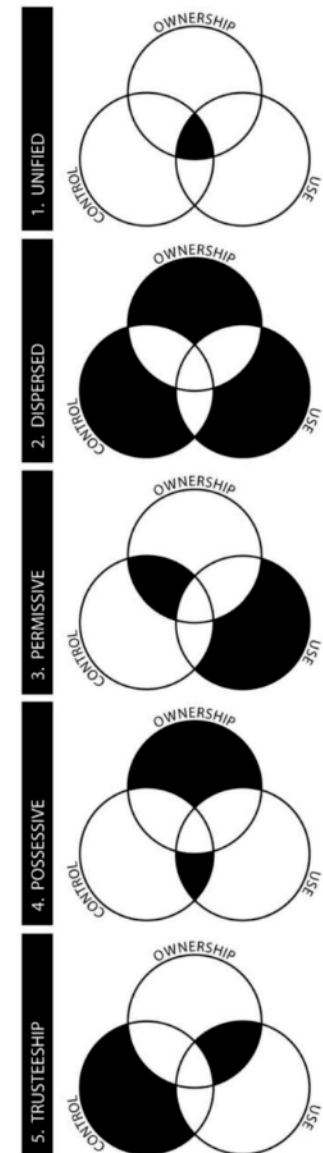


Fig.2-1 Typology of ownership, control, and use over space
(Source: Reference^[13])

Sergi Porta and Ombretta Romice propose the concept of urban seeding, emphasizing the need to strengthen informal participation and self-organizing space within a new form of contemporary urban planning. This echoes Christopher Alexander's idea that "This quality in buildings and in towns cannot be made, but only generated, indirectly, by the ordinary actions of the people, just as a flower cannot be made, but only generated from the seed."^[6] Urban seeding advocates de-emphasizing planning intervention as a singular creative act, and instead highlights its role as a starting point for adaptive spatial evolution. It aims to establish the "right" structural principles for place-making and subsequent control and transformation processes, allowing streets and communities to be formed through diverse, overlapping processes that collectively evolve over time.

2.1.3 Theoretical Proposition

Under the framework of urban seeding, Plot-Based Urbanism was introduced by Sergi Porta and Ombretta Romice as a spatial principle capable of adapting and evolving over time. Plot-Based Urbanism acknowledges the plot as holding fundamental significance within the ordinary urban spatial structure. It posits that elements such as plot shape, size, geometry, its relationship with the street and the street hierarchy, as well as how it contributes to the street frontage and ultimately to the formation of urban blocks, all influence human activity and urban functionality.^[13]

In the context of low-density, homogeneous, large-scale suburban development in the UK, urban structures characterized by diverse and fine-grained texture have once again been advocated. At its core, Plot-Based Urbanism calls for understanding that streets and their interfaces require diversity and adaptability in order to sustain vibrant urban life.

Academic emphasis on the plot as a key determinant of urban form began with studies on historic town plot patterns, particularly the research conducted by M. R. G. Conzen in the 1960s. Conzen demonstrated that urban form, or what he termed the "townscape", is determined by three elements: the layout of streets and plots (referred to as "town plan"); building structures; and building and land use patterns. For Conzen, the pattern of streets and plots was the most important among the three, as it provides the framework within which the other two operate. The individual plot is the most appropriate spatial scale for such studies, "because it represents the smallest indivisible unit of ownership in the townscape, and therefore also the smallest expression of decision-making."^[10] As the focus of this study, the definitions and meanings of 'plot' and 'block' need to be precisely defined. The following are the specific details:

(1) Plot

A plot (or cadastral parcel) is defined under China's legal framework as a land area or space enclosed by boundaries of land ownership.^[8] It is the smallest unit in the cadastral system. As a surveyed parcel of land, the plot is legally recognized as an independent entity, which distinguishes it from neighboring parcels. In plot-based urbanism, the plot is not necessarily the smallest unit of ownership. A large property may be subdivided into smaller plots without splitting land titles, yet the plot remains the fundamental unit of urban development. Varying the size of plots and their level of aggregation yields diverse urban forms in terms of scale and intensity.

(2) Block

A block is a land area defined by a grid of streets. In European urban contexts, three typical block types are widely recognized: the perimeter block, the terrace, and the pavilion block. Blocks vary in urban grain—close, medium, or coarse—depending on the size and arrangement of buildings within them. Perimeter blocks have been a common structure throughout European urban history, from the rigid grids of ancient Rome to the organically developed towns of the Middle Ages. They remained a dominant form until the modernist wave of the 20th century.

Perimeter blocks enable an active relationship between building frontages and public space, while internal courtyards provide flexible arrangements for private or shared use.

Terrace blocks, composed of continuous, side-by-side houses, are among the most ancient and widely used urban forms. They are organized along linear public spaces, with their length constrained by infrastructure capacity, walkability, and permeability requirements.

Pavilion blocks feature freestanding buildings set apart from their urban context. Traditionally, this type includes churches, castles, or other structures that are both symbolically and spatially detached from the surrounding fabric. After the rise of modernism, pavilion blocks became more common, although their detachment from the street diminished the street's traditional roles as connector and place of community interaction.

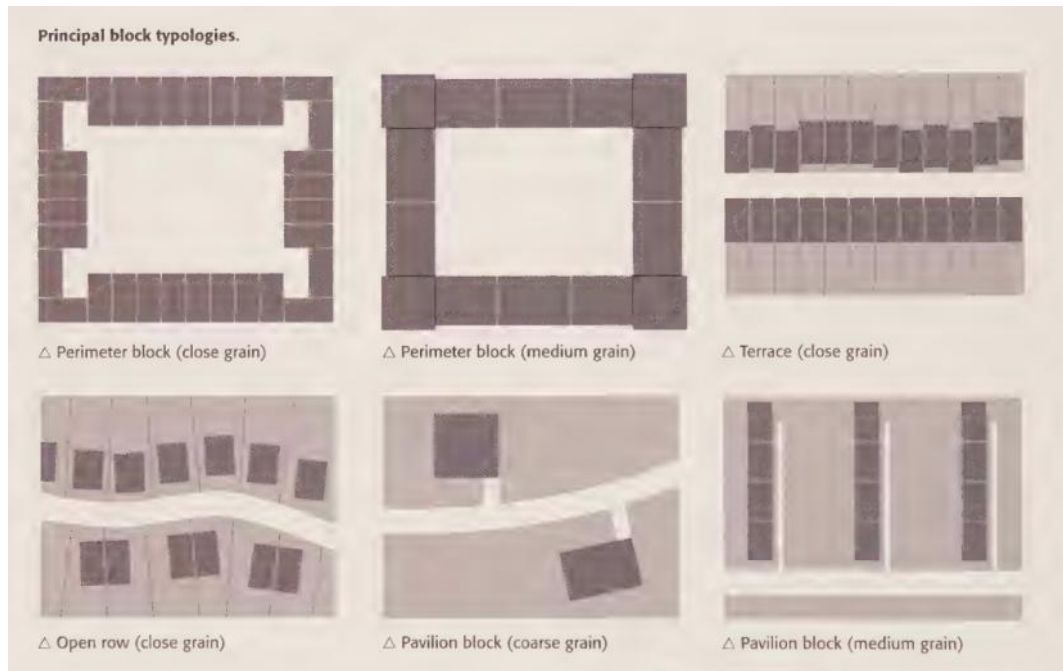


Fig.2-3 Typical European Block Types

(Source: Reference^[40])

2.1.4 Plot-Based Strategies

Jonathan Tarbatt describes the parcel-based strategy in terms of enhancing design diversity, promoting sustainable density, ensuring infrastructure and public service viability, and mixing compatible uses.

(1) Diversity

Design, as a predetermined human construct, cannot by itself produce genuine diversity. Therefore, the key to achieving diversity lies not in design itself, but in creating the right conditions for it to emerge. One way to foster diversity is by attracting multiple developers and designers to participate in a given project—a process largely determined by the size and subdivision of parcels, blocks, or plots in the master plan. The finer the development grain allowed by the master plan, the broader and more diverse the range of developers that can participate—resulting in a greater variety of uses, building types, and ownership models.

Hence, the answer to diversity lies not in the act of design, but in the design of conditions. Over time, different designers and stakeholders will contribute to an evolving environment that can adapt to changing conditions.



Fig.2-4 Block Segmentation Strategy Schematic

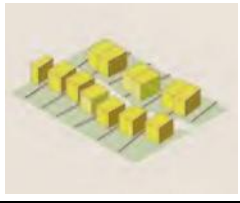

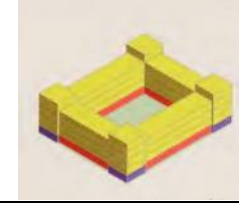
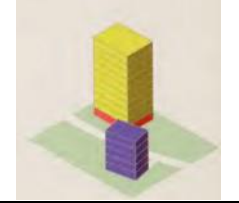
(Source: Reference ^[40])

(2) Promoting Sustainable Density

One of the challenges in developing fine-grained urban fabric is achieving a certain level of density while ensuring sustainability in land use and the provision of public infrastructure. Vertical circulation limitations—apart from the use of elevators—often restrict building heights in typical blocks to 4–5 stories; however, such lower-rise development tends to enhance human-scaled appeal.

In England and Wales, there is no nationally recognized standard for sustainable density, but it is generally accepted that higher-density Blocks are more sustainable than low-density ones. The now-superseded Pollution Prevention Guidance 3, which addressed sustainable land use in housing development, defined high density as 60 residential units per net hectare, and medium density as 30 units per net hectare. These benchmarks are considered representative of the high-density patterns typical of older suburban developments. In some new suburban development contexts, densities of 15 to 20 units per hectare are regarded as too low and unsustainable; therefore, a target average density of 50 units per hectare is often recommended as a more reasonable goal. In central urban locations, where land values are significantly above average, even higher densities may be required to ensure development viability.

Table2-1 Urban texture types and density (Source: Reference ^[40])

Type	Close-grain suburban	Close-grain urban	Medium to coarse-grain urban	Coarse-grain urban
Diagram				
Reference density	15-20 units per hectare	55-70 units per hectare	55-70 units per hectare	75 units per hectare
Diversity	Low	High	Low to medium	Low

(3) the Feasibility of Infrastructure and Public Services

Achieving sufficient population density within a reasonable walking distance is a key factor in determining whether sustainable economic and transport-based symbiosis can exist between communities and public services. The willingness of people to walk varies depending on the type of facility and is also influenced by the urban structure of the location.

Therefore, the key factors for delivering appropriate service facilities include: ① Population density, typically measured in persons per hectare (ppha); ② Accessibility standards, which involve expected walking distances for a given proportion of the population, as well as the urban structure and form that determine accessibility.

A 600-meter radius is commonly considered a reasonable accessibility threshold for public facilities and services in most areas, within which approximately 70% of trips are made without relying on motor vehicles.

(4) Compatible Mixed Uses

Different functions can be mixed vertically or horizontally in terms of use, where horizontal mixing is created by adjacent buildings side by side and vertical mixing can occur within the same building. A defining characteristic of traditional European street-facing buildings is the vertical integration of different functions.

From an urban design and planning perspective, activating ground-floor uses, such as shops, restaurants, or cafés, is desirable, as these functions, when paired with residential uses above, help to generate vitality in public spaces. Vertically integrating retail, commercial, and residential functions is advantageous, but it is often impractical to provide separate vertical access routes from the street to upper floors. As a result, mixed uses within a building frequently must share the same entrance and vertical circulation core.

In cases where ground-floor commercial spaces become vacant and must temporarily be converted to residential use, incorporating flexibility in the design becomes essential to accommodate functional change. Common adaptive design strategies include avoiding load-bearing walls in interior spaces and increasing the ceiling height on the ground floor.

2.1.5 Prospects for Localized Application

Plot-Based Urbanism advocates for diversity and sustainability, using the land plot as a fundamental tool to foster an environment suitable for planning urban spaces with resilience and variety. It seeks to strike a balance between systemized urban planning and incremental design. Its emphasis on organic growth and spatial diversity is highly relevant to the finely grained cadastral divisions and rich urban fabric of the Xiguan area in Guangzhou.

In terms of theoretical origins, Plot-Based Urbanism emerged as a critique of the homogeneous suburban development model associated with New Urbanism and was further developed by British urban scholars in response to local policies, planning systems, and the built environment. At present, applications of Plot-Based Urbanism have mostly been in the development of new suburban sites, with relatively limited practice in the context of urban renewal in historic city centers.

From the perspective of promoting diversity, Plot-Based Urbanism critiques Le Corbusier's Radiant City model and the problems associated with modern master planning. It aims to reintroduce diversity and human-scaled spaces into environments homogenized by systematic planning. However, if Plot-Based Urbanism is applied to Guangzhou's historic Xiguan district without contextual adaptation, it risks overlooking the diversity already embedded in the area's existing urban form.

Moreover, there are significant differences between suburban areas in Europe and North America and older urban Blocks in China, particularly in terms of industrial structure and population density. The ideal residential patterns proposed by Plot-Based Urbanism are often ill-suited to the highly compact, densely populated historic districts of Chinese cities. Nevertheless, the core goals of Plot-Based Urbanism, such as Christopher Alexander's organic thinking and Jane Jacobs' advocacy for diversity, align well with the current conditions of Guangzhou's historic districts, which are characterized by high density, functional mix, and a socially layered population. The key to localizing Plot-Based Urbanism lies in identifying plot configuration patterns and residential typologies that respond to the specific environments and realities of China's historic urban Blocks.

2.2 Land Readjustment System in Japan

A plot is the smallest unit in the cadastral system, defined as a closed parcel of land enclosed by boundaries of ownership. In a cadastral map, elements such as boundary lines, building placement and attributes within the plot, and relationships with adjacent plots all reflect the rights and interests of various stakeholders in the land or buildings. The plot pattern is a pattern of division and arrangement of ownership plots formed during the evolution of town development, and is also a morphological element reflecting the structure of land ownership.^[36] The Anye Li block has a chaotic property rights structure due to the destruction of the Second World War, spontaneous construction, and many other historical factors. Therefore, plot reconfiguration in such a high-density and fragmented ownership context requires a well-developed operational model drawn from systems with proven practical experience.

Japan has been operating the renewal of high-density urban areas in an orderly manner in spite of the extremely high urban population and building density. Such success stems from the land readjustment system. Land readjustment system is one of the systems of urban planning law in Japan, which aims to improve the utilization of residential land through land zoning development and improvement of public facilities such as roads, parks, and rivers, and it is also the most important and widely used program in urban planning in Japan, which realizes the balance of income and expenditure in acquiring land for public facilities and reconstructing urban land through methods such as reduction of land plots and exchange of land, and promotes urban construction without touching on the thorny issue of land. [44]

2.2.1 Historical Development

The City Planning Act is the foundational law of Japan's urban planning legal system, overseeing land laws including the Land Readjustment Law (LRL) and the Expropriation of Land Act. Enacted in 1954, the Land Readjustment Law aims to promote the execution of land readjustment projects by stipulating essential elements such as project implementers, methods of implementation, and cost allocation. Its ultimate purpose is to support the development of well-structured urban areas and to enhance public welfare. According to the Land Readjustment Law, land readjustment refers to the reconfiguration of land divisions and the establishment or modification of public facilities within designated urban planning areas, with the goal of improving public infrastructure and enhancing the utilization of residential land.

(1) Origins and Early Development

Japan's land readjustment system originated from the enactment of the Farmland Consolidation Act in 1899, which was closely linked to early efforts to consolidate agricultural land within the country. Following the Meiji Restoration of 1868, Japan entered a modern era in which the government actively studied advanced Western technologies and systems—including European farmland consolidation methods—and based the Farmland Consolidation Act of 1899 (known as the Old Farmland Consolidation Act) on legal models such as Germany's land readjustment system. The primary objective of this legislation was to consolidate fragmented agricultural plots in rural areas to enable larger-scale, modern agricultural production.^[25] Its emergence was directly tied to the translation and adoption of the German legal system by Japanese scholars and the Ministry of Agriculture and Commerce during that period. According to Teruaki Tamura, the procedural provisions concerning rights (Chapters 1, 2, and 5 of the 1899 Farmland Consolidation Act) were primarily based on the land readjustment laws of three southern German states, while the provisions regarding administrative

organization (Chapters 3 and 4 of the same law) were derived from Prussian law.^[42]

Japan's legal system draws a clear distinction between public and private law. The significance of the Old Farmland Consolidation Act lies in its establishment of the land exchange disposition system, whereby contractual actions under private law were redefined as administrative dispositions under public law—i.e., legal acts carried out with public authority. The land exchange disposition thus became a process of transferring ownership of the exchanged plot to the recipient as an administrative disposition under public law, meaning that its implementation was carried out by administrative authorities.

(2) Institutional Evolution After the 20th Century

As Japan entered the 20th century, land consolidation originally designed for agriculture increasingly began to be used for residential development in major cities in response to rapid urbanization. To cope with urbanization, local governments across Japan began introducing ordinances in the early 20th century to provide subsidies for land readjustment projects intended for housing development. The City Planning Act enacted in 1919 was the first to formally incorporate land readjustment into urban planning, defining its primary goal as promoting the use of urban planning area land for residential purposes. Land readjustment was able to function as a tool for urban planning in Japan because its institutional framework, including project implementers, land use control decisions, cost-sharing mechanisms, and procedural steps, could be directly adapted from the earlier agricultural land consolidation model.^[33]

In 1923, the Great Kanto Earthquake struck, causing widespread devastation in the Kanto region, home to Tokyo and Yokohama, which, as Japan's most densely populated political, economic, and cultural hub, suffered severe losses, particularly in the collapse of poorly earthquake-resistant wooden structures. In December of the same year, the Former Special City Planning Act was promulgated as Law No. 53, enabling land readjustment projects within existing urban areas to support post-earthquake reconstruction in Kanto's towns and cities.

The law permitted "residential land with existing buildings" to be included in land readjustment, stipulated that the associated costs be covered by public institutions, and introduced measures such as the "10% free contribution rule" and the establishment of a compensation review committee. Article 6, concerning "designated land for exchange," was particularly significant: it allowed the use of exchanged land without waiting for the final stage of the exchange disposition process. This meant that building construction could proceed almost simultaneously with land exchange design and street block layout. This system greatly improved the feasibility of implementing land readjustment in already developed urban areas. The enforcement of the Former Special City Planning Act accelerated the evolution of Japan's

land readjustment system and helped embed it more broadly and deeply into practical urban planning practice.

(3) The Enactment of the Land Readjustment Law

After World War II, Japan's urbanization accelerated, and urban areas faced a rapid increase in population and economic activity. At that time, Japan urgently needed to address the completion of postwar recovery land readjustment and resolve issues such as the downsizing of urban reconstruction projects due to fiscal constraints, delayed development, and housing shortages. In response to these challenges and to promote large-scale suburban housing development, calls grew for the creation of a dedicated land readjustment law as an independent legislative framework.

In the 1960s, Japan transitioned from postwar recovery into a period of rapid economic growth, accompanied by accelerated industrialization and urbanization. The urbanization rate increased from 28% in 1950 to 43% in 1960, with massive population inflows into the Tokyo, Osaka, and Nagoya metropolitan areas. Under the combined pressures of limited agricultural land and population surge, land ownership in Japan became highly fragmented. As a result, peri-urban agricultural zones were significantly affected by urban expansion and faced urgent land-use adjustment needs. To address issues arising from urban expansion—including land reallocation, transportation, and environmental concerns—a series of special laws were successively introduced.

On the other hand, the land consolidation system under the Farmland Consolidation Act had proven effective for both farmland and residential land development. However, due to agricultural reforms, the Farmland Consolidation Act was repealed in 1949 and replaced by the Land Improvement Act, which inherited the prewar land improvement framework and restructured self-farming systems. Consequently, the legal basis for land consolidation was lost. To address the procedural ambiguity caused by reliance on an already repealed law, there was an urgent need to establish the Land Readjustment Law.

In this case, Japan enacted the Land Readjustment Law (LRL) in 1954 as a special law. The law aimed to promote the implementation of land readjustment projects by stipulating essential elements such as project implementers, methods of execution, and cost-sharing mechanisms, thereby supporting the development of well-structured urban areas and enhancing public welfare.^[44] After the enactment of the Land Readjustment Law, the remaining land adjustment systems were effectively phased out.

From the development of land readjustment in Japan in the 20th century, it can be seen that the introduction of the readjustment law was not the creation of a new system, but rather

the codification of an act that had already been carried out in practice for some time, and the institutionalization of Land readjustment was established on the basis of the inheritance of the successful experience of the cultivated land readjustment law, the old special urban planning law, and other laws on the development of residential land, as well as the results of reconstruction in the wake of earthquakes, wars, and other disasters. Land readjustment is one of the most important aspects of urban planning in Japan. Land readjustment projects are one of the most important components of urban planning in Japan. By reorganizing land subdivision patterns, they enhance land-use efficiency within a given area and establish a suitable spatial foundation for further urban development.

2.2.2 Main Content and Implementation Process

(1) Main Content

The purpose of land readjustment projects is to contribute to the enhancement of public welfare by promoting healthy urban development. Achieving this objective requires the comprehensive advancement of the following measures to improve public infrastructure and facilitate residential land use:

- ①Construction or improvement of public facilities (such as roads, parks, rivers, etc.)
- ②Modification of land parcel characteristics (including housing development, reconfiguration, and reshaping of plots)
- ③Promotion of operations required for land use (water and sewer, gas facilities, etc.)

Article 2, Paragraph 1 of the Land Readjustment Law stipulates that a land readjustment plan is “a plan implemented in accordance with this law that modifies the characteristics of land parcels and constructs or alters public facilities, aiming to improve and develop public infrastructure and enhance the utilization of residential land within urban planning areas.”

A land readjustment project refers to a development approach in which, in areas requiring the construction of public facilities such as roads, parks, and rivers, landowners are required to contribute (cede) portions of their land in proportion to their ownership. These lands are then consolidated for public use, and part of the land is sold to generate funds for the project.

The portion of land allocated for public purposes is referred to as the public contribution; the portion designated for sale as reserve land is called the reserved land contribution. The total of these two is referred to as the total land contribution.

For landowners, the area of residential land retained after a land readjustment project is generally smaller than before; however, the project provides more usable residential land by developing public infrastructure such as roads and parks, and by leveling and improving the

condition of the plots.

(2) implementing body

The parties responsible for carrying out land readjustment projects include individuals, land readjustment associations, land readjustment companies, prefectural and municipal governments, the Minister of Land Infrastructure Transport and Tourism, and the Urban Renaissance Agency.

(3) Types of Land Readjustment Projects

In Japan, there are three types of land readjustment projects: suburban development type, built-up urban area improvement type, and public facility construction type. The purpose of the suburban development type is to develop residential land and other uses in areas that have not yet been urbanized, thereby creating the conditions for forming Blocks and residential districts. The built-up urban area improvement type aims to construct residential blocks and improve densely developed existing urban areas. The public facility construction type is intended for building public facilities and improving the conditions of existing public infrastructure. Some land readjustment projects under the built-up urban area improvement type are intended to revitalize city centers. These aim to restore vitality to central business districts that are experiencing decline by reorganizing blocks, consolidating underutilized land, and upgrading infrastructure. These efforts are coordinated with a range of commercial, welfare, and cultural policies to promote the siting of core commercial facilities, public amenities, and apartment complexes, thereby revitalizing central business districts.

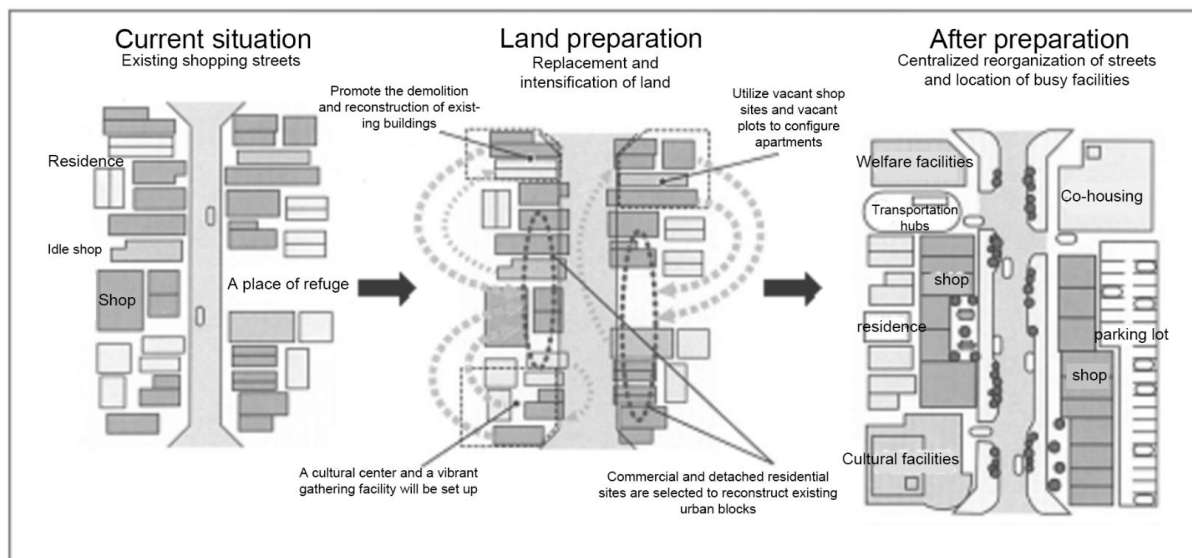


Fig.2-5 Illustrative Diagram of Land Readjustment Project Utilization

(Source: Osaka City Website)

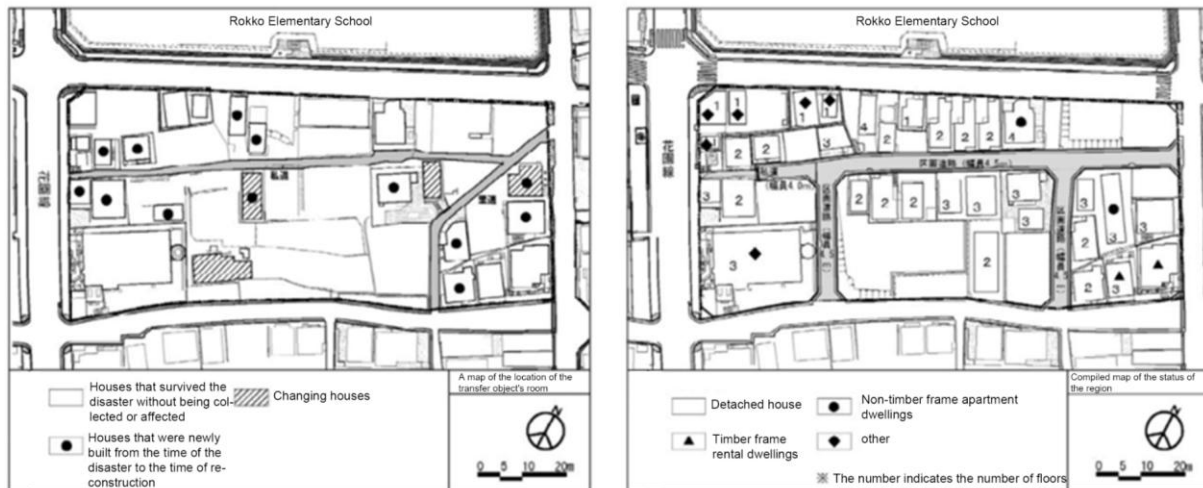


Fig.2-6 Comparison of Land Readjustment Before and After in a Densely Populated Residential Area of Kobe, Japan (Source: Reference ^[40])

(4) Basic Principles

Land readjustment is carried out within designated areas specified by urban planning, following the “correspondence principle.” This principle refers to the method of determining post-readjustment plots by referencing factors such as the original location, area, soil quality, water access, usage, and environmental conditions of the land prior to readjustment. It is also known as “land replotting.”

The process reorganizes irregular and fragmented privately owned land into a planned layout. By requiring landowners to contribute a portion of their land, the necessary area for public facilities is secured. This enables the construction and improvement of public infrastructure such as roads, parks and drainage systems. It also improves the efficiency of residential land use. In practice, land readjustment projects involve landowners within a designated area - where roads, parks and other public facilities are to be built - contributing some of their land. The contributed land is then consolidated. One portion is allocated to public use, such as for roads and parks, while another portion is sold, and the proceeds are reinvested into local development projects. Ultimately, this results in leveled plots, improved infrastructure, and increased land value across the area.^[46]

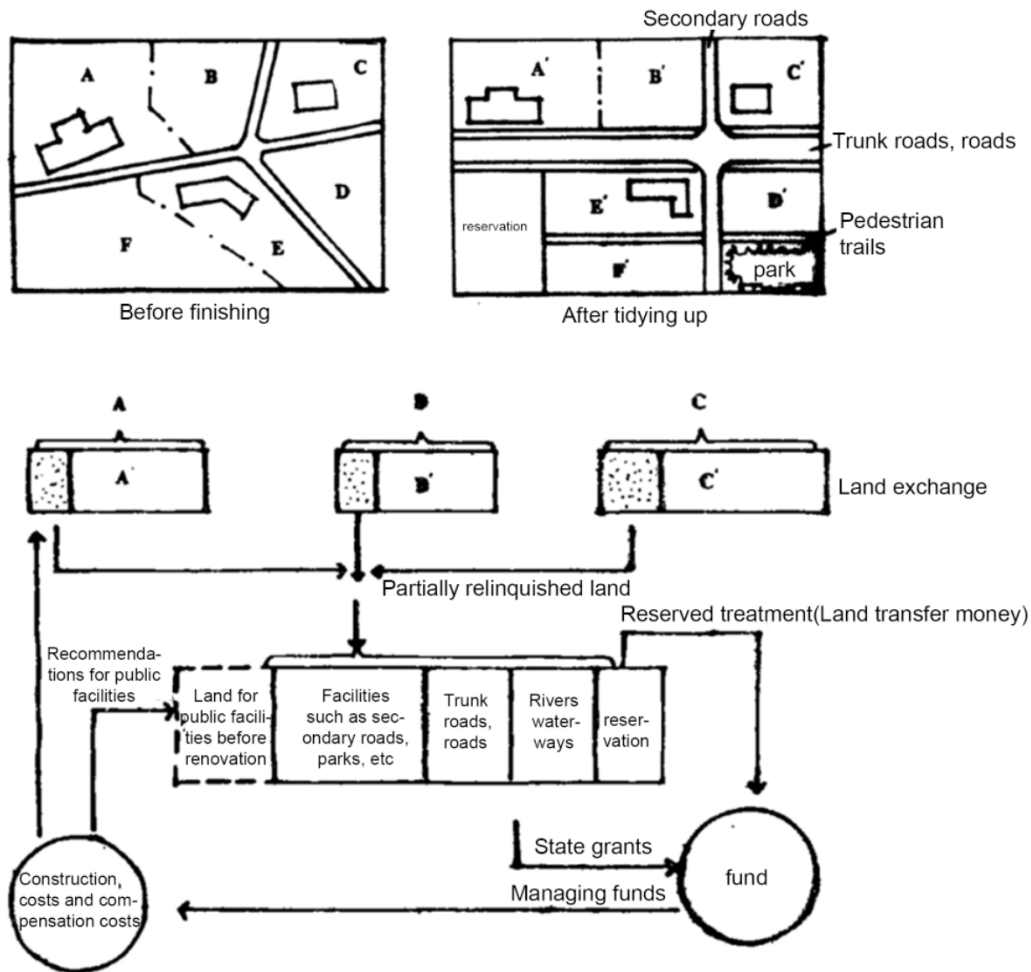


Fig.2-7 Diagram of Land Readjustment Model in Japan

(Source: Reference [8])

(5) Implementation Steps

The process of a land readjustment project is shown in the accompanying diagram (Fig.2-8). The area where a land readjustment project is implemented is determined through urban planning. For urban planning projects, even when implemented by individuals or associations, the project must go through the official city planning decision-making procedure. The enforcement ordinance sets out the rules that both enforcement officials and land rights holders must follow during the land readjustment project. The project plan includes four components: the implementation area, design outline, implementation schedule, and financial plan. Land replotting refers to the transfer of ownership rights from the original residential land to a newly allocated replacement parcel. At this stage, the settlement amount is also confirmed. When registering the replotted land and related buildings, the developer will complete the land and building registration changes in a single process. Any imbalance in land value between

landowners resulting from the replotting process will be settled in cash.

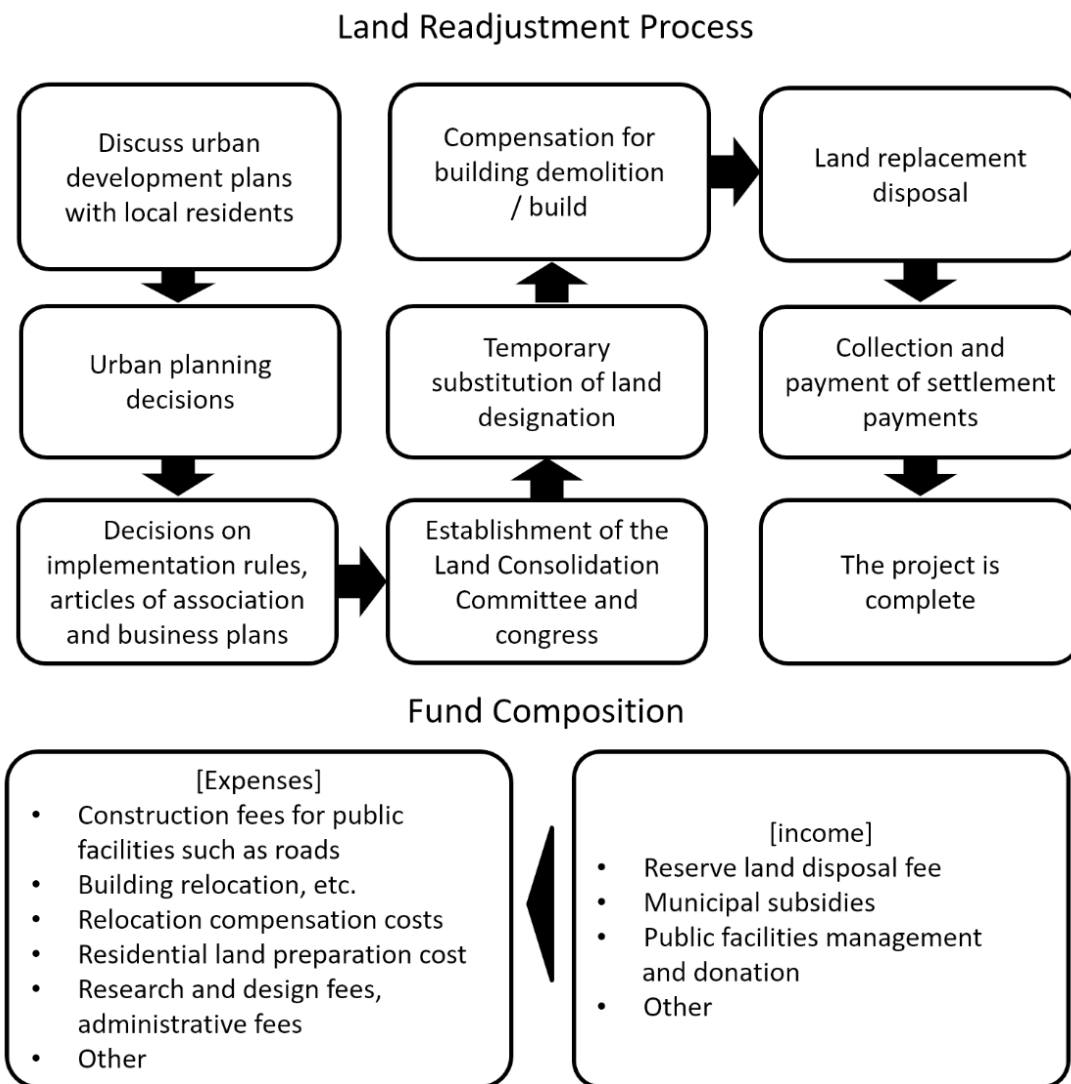


Fig.2-9 Process and Fund Composition of Land Readjustment in Japan

(Source: the Author)

2.2.3 Implications for Urban Land Readjustment in China

Beginning in the 19th century during the Meiji Restoration, when Japan introduced the Farmland Consolidation Act by referencing legal systems from various German states, the country's land readjustment system has undergone over a century of localized adaptation and continuous refinement in response to evolving societal needs. It has gradually developed into a complex, comprehensive, stable, and effective legal framework, and is now one of Japan's most representative urban planning tools. The Farmland Consolidation Act enacted in 1899 shares certain provisions with the current Land Readjustment Law (Law No. 119 of 1954), such as the "two-thirds" rule for collective decision-making among stakeholders during the implementation

of land readjustment projects. [5]

Under the current Land Readjustment Law in Japan, a land readjustment project can only proceed if more than two-thirds of residential landowners and residential leaseholders within the proposed area give their consent, and if the total land area they represent accounts for at least two-thirds of the total residential land in that area.

Building on the previous legislation, the Land Readjustment Law introduces a collective decision-making mechanism that considers both the number of stakeholders and the size of the land they own, thus comprehensively protecting the overall rights of landowners. This improvement reflects how the rules governing land readjustment have continued to evolve in response to accumulated practical experience.

Japan's urban form is characterized by high density and small parcels, with extremely dense building layouts, which closely resemble the spatial features of Guangzhou's old urban districts. By using techniques such as land reduction and land replotting, Japan has managed to maintain orderly redevelopment in high-density urban areas despite the extreme concentration of population and buildings. Therefore, Japan's land readjustment system offers valuable insights for updating and regenerating old urban areas in Guangzhou.

2.3 Summary

The theory of plot-based urbanism advocates using the plot as a fundamental unit in urban design, with a focus on preserving the traditional density patterns, diversity, and sustainability of the urban fabric. Japan's land readjustment system, through techniques such as land reduction and replotting, has enabled the orderly renewal of high-density urban areas despite extremely high population and building densities.

Building on both theoretical and practical foundations, this study argues that proposing a strategy for preserving and renewing high-density historic residential districts—using plot configuration as a central tool, is both reasonable and well suited to the conditions of Guangzhou's old urban areas.

Chapter 3 Study of the Anye Li Historic Block

The historical urban fabric of the Anye Li Block demonstrates strong regional characteristics in terms of its formation mechanisms, as it is the result of multiple factors, including the shifting of the Pearl River shoreline and the development of river-based transportation. It reflects the flourishing of Pearl River shipping and foreign trade culture during the Ming and Qing dynasties in Guangzhou, and therefore holds considerable heritage value. This chapter analyzes the current conditions of the Anye Li Block and its key conservation elements, identifies the challenges and needs related to its renewal, and explores the common characteristics embodied in its spatial street layout, architectural forms and styles, and decorative details, in order to inform renewal strategies that respond to the district's original regional identity.

3.1 Introduction of the Research Object

3.1.1 Overview of the Anye Li Block

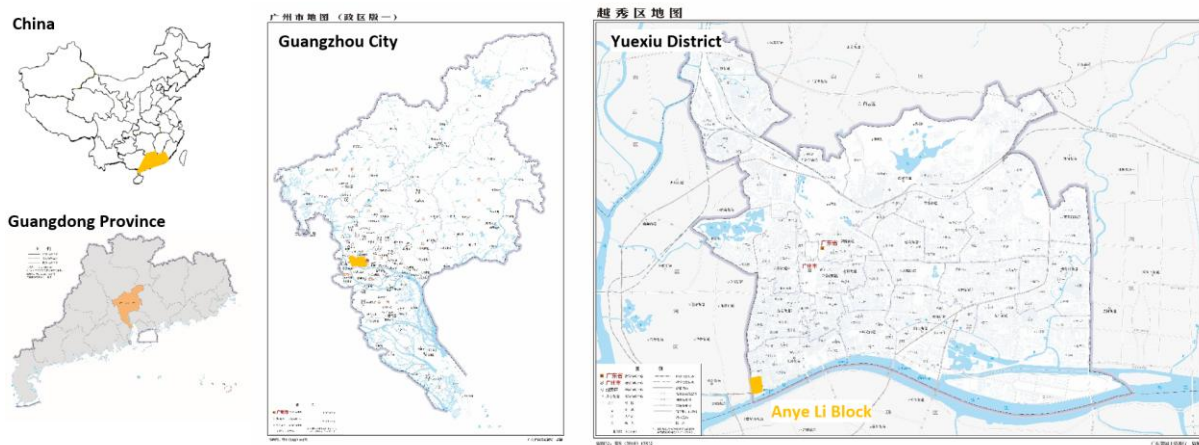


Fig.3-1 Location of Anye Li Block

(Source: the Author)

The Anye Li Block in Yuexiu District, Guangzhou, is located within the Renmin Nan Historic and Cultural Block. The study area, Anye Li Block, is defined by Renmin Nan Road, Renji Road, Renji West Road, and Xihao Second Lane. The block covers an area of 3.45 hectares. During the Ming and Qing dynasties, the area now known as Anye Li Block was situated south of the Jiyi (鸡翼) city wall and east of the Thirteen Factories, separated from the

3.1.2 Population Status

The Anye Li community exhibits notable characteristics of high population mobility and population aging. According to the community bulletin, the Anye Li community contains 1367 registered households, including 1210 non-residential registered households and 156 residential registered households. The total registered population is 3111, with approximately 2524 non-residential registrants and 587 actual resident registrants. There are about 755 members of the floating population from outside Guangzhou.

The community includes 46 households receiving minimum subsistence support, 2 low-income households, 114 people with disabilities, and 36 elderly people living alone, including 14 classified as extremely disadvantaged individuals, among whom 2 are orphans. Non-residential registered individuals account for as much as 81.13 percent of the total registered population. The ratio of resident registered individuals to the floating population is 1 to 1.286, indicating high population mobility in the area. The community's everyday population primarily consists of two groups: local residents and the floating population.

In the Seventh National Census, 11.71 percent of the population in Renmin Subdistrict, where Anye Li is located, were aged between 0 and 14. People aged 60 and above accounted for 24.41 percent, including 16.49 percent aged 65 and above. According to the United Nations 1982 Vienna International Plan of Action on Aging, which defines an aging society as one in which over 20 percent of the population is aged 60 or above, the Renmin Block area has already entered a moderately aged phase and is advancing toward a severely aged stage.

The current users of Anye Li Block consist mainly of three groups: original residents, tenants, and outside workers. Among the outside workers, the main groups are those working in the clothing wholesale industry and in the food and hospitality sectors. The original resident population is significantly aged.

3.1.3 Current Building Conditions



Fig.3-4 Current photos of Anye Li Block

(Source: the Author)

Located in the old city area, the Anye Li Block is primarily composed of low-rise buildings with three to four stories, built with brick-wood structures and mixed-frame construction. There are two residential buildings in the area that are six stories or taller. The block contains one officially listed historic site: the Nanhua Building (南华楼) of Jianan Tang (New Asia Hotel) located at 8–12 Renmin Nan Road. There are currently 1208 rental units in the block, including 296 residential units, 445 rooms that have been informally converted from residential to storage use, and 467 used for commercial or office purposes. In terms of architectural character, most buildings were constructed in earlier periods. While many possess some heritage value, their living conditions and exterior appearances require improvement.

Traditional architectural types in the area are mainly bamboo houses and old-style walk-up apartment buildings with one staircase shared by two units per floor. However, both types are limited in terms of interior space and natural lighting quality.

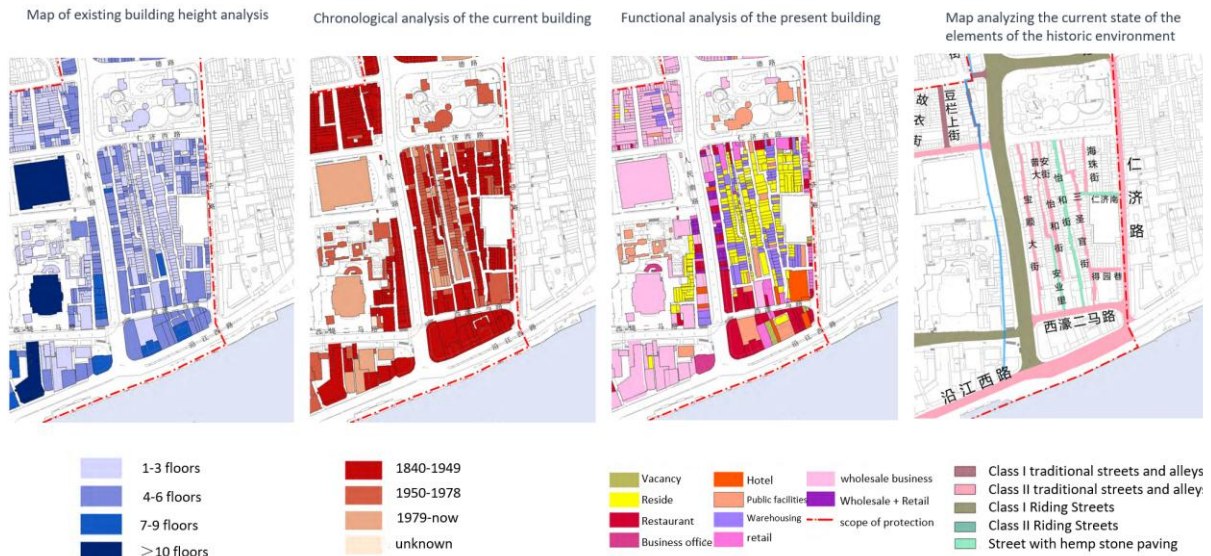


Fig.3-5 Analysis of the current situation of Anye Li Block

(Source: Reference [12])

According to the analysis of current building heights in the Anye Li Block, the area is predominantly composed of low- to mid-rise buildings. Structures with one to three stories are widely distributed and occupy most of the block, forming a spatial pattern characterized by high density and compact grain. Mid-rise buildings of four to six stories are mainly located in the inner and eastern parts of the block. There is only one building with more than seven stories, situated in the southwestern part of the block, which is a residential building constructed in the late 20th century. Due to building height restrictions associated with its designation as a historic and cultural block, Anye Li has seen limited development of mid- to high-rise structures. Most buildings in the area maintain the traditional height range typical of Xiguan-style urban blocks, preserving the human-scale proportions of the historical Block.

The building age distribution map of the Anye Li Block reflects a diversity of construction periods. Most buildings in the block were constructed after 1949, indicating a wave of spontaneous large-scale reconstruction and renewal that followed wartime destruction. Buildings constructed between 1950 and 1978 are concentrated mainly in the inner areas of the block and are primarily residential in function. Along Renmin Nan Road to the west and Renji Xi Road to the east, most of the arcade-style streetscape and adjacent buildings were built during the Republican period, bearing significant historical value and marking key phases of local development. The block presents a mix of older and newer buildings, but the overall building stock is relatively old, displaying signs of organic urban transformation while retaining elements of traditional buildings.

The current building use within the Anye Li Block is highly mixed. While residential use remains dominant, there is a clear trend of spatial hybridity and functional transformation. The interior of the block is largely composed of residential buildings. However, influenced by the surrounding garment wholesale market, many ground floors of residential buildings have been informally converted into storage spaces—a phenomenon referred to as “residential-to-storage” conversions. In these cases, original residential units are repurposed for warehousing, replacing their initial function. In addition, some buildings have portions of the ground or upper floors rented out as “labeling workshops.” These workshops are a key part of the wholesale garment supply chain, where workers manually affix brand labels or rebrand unmarked garments. Both residential-to-storage conversions and the use of rooms for labeling represent clear shifts from the buildings’ original residential function, reflecting a broader industrial transformation in building use driven by proximity to the garment wholesale industry.

Based on the current analysis of historical environmental features, the Anye Li Block has largely retained its traditional street network. Most of the eastern portion of the block continues to exhibit the linear street urban fabric. This linear fabric has not been significantly disrupted by spontaneous urban renewal and retains a strong sense of spatial continuity. Among the preserved features are the granite-paved alleys, or “mashi streets,” which are emblematic of traditional Guangzhou lanes and constitute important heritage elements. The narrow width of streets and alleys within Anye Li prevents automobile access, meaning mobility within the block relies largely on bicycles and electric scooters. This illustrates the functional limitations of traditional alleyways in the context of a modern urban environment.

3.1.4 Architectural Styles

The architectural styles in the area can be broadly divided into five types: standalone bamboo houses, old-style row apartments, Qilou buildings, non-traditional buildings with five stories or fewer, and non-traditional buildings with more than five stories.

(1) the bamboo house

Bamboo houses are a typical form of traditional Lingnan dwellings, and most of the residential buildings in the Anye Li area are standalone bamboo houses. The bamboo houses in this area were mainly built during three periods: the Republican period, the early years of the People’s Republic through the 1980s, and after the 1980s.

The remaining bamboo houses from the Republican period are mostly built with brick and timber structures. They feature sloped roofs with traditional tile coverings, relatively long building depths, typically over six meters, and traditional sliding lattice doors. Their internal

layout is similar to that of traditional Xiguan mansions, though smaller in size, with an open skylight in the roof to allow natural light inside.

Unlike the “one household - one house” model of traditional Xiguan mansions, most bamboo houses from the Republican period in Anye Li have been converted into public housing due to wartime damage and policy shifts, now accommodating multiple households. Field research shows that the original living room area in a single bamboo house has often been divided into an independent unit with basic functions including a living area, bedroom, kitchen, and shower. Other spaces are used by different households or as storage areas. These conditions reflect that some bamboo houses in Anye Li have poor living environments, with a large number of residents sharing a single building, and that there is an urgent need to optimize and update spatial functions.

Bamboo houses built in the period from the founding of the People’s Republic through the 1980s mostly retain traditional features in their facades and floor plans, such as the three-part composition of doors and windows and decorative elements on windows and balconies that reflect the style of Xiguan architecture. However, due to a lack of regular maintenance, the building exteriors have deteriorated significantly. Later additions of exposed utility lines are disorganized, which has negatively impacted both the architectural appearance and daily functionality.

Bamboo houses built after the 1980s typically use frame structures, and their exterior walls are often finished with ceramic tiles or other waterproof modern materials. Traditional sliding doors have been replaced with modern entrance doors. The building facades no longer strictly follow the traditional three-part design due to larger window openings. Overall, the internal living conditions have improved significantly compared to earlier periods.

(2) Old-Style Row Apartments

Old-style row apartments refer to multi-story residential buildings where two households on each floor share a common staircase. These buildings exhibit both traditional and modern architectural features. This type of housing was popular around the Republican period and can be seen as a more compact and intensified evolution of the traditional bamboo house. The corresponding plot form may either be a single wide-frontage plot or two adjoining plots developed jointly.



Fig.3-6 Two types of traditional residential units within the site: standalone bamboo houses and old-style row apartments. (Source: the Author)

(3) Qilou buildings

Qilou buildings are arcade-style structures that first appeared in Guangzhou in the early 20th century. The ground floor of a Qilou typically includes street-facing shops and a continuous covered arcade, offering pedestrians shelter from sun and rain, while the upper floors are generally used for residential purposes.

In 1918, Guangzhou launched a campaign to demolish its city walls and build new roads. Around the same time, Qilou buildings rose to prominence and became a traditional form of commercial space in the city. Streets lined with Qilou buildings offer protection from wind, rain, and sun, making them especially well-suited to the subtropical climate of the Lingnan region. The Qilou street on the western side of Anye Li Block is adjacent to Renmin Nan Road and was a bustling commercial area of Guangzhou during the 1920s. The architectural style of Qilou buildings combines elements of European design with traditional Chinese architectural features. One of the most distinctive decorative features of Qilou buildings is the Manchurian window, which consists of traditional Chinese wooden frames inlaid with colored glass in various geometric shapes, offering both variety in form and elegance in color.



Fig.3-7 Manzhou (满洲) windows in Anye Li Block.

(Source: the Author)

The Jianan Tang (嘉南堂) Nanhua Building in Anye Li Block is one of the earliest examples of Western-style Qilou buildings in Guangzhou. It was designed by Yang Xizong, a well-known modern architect from the Lingnan region. Nanhua Building covers a land area of 500 square meters and has a total floor area of 3400 square meters. Among the buildings in Jianan Tang, it was the last to be completed and has the most ornate facade. The building also features an arched arcade that extends across the sidewalk. It uses two types of Roman columns, Doric and Ionic, giving the arcade a variety of styles. Since its completion, Nanhua Building has been used as the New Asia Hotel. The New Asia Hotel opened in the 16th year of the Republic (1927) and became one of the top luxury hotels in Guangzhou during the 1920s.^[20] In 2015, Jianan Tang was officially designated as a cultural heritage site by the Guangzhou municipal government.






Fig.3-8 Location and Photographs of Jianan Tang-Nanhua Building

(Source: Reference ^[13])

(4) Non-Traditional Buildings

For non-traditional buildings in Anye Li Block that do not significantly conflict with the traditional style, strategies such as preservation, maintenance, and improvement should be adopted. Buildings that conflict with the historic appearance, as well as illegal constructions, should be subject to corrective actions. These actions may include façade maintenance, renovation, or rebuilding unsafe structures on their original sites. Newly built structures on existing sites should maintain visual harmony with the traditional style of the surrounding block

Table3-1 Existing Non-Traditional Building Types

Type	Photograph	Description	Issues	Plot Area
Small-Scale Buildings (<5F)		Street-facing shops or residences with low building height, small floor area, and simple form	The building facade design and materials are inconsistent with the traditional style, disrupting the continuity of the streetscape	15-20 m ²
The Large-Scale Buildings (≥5F)		Large in scale and covering a wide area, these buildings often conflict with the existing urban fabric and are typically newly constructed	The building scale is too large and does not align with the texture and pattern of the surrounding block.	2730 m ²
Buildings (> 5F)		Multi-story residential buildings with frame structures that exceed the height limit permitted by conservation regulations	Excessive building height disrupts the spatial structure of the historic district	296 m ²

The Qilou buildings in the area are located within the core conservation zone of the Renmin Nan historic and cultural block. They should be preserved according to the principle of maintaining the original state of cultural heritage, ensuring both authenticity and integrity. Therefore, the plot configuration of the Qilou buildings should remain unchanged. For other traditional-style buildings in the area, while their appearance holds preservation value, some of them have interior spaces that no longer meet current residential needs. These buildings and their associated plots should be adjusted and optimized. As for non-traditional buildings, those that have a significant negative impact on the character of the block should be renovated and improved. Their plots should also be adjusted appropriately to better align with the surrounding block's plot pattern.



Fig.3-9 Building Condition Analysis Map of Anye Li Block

(Source: the Author)

3.2 Functional Analysis of the Anye Li Block

3.2.1 Land Use Classification of the Anye Li Block

The land use within the Anye Li Block is primarily designated as medium to high-density Category II residential land. The Qilou zone along Renmin Nan Road is designated for commercial facilities while also allowing Category II residential use. Most of the remaining street-facing plots are used for commercial and hotel purposes. A building of the Sun Yat-sen Memorial Hospital of Sun Yat-sen University has been constructed along Renji Xi Road.

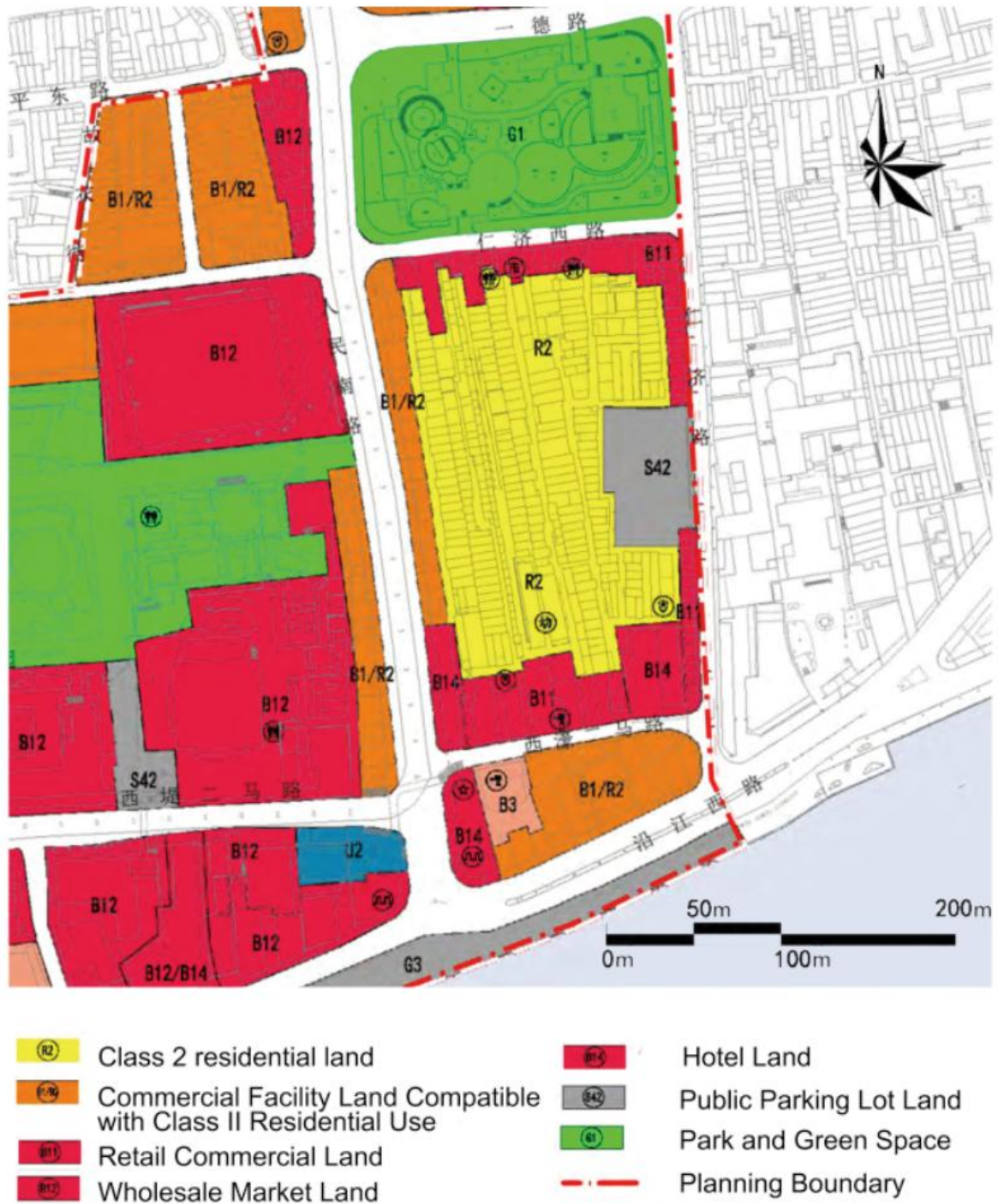


Fig.3-10 Land Use Function Map

(Source: Reference ^[12])

3.2.2 Overview of the Regional Wholesale Industry

The wholesale industry is thriving in the Liwan and Yuexiu districts of Guangzhou. The Thirteen Factories garment wholesale zone, located just across the street from the study area and centered around Thirteen Factories Road, is one of the largest garment wholesale hubs in

Guangzhou. Among them, the New China Building is the largest market with the greatest number of vendor stalls.

The prosperity of the wholesale industry in Guangzhou's old city is rooted in deep historical foundations and unique locational advantages. Its development can be traced back to the Ming and Qing dynasties, when Guangzhou served as a major node on the Maritime Silk Road. In modern times, its proximity to Pearl River ports and foreign trade hubs such as the Thirteen Factories helped to shape a long-standing commercial culture. Since the Qing dynasty, the Xiguan area has been a core part of Guangzhou's commercial culture. The physical setting of shipping routes and dense waterways provided a natural foundation for storage and logistics. Since the reform and opening-up period, industrial goods markets and vendor markets run by individual businesses have begun to emerge in Guangzhou.

In terms of spatial structure, the dense network of streets in the old city, along with organically formed clusters of specialized markets, has created a typical "shop in front, warehouse in back" business pattern. This compact spatial arrangement reduces transaction costs and generates significant benefits from economic clustering. It has allowed traditional wholesale sectors such as garments, herbal medicine, and daily goods to develop complete industry chains.

The wholesale industry has boosted the economy of Guangzhou's old city and created a large number of jobs. The wholesale industry brings vitality to the surrounding urban areas. The economic networks formed by wholesale trade have become an important source of vitality for the old city. However, the wholesale industry has also led to rigid spatial functions that are difficult to update. The dense flows of people and goods brought by wholesale activity have caused traffic congestion and structural strain, worsening the challenges of preserving and renewing the historic district.

In recent years, the Guangzhou government has promoted the relocation of specialized markets through the policy of relieving non-core functions. However, the high density and complexity of space and population in the old city have become one of the main obstacles. Various types of wholesale trade have evolved into complex systems that are highly adapted to the region's socioeconomic structure. As a result, industrial upgrading now faces the mutual constraints of location-based rent and relational capital. Therefore, gradual improvements are more appropriate than complete replacement of existing wholesale formats in response to local conditions.

3.2.3 Analysis of the Thirteen Factories clothing wholesale business district



Fig.3-11 Map of Clothing Wholesale Businesses Near the Site

(Source: the Author)

The Thirteen Factories clothing wholesale zone is located on Thirteen Factories Road in Guangzhou's Liwan District. It consists of concentrated clusters of garment wholesale shops, logistics and courier businesses, and a range of related wholesale activities within a two-kilometer radius of Thirteen Factories Road. Major wholesale markets in the area include large complexes such as New China Plaza, 13 Centre Market, Guang yang Clothing Wholesale Market, and Meiyi Mall, along with a dense network of surrounding independent shops. The Thirteen Factories Clothing wholesale zone mainly serves the domestic market, with exports playing a supplementary role. It is one of China's key first-tier wholesale centers for mid-range women's fashion. Its main clients are second and third-tier wholesalers from across China. New China Plaza is the largest clothing wholesale market within the Thirteen Factories zone. It covers a land area of 9401 square meters, with a total floor area of 150,000 square meters. New China Plaza has 48 floors in total, including 43 above ground and 5 underground. The area from the second basement level to the eleventh floor is designated for wholesale booths. A booth refers to a partitioned stall, counter, or small wholesale clothing shop. It is where second-tier wholesalers or boutique owners view and select clothing samples for purchase. Behind each booth is a sizable clothing company. These companies are typically concentrated in Guangzhou's Haizhu, Panyu, and Baiyun districts. Each company generally has its own design team and either its own factory or contracted manufacturing facilities.

A single booth in the Thirteen Factories zone, with a floor area between five and twenty

square meters, can generate annual sales revenues of tens of millions or even over one hundred million yuan.

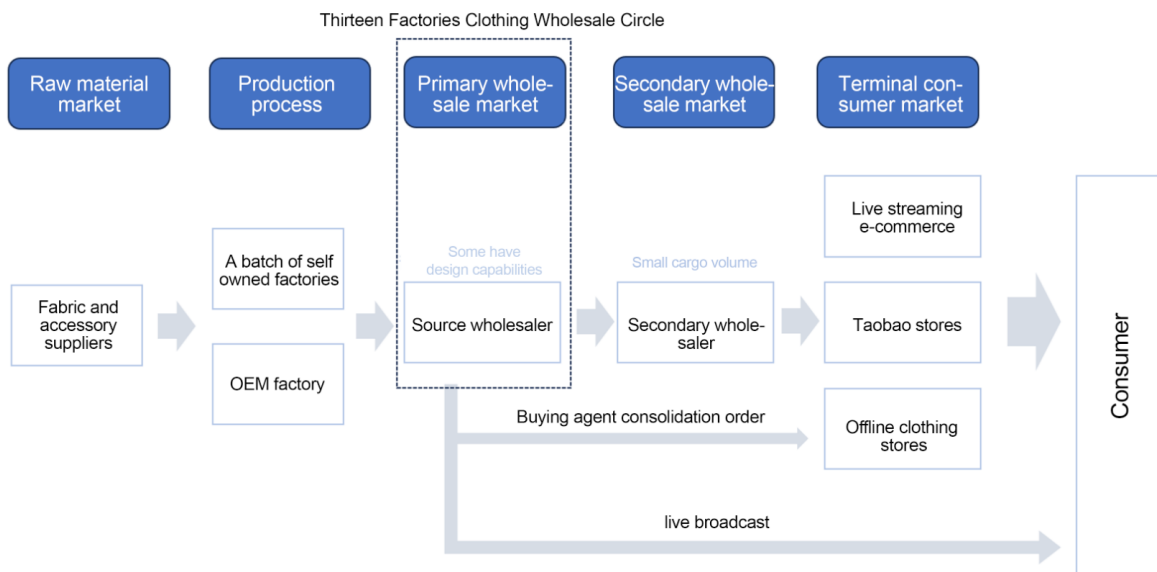


Fig.3-12 The Thirteen Factories clothing wholesale business district's industrial chain position

(Source: the Author)

Due to the rapid turnover of goods in each booth, nearly every booth rents a nearby warehouse to ensure timely delivery of products. Each warehouse typically has three to five workers. As these are wholesale booths, they must keep ready stock on hand. On average, each booth introduces around ten new clothing styles per week, with roughly 200 pieces prepared for each style. Once the goods are ready, they are delivered to warehouses near the Thirteen Factories in the early morning, and then brought to the booth as soon as the market opens. A typical day for wholesale workers starts at 8 a.m. with sales to buyers at the booth, followed by order processing at 2 p.m., logistics and shipment arrangements at 3 p.m., and inventory checks around 4 p.m. before closing the booth.

Owing to its proximity to New China Plaza and other wholesale booths, some ground-floor buildings in the Anye Li Block have been rented out as warehouses to nearby garment wholesalers. These warehouses are usually located at ground level for easy loading and unloading and are typically staffed with three to five male workers for transport, packing, and inventory. In terms of rental price, a 30-square-meter furnished one-bedroom apartment on the third floor along Renmin Nan Road costs about 1800 yuan per month, while a 50-square-meter ground-floor unfurnished warehouse can rent for as much as 5000 yuan per month. Renting

ground-floor spaces as warehouses in the Anye Li Block generates higher economic returns than renting them as residences. This has led to the widespread phenomenon of “residential-to-warehouse” conversions in the block.

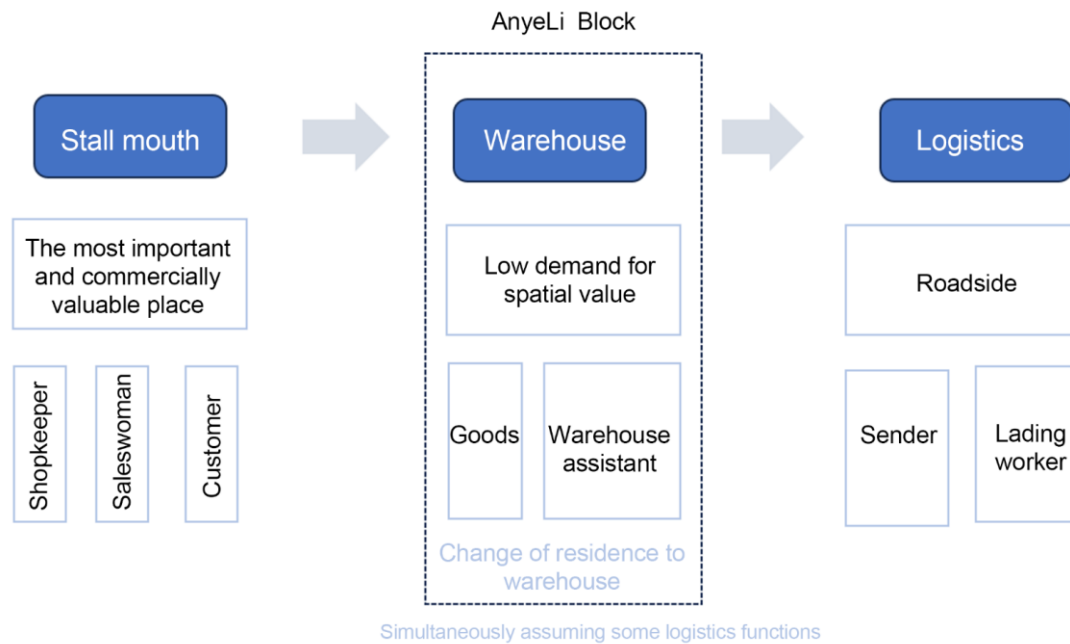


Fig.3-13 Spatial Function of the Anye Li Block within the Thirteen Factories

Wholesale Zone (Source: the Author)

However, from a broader perspective, once the ground floor is converted for warehousing, frequent cargo movement often creates significant noise. Packaging activities produce a large amount of waste, which often ends up scattered in the surrounding alleys. The dense storage of flammable items such as clothing increases fire risk. The constant inflow of non-residents also lowers the overall sense of community safety. In addition, when buildings are used as warehouses, there is no incentive to maintain high-quality interior space. As a result, tenants have little motivation to improve or renovate the space.

All these factors mean that while “residential-to-warehouse” conversions may bring short-term financial gains for land or property owners, over time, they can deteriorate the block environment and reduce the willingness for organic renewal. This can further drive down residential rental values, creating a cycle of negative feedback. Ultimately, this undermines the preservation of the district’s traditional character. In this case, it is necessary to improve the comprehensive environment of Anye Li Block.

3.3 Research on the Linear Street Urban Fabric of the Anye Li Block

3.3.1 Definition and overview of linear street urban fabric



Fig.3-14 Extraction of Guangzhou's Linear Street Urban Fabric in Different Studies

(Source: Reference^[15]·^[47]·^[30])

The unique riverfront fabric of the Anye Li area has appeared under various descriptions in the works of many scholars. In 1977, Zeng Zhaoxuan and Huang Shaomin pointed out that the alleys running perpendicular to the Pearl River shoreline were commonly referred to as "water lanes" (水巷), serving specifically as passageways for fetching water and loading or unloading goods.^[15] The alleys that extended southward from the Thirteen Factories area to the riverfront in 1777 were known as the “waterfront paths” (水步), with “bu” (步) referring to the water's edge. The classification of bamboo house-typed plots by Xuan Wenhao defines the area concentrated along the Pearl River waterfront outside the old Ming city—stretching over 100 meters in depth from Yide Road at the front to Changdi (the road along the north bank of the Pearl River) at the rear—as “extra-long bamboo house typed plots.”^[47] In Huang Huiming's typological study of Guangzhou's old city, this kind of urban fabric unit is divided into two forms: east–west linear streets and north–south linear streets.^[30]

The linear street urban fabric examined in the Anye Li Block corresponds to the aforementioned north–south type. Specifically, it refers to the high-density, narrow, and elongated alley network formed near the river just north of Changdi, running perpendicular to the northern bank of the Pearl River in Guangzhou.



Fig.3-15 Partial Map of the Latest Detailed Map of Guangdong Provincial Capital, 1910

(Source: Wenshi Cultural Archives)

In the most recent detailed map of the Guangdong provincial capital from the Republican period, the linear street urban fabric was widely distributed along the northern bank of the Pearl River, stretching from Shamian in the west to Tianzi Wharf in the east. On both sides of the Pearl River east of White Goose Pond, many street names end with “Tongjin,” (通津) such as “Gubu Tongjin (谷埠通津),” “Qianchang Tongjin(钱昌通津),” and “Liujie Tongjin(六街通津).” These locally distinctive names refer to streets leading to the ports, and most of them run perpendicular to the river. As a result of destruction and construction during the late Qing and Republican periods, and continuous redevelopment after the founding of the PRC, most of the linear street fabric from Guangzhou’s old city has either disappeared or undergone drastic transformation. The Anye Li area still retains a relatively intact section of this historical street fabric, making it valuable for preservation and the chosen subject of this study and design practice. The formation and evolution of the linear fabric north of the Changdi in Guangzhou can be divided into three phases based on the frequency and impact of construction: the Thirteen Factories freight period, the Republican-era Walls Demolition and Roads Building Movement, and the post-Reform and Opening-up period. Economic activity, social background, and policy direction during each phase directly influenced the development and transformation of streets and urban fabric in the Anye Li area.

3.3.2 Qing Dynasty Period

The continuous southward shift of the Pearl River shoreline promoted the formation and

development of linear streets along the river. These organically developed streets played a role in transportation and warehousing in the river's shipping activities. From the late 17th century to the mid-19th century, the Qing Dynasty's "Single-Port Foreign Trade" policy and the establishment of the Thirteen Factories led to the flourishing development of the Anye Li area. During this period, the architectural form within the linear blocks represented by the Anye Li area was mainly composed of traditional Chinese-style buildings oriented with their façades facing the river.

(1) Pearl River shoreline and shipping

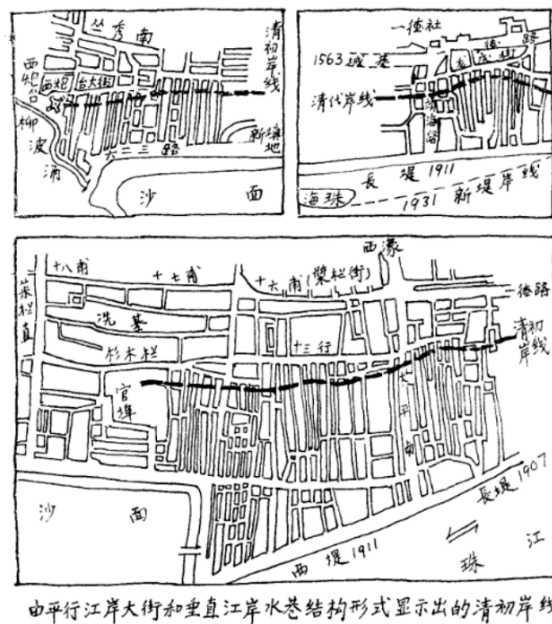


Fig.3-16 The early Qing dynasty shoreline as revealed by the structural pattern of riverside main streets and perpendicular water alleys (Source: Reference [14])

Since ancient times, Guangzhou's urban development has been inseparable from the Pearl River and other water systems. The Shunde Local Gazetteers of the Qing Dynasty recorded: "In the past, the area south of the Five Ridges was all sea, some gradually became islands, some gradually became farmland, and the population gradually increased."^[1] During the Qin Dynasty, the Pearl River was as vast as the sea. During the Qin Dynasty, the Pearl River coastline was at Zhongshan 5th Road, 1,200 meters away from the current river bank. In later dynasties, the Pearl River coastline continued to move southward due to siltation and artificial filling. As shown in the figure, the average width of the Pearl River evolved from 1400 meters during the Tang Dynasty, 900 meters during the Song Dynasty, and 700 meters during the Ming Dynasty to 500 meters during the Qing Dynasty.^[15] The changes in the Pearl River shoreline have

profoundly influenced the street and alley patterns along its banks. The street and alley morphology of the Anye Li Block, studied in this paper, is one of the direct manifestations of this influence on the urban fabric. Pearl River shipping reached its peak during the Ming and Qing dynasties, playing a vital role in transportation and commercial freight. Within the 3-kilometer stretch of river from White Goose Pool (白鵝潭) to Jetty Tianzi (天子碼頭), more than a dozen ferry points were densely distributed. In 1684, Guangdong official Lang Tingshu (郎廷樞) recorded: “The river surface was over ten Zhang(丈) wide, and the anchored boats were as densely packed as fish scales or swarming ants... The passage for moving vessels was extremely narrow, with armed boats crisscrossing, their oars clashing in a flurry of activity. The scene was so bustling and noisy that the sound could be heard four to five li away.” Alongside the ferry points, the boats of the Danjia (疍家) people—who lived on the water—crowded the riverbanks. Some were lavishly decorated and lit up at night, creating a scene where, from a distance, “the lights appeared like ten thousand stars shining upon the river,” forming a floating city on the Pearl River during the Ming and Qing dynasties.^[29] Based on the transportation connection between the docks along the Pearl River and the inland freight routes, the area where Anye Li is located gradually formed roads perpendicular to the Pearl River shoreline.

(2) Rise of the Thirteen Factories

In the middle of the Qing Dynasty, trade between China and foreign businessmen gradually increased. After the Qing government opened the maritime trade restrictions and established the Guangdong Customs, the Canton Hong System began in the 25th year of Kangxi's reign (1686). Among them, the "Yanghuo Hong(洋貨行)", later known as the "Foreign Hong" or "the Thirteen Factories," served as intermediaries specializing in foreign trade. After the British East India Company established a permanent trading post in Guangzhou in 1715, countries such as France, the Netherlands, and Spain gradually rented premises from Chinese merchants in the city to set up their own factories. These factories were mostly located in the southwest of Guangzhou, along the western bank of the Xihao Canal facing the Pearl River, where the deeper waters and dense wharves were well-suited for merchant ships to dock and unload goods. The commercial foundation of the Xiguan area also facilitated foreign merchants' procurement of goods.^[48] “By Emperor Qianlong years, there is one Min people named Pan Qi, familiar with foreign commercial matters, enumerated the gains and losses of government-run and commercially run (about foreign trade). Governor Li Shiyao requested the court to establish chief merchants(總商) at the Ministry of Revenue, every year the tax revenue is guaranteed,

excluding the original share, the official sum can be increased by more than 400,000 (taels), and the usual Xian Sycee (羡银) can be collected in the millions (taels). The proposal was submitted and approved. Therefore, six chief merchants and seven deputy merchants were set up to build foreign trade halls along the river for outsiders to live and move around, which were called Thirteen Hongs. The officials here treat the merchants as an external department, and the businessmen here take tax evasion as a source of profit.”^[2]

During the Qing Dynasty, the Thirteen Factories' activities were mainly concentrated in the Thirteen Factories Street area, which experienced several fires and reconstructions. East of Xihao and south of the east side of the gate is the current Anye Li area.

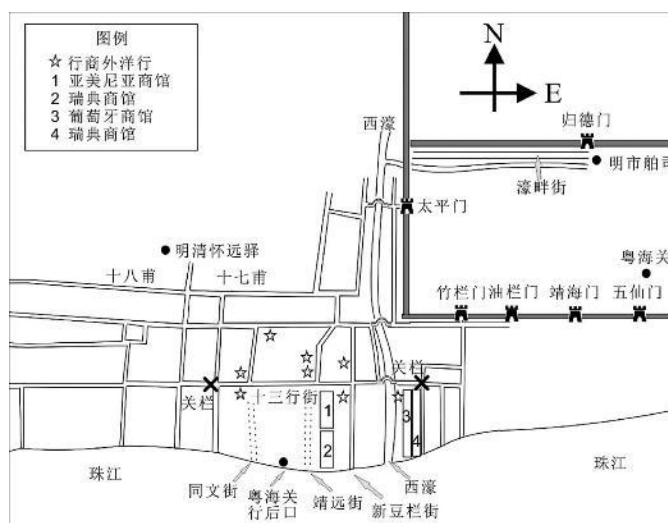


Fig.3-17 The Thirteen Factories area in 1748

(Source: Reference^[12])

The Thirteen Factories became officially sanctioned institutions for foreign trade, operating under the supervision of the Guangdong Customs and provincial authorities, and served as intermediaries in Sino-foreign commerce. In the 22nd year of the Qianlong reign (1757), Emperor Qianlong issued an edict designating Guangzhou as the sole port open to foreign trade. As a result, the Thirteen Factories in Guangzhou were granted exclusive economic privileges to conduct foreign trade, reaching their peak in the following years. The Thirteen Factories system thus became one of the most important trade mechanisms in China from the late 17th century to the mid-19th century.^[43]

Since the 19th century, the contradiction between the colonized expanding policy of capitalist countries and close door policy of the Qing government had intensified. In 1842, Treaty of Nanjing, the first unequal treaty against China, was signed between the United Kingdom of Great Britain and Ireland and the Qing dynasty of China, ending the one port trade

system carried out by the government of Qing Dynasty. Therefore, the advantages of the Thirteen Factories didn't exist anymore. A fire, which originated on the 18th day of the 11th month of the 6th Xianfeng Year (December 15, 1856), was the result of an invasion of Guangzhou by British invaders, and proclaimed the end of the history of the Thirteen Hongs, which had monopolized the trade between the East and the West for nearly 200 years, and also the end of the heyday of Xiguan in Guangzhou during the Qing Dynasty.

(3) Formation of the Urban Fabric during the Thirteen Factories Period

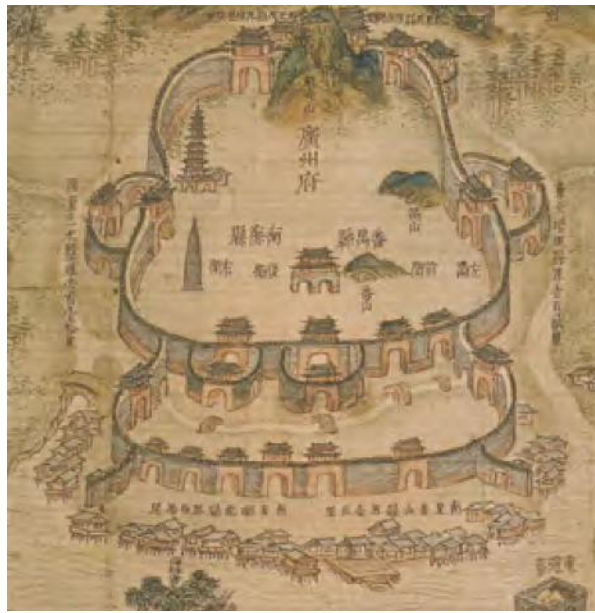


Fig.3-18 Early Qing Dynasty, Guangzhou city map (广州府輿图)

(Source: Guangzhou Municipal Archives)

The flourishing of foreign trade through the Thirteen Factories led to the prosperous development of the Pearl River shoreline where factories were concentrated, while also contributing to the persistent phenomenon of land reclamation and encroachment into the river along the riverbanks. As shown in Guangzhou city map of the early Qing, the waterfront buildings on the mudflats were designed to accommodate tidal fluctuations and prevent flooding, primarily in the form of stilted structures. At the same time, due to the deep draft of merchant ships, the stilt structures extended farther into the river; and the stilts themselves obstructed water flow, accelerating siltation, which in turn became a justification for further extension. *The Customs Gazetteer of Guangdong* (粤海关志) records that during the Daoguang reign, the British Factory was “relocated and rebuilt farther forward due to riverbed silting.”^[47]

As the shoreline of the Pearl River continued to expand outward, the long-street urban

fabric gradually took shape. From Zhang Jiuyue's (张九钺) long poem *Fanxing Pian*(番行篇), written during his visit to Guangzhou in 1770, the lines "Guangzhou port market, the Thirteen Factories, arranged like goose wings and clustered like honeycombs"^[18] offer a glimpse into the urban fabric of the time, marked by parallel streets and densely packed buildings in the Thirteen Factories area. The missionary Peter Osbeck, who arrived in Guangzhou in 1751, wrote in his account: "The Factories are the first place Europeans reach upon arriving on the outskirts of the city. The term 'Factories' refers to a group of houses built along the riverbank and on pilings, which Chinese merchants rented out to European ships during their stay... The factory buildings are only two stories high, but very long—one end stretches toward the river, while the other faces the Thirteen Factories Street." This description clearly indicates that a linear, long-street pattern had already begun to take shape.^[11]

The formation of the linear street and alley pattern is closely tied to Guangzhou's maritime and foreign trade culture. Although the shipping function of the Changdi section of the Pearl River has faded today, nearby areas such as the Anye Li Block still preserve this linear spatial structure, serving as a living testament to the cultural legacy of this distinctive historical period.

(4)Architecture, Street, and Plot Patterns during the Thirteen Factories Period

In the 18th century, the area where Anye Li is located was directly adjacent to the Pearl River shoreline and separated from the foreign merchant factories of the Thirteen Factories only by the Xihao Canal. During this period, the buildings in Anye Li primarily consisted of multi-bay courtyard houses connected to the river. Narrow and elongated alleyways had already begun to take shape between the courtyards, with long streets dividing the plots. The plots themselves were relatively large in size.

There is limited available data showing the specific plot divisions of Anye Li in the 18th century, but its general layout can be inferred from historical maps of the area and architectural distribution diagrams of the Thirteen Factories. From the Map of the Thirteen Factories in Canton, drawn by Johan Friedrich Dalman between 1748 and 1749, it can be seen that a linear street fabric had already formed in the area where Anye Li is located. According to the scale indicated in the map, the streets in the Anye Li area were approximately 270 meters in length, with an interval of about 30 meters between each alley. Different factories were situated between these streets.

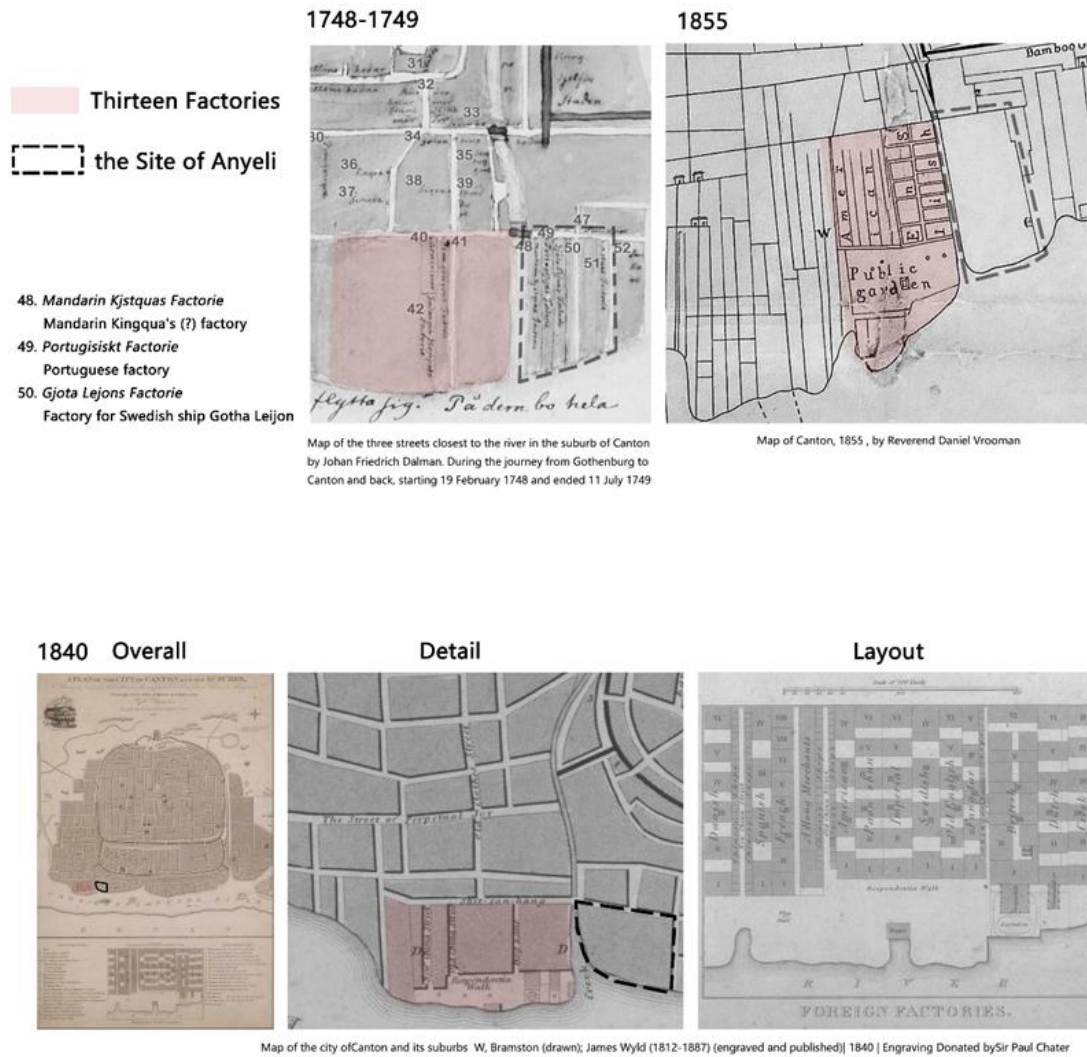


Fig.3-19 The Thirteen Factories and the Anye Li Site in the 18th - 19th Century

(Source: Compiled by the author)

In Fig.3-19, the red-shaded area marks the location of the Thirteen Factories, which had already developed a similar street and alley fabric by the time of the 1855 map of Guangzhou. The Map of the City of Canton and Its Suburbs, drawn by W. Bramston in 1840, further reveals the architectural layout within this linear urban fabric. The buildings can be broadly divided into two categories: one consists of traditional courtyard complexes of five to six bays in depth facing the Pearl River, which served as national merchant guild halls; the other comprises densely arranged, small-scale buildings with façades oriented toward the long streets. These structures housed the bustling commercial shops along New China Street and Old China Street (Jingyuan Street), specifically catering to foreign residents. These shops, located within the restricted area where Westerners were otherwise not permitted to roam freely outside the Thirteen Factories, became a zone where they could shop and stroll at will.

Many of these storefronts sold export-oriented goods and were staffed by a new generation of highly skilled craftsmen. The Englishman William Hickey, who visited Guangzhou in 1768, recorded in his travel writings the variety of artisans and craftspeople working in the shops near the Thirteen Factories: “Here were painters on glass, fan-makers, ivory carvers, lacquerware artisans, jewelers, and craftsmen of every description.”^[32]



Fig.3-20 New China Street in 19th-century Guangzhou (left) and Linggua Studio on China Street (right) (Source: Reference^[27])

The street-facing, densely arranged buildings of the second type bear greater resemblance to the current fabric of the Anye Li Block. However, based on the various 18th-century depictions of the Thirteen Factories landscape shown in Fig.3-20, the plot division of the Anye Li area at that time was likely closer to the first type, characterized by larger land parcels.

During this period, the buildings in the Anye Li area consistently appeared in historical maps as traditional courtyard structures with sloped roofs facing the river. These buildings were typically one to two stories high, with courtyards extending more than two bays in depth. Narrow alleyways connected adjacent courtyards. The courtyards served multiple functions, including commercial trade and warehousing, facilitating transactions with foreign merchants involving goods such as tea, porcelain, and silk.^[41]



Fig.3-21 Guangzhou, Godowns, Pearl River. Early 19th century.

(Source: References^[25] [26])

The buildings near the Pearl River in this area were stilt houses (stilt style structures), elevated on wooden pillars that created a gap between the ground floor and the water surface. Some sources (Figures III and IV in Fig.3-22) show that riverside buildings extended one or two enclosed corridors toward the river. These enclosed additions are typical features of Cantonese architecture and could be seen along many parts of the river. Most of the buildings in this area were owned by Hong Kong merchants, who conducted trade and outfitted ships for voyages to Southeast Asia. The illustrations show that nearly every riverfront building was equipped with one or more of these sheds or corridors. These structures projected toward the river, likely designed to keep goods dry in all weather conditions and to facilitate the loading and unloading of cargo from ships or small boats.^[14]






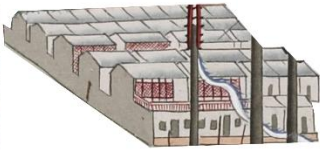

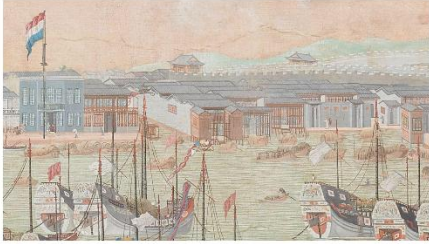





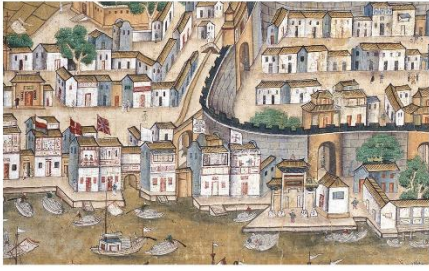
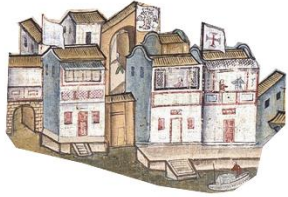
Time	Work	Detail	Building Types at the Anyeli Site
1736-1795			
(I)	Chongzheng 2023 Spring Auction · Lot 2202 Qing Dynasty, Qianlong Period (1736–1795), Bird's-Eye View of Guangzhou's Xiguan		
1760-70			
(II)	View of Guangzhou (Canton), Created in c.1760-70, Maps K.Top.116.22.2 TAB.		
1771			
(III)	Anonymous artist. Watercolour on silk. 95 x 368 cm. Inv. No. NG-1052. Courtesy of the Rijksmuseum, Amsterdam.		
1800			
(IV)	View of Canton c. 1800 China, unknown artist Watercolor and gouache on paper. MIT Visualizing Cultures		
the late 18th century			
(V)	香港海事博物馆藏, 真蒂洛尼家族原藏中国贸易港绘画系列: 广州(十八世纪晚期), 作品编号: HKMM2010.0031.0002. China Trading Port Painting Series: Guangzhou, formerly owned by the Gentiloni family, Hong Kong Maritime Museum		

Fig.3-22 Architectural Forms at Anye Li in 18th-Century Paintings

(Source: Compiled by the Author)

Fig.3-22 summarizes the architectural forms of the Anye Li area as depicted in 18th-century paintings. In the illustration, the riverside buildings east of the Xihao Canal mouth are shown with façades oriented toward the Pearl River. In contrast, within the current linear street pattern preserved in the Anye Li Block, most building façades now face the long streets, running parallel to the river. While the street layout has largely been retained, the orientation of building façades has shifted significantly.

Xuan Wenhao suggests that this change in orientation was due to the inefficiency of excessively elongated plots:

“The total area of super-long plots exceeded that of a standard three-bay, two-corridor dwelling, failing to conserve land and offering low internal circulation efficiency, which conflicted with rational planning concepts. Some of these super-long plots were spontaneously modified by opening new alleys from the middle or side, then subdividing them horizontally, thus forming super-short plots. Even if the individual units were smaller, their overall utility exceeded that of the original configuration.”^[47]

As a result, the linear street pattern, originally developed along the southward-shifting Pearl River shoreline, underwent spontaneous transformation to accommodate evolving functional needs.

(5) The street names of Anye Li

Many of the current street names in Anye Li can be historically verified. In the winter of the fourth year of the Shunzhi reign (1647), Governor General Tong Yangjia(佟养甲) constructed the east and west wings of the outer city wall, each over twelve zhang (丈) in length, extending directly to the riverbank. The walls stood two zhang high and one zhang five chi thick, each with a gate. The southeastern gate was called "Zhengdong(正东)," and the southwestern gate "Anlan(安澜)," corresponding to the two sections of the outer city wall along the Pearl River to the east and west of today's city.^[3]

The two flanking walls were also referred to as the "Chicken Wing Walls" (Jiyi Cheng). The east–west street that passed through Anlan Gate (the western side gate) was historically named Anlan Street, which corresponds to present-day Yide Road. At the southern end of the western wing wall, a bridge crossed the Xihao (西濠) Canal, known as Huilan Bridge (Huilanqiao, 迴澜桥, with 迴 meaning “winding” or “encircling”). This bridge was also referred to as Huilanqiao (回栏桥) in some sources.^[29] The current Huilan Bridge (回栏桥) no longer exists due to canal filling and road construction, but Huilan Xin Street remains within

the Anye Li area. Within Anye Li Block, Anye Li(安业里), Baoshun Dajie(宝顺大街), and Pu'an Jie(普安街) were once home to Jardine Matheson & Co(怡和洋行), Tianbao Hong(天宝洋行), Tongshun Hong(同顺洋行), and Pu'an Hong(普安洋行). Among these, Jardine Matheson & Co., after being taken over by Wu Bingjian (伍秉鉴) during the Jiaqing reign, became the chief merchant of the Thirteen Factories and enjoyed great prominence for a time.

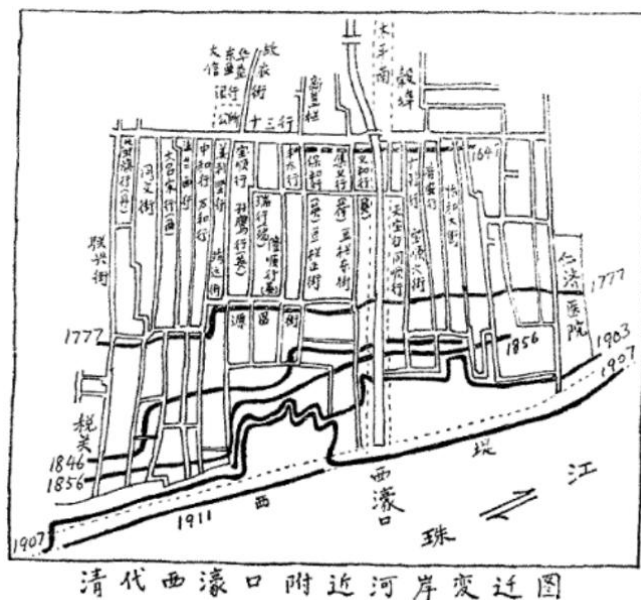


Fig.3-23 Map of Riverbank Changes near Xihao Kou during the Qing Dynasty

(Source: Reference^[15])

3.3.3 the Republican Period

During the Republican period, Guangzhou launched municipal reform movements and large-scale urban construction. Influenced by the City Beautiful movement in Europe and America and Western urban planning theories, the city began demolishing its walls, constructing roads and Qilou buildings, developing central urban axes, and improving its modern transportation system, marking the beginning of urban modernization. In this context, roads were built around the Anye Li area. The open canal of Xihao on the western edge was converted into an underground channel, over which Taiping South Road (now Renmin Nan Lu) was built. The newly constructed Qilou buildings along this road became the commercial heart of Republican-era Guangzhou. During this period, the external environment and urban character of the Anye Li area saw notable improvements and transformation.

(1) the Walls Demolition and Roads Building Movement

At the beginning of the Republic of China, Guangzhou's urban population grew rapidly,

and commercial trade flourished. The existing urban layout could no longer meet the demands of transportation and municipal management. At the same time, Western modern urban planning concepts gradually made their way into Guangzhou, prompting the local government to adopt urban construction models from Europe, America, and Japan to improve transportation efficiency and municipal infrastructure. The old city of Guangzhou was surrounded by city walls, which not only limited the city's expansion but also hindered internal transportation. Therefore, the demolition of the city walls and the construction of roads became key measures taken by the government to promote urban modernization.



Fig.3-24 the Construction of Arcaded Buildings and Roads in Guangzhou (1900 -1936)

(Source: Reference^[28])

The Walls Demolition and Roads Building Movement of Guangzhou began in 1918. In that year, the Guangzhou government started planning the demolition of the old city walls in order to build new roads. In 1921, after Chen Jitang(陈济棠) assumed governance of Guangdong, the demolition process was accelerated. The former locations of the city walls were gradually transformed into major urban roads, such as Zhongshan Road and Jiefang Road. The ring road surrounding the city was built on the site of the old city walls, establishing a transportation link between the city's interior and its outskirts. *The Plan and Method for Opening Six Streets* (开辟六街之计划及方法) introduced in 1923 changed the previous practice of the government fully funding road construction. Instead, the cost of road

construction was shared by the property owners along the streets, based on the width and depth of their frontage. The funds were managed by the General Chamber of Commerce, while the government was responsible for planning and supervision. ^[22] At the same time, the government also undertook the construction of municipal infrastructure such as electricity, water supply, and sewage systems to improve public health conditions. With the expansion of road networks and the enhancement of infrastructure, commercial and residential areas along the streets developed rapidly, propelling Guangzhou's gradual transformation into a modern metropolis.

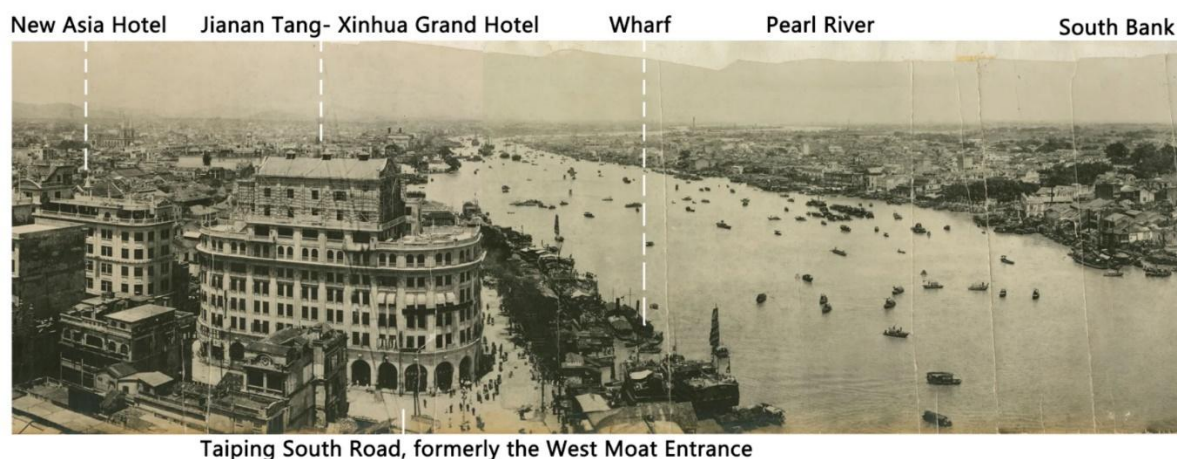


Fig.3-25 The Pearl River Banks in the 1920s

(Source: the Guangzhou Municipal Archives)

In the 1918 the Walls Demolition and Roads Building plan initiated by the Municipal Office, Taiping Road (now Renmin Nan Lu) was originally intended to connect directly to the Changdi via Yihe Street, which at the time was one of Guangzhou's core commercial avenues. However, the compensation costs for demolition and resettlement along Yihe Street were beyond what the Municipal Office could afford. As a result, in January 1920, the route of Taiping Road was shifted 90 meters westward onto the Xihao Canal, giving rise to the "canal infill and road-building project."

In 1921, the government undertook dredging works on the Xihao Canal and reconstructed the section from the canal mouth to Heping East Road into a stone-arched covered canal. Small boats could enter from the Pearl River, travel upstream through the culvert to Pujian Bridge, and continue northward along the open waterway. Due to its wide road surface and favorable location—bordering Xiguan to the west and the Pearl River to the south—the newly completed Taiping South Road attracted numerous large companies to construct various facilities. The area became densely lined with scaffolding and appeared bustling with activity.

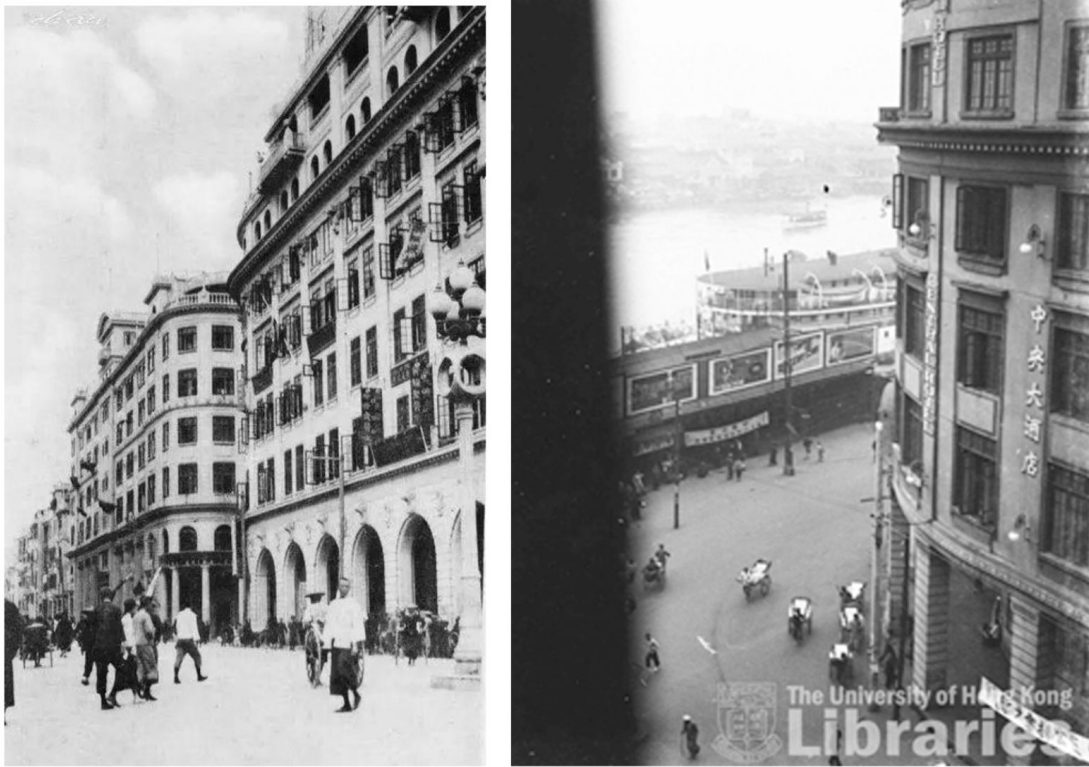


Fig.3-26 Taiping South Road in the Republican Era

(Source: Baidu Image and the University of Hong Kong Libraries)

The Walls Demolition and Roads Building Movement significantly facilitated the urban expansion of Guangzhou, enabling the city to grow beyond its enclosed old quarters and fostering the development of a more rational transportation network. This laid a foundational framework for the emergence of motor vehicle traffic and public transit systems in the years to follow. Meanwhile, the demolition of the old city walls released a large amount of land, allowing previously constrained areas to be developed and promoting the prosperity of both commercial and residential districts.

However, the movement also led to the loss of numerous historical relics. Most of the city walls and gates were not preserved, and the Xihao Canal, which had once flowed openly along the edge of the city walls toward the Pearl River, was converted into an underground culvert. As a result, Guangzhou's historical character suffered a degree of degradation.

Despite these losses, the Walls Demolition and Roads Building Movement laid a crucial foundation for the modern urban form of Guangzhou and had a profound and lasting impact on its subsequent development.

(2) Taiping South Road and the Qilou Street

During the Republican period, the Anye Li area was significantly affected by the canal infill and road-building project. In 1919, the waterway at the mouth of the Xihao Canal was

transformed into Taiping South Road (now Renmin Nan Lu). The road was so named because it lay just south of Guangzhou's Taiping Gate. Taiping South Road extended from Fengning Road (now Renmin Zhong Lu) in the north to the Pearl River in the south, with a total length of 820 meters and a width of 32 meters, making it one of the widest roads in Guangzhou during the Republican era.

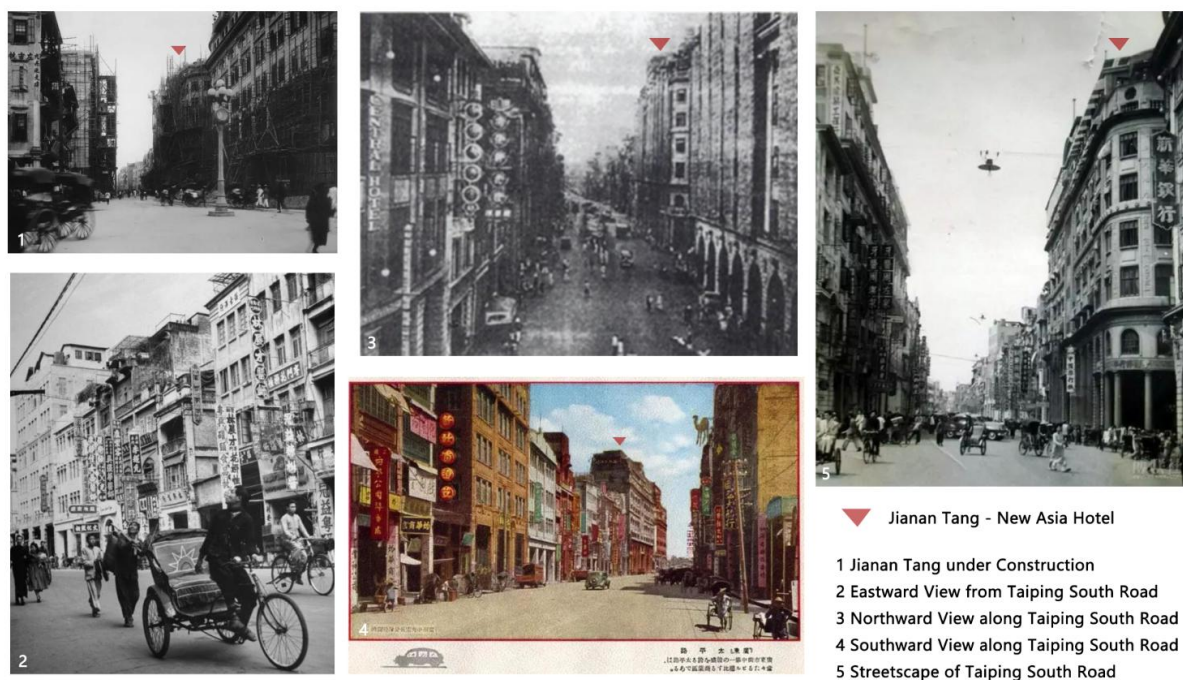


Fig.3-27 Photographs of Taiping South Road during the Republican Period

(Source: Compiled by the author)

During the Republican period, the Changdi was initially constructed to control flooding along the Pearl River, and later gradually developed into a key transportation corridor linking the river ports with the railway. Its construction not only enhanced flood protection along the riverfront but also provided a wide east-west thoroughfare, which in turn stimulated the growth of commerce and finance in the southern part of the city. As the road along the Changdi was widened and modern buildings emerged, the surrounding area attracted numerous banks, trading companies, and entertainment venues, forming a bustling commercial district. The completion of the Changdi Boulevard in 1920 gave rise to Guangzhou's first modern commercial precinct, home to landmark buildings such as the Sincere Department Store, the Southern Building, and the Mingzhu Cinema.

In 1929 (the 18th year of the Republic), the Guangzhou Municipal Government issued *the Municipal Administrative Plan of Guangzhou*, which proposed the construction of a new embankment system based on the existing Changdi. This included building embankments along

both the north and south banks of the Pearl River. On the northern bank, the Haizhu New Embankment was to be built, stretching from Tianzi Wharf in the east to the mouth of the Xihao Canal in the west.

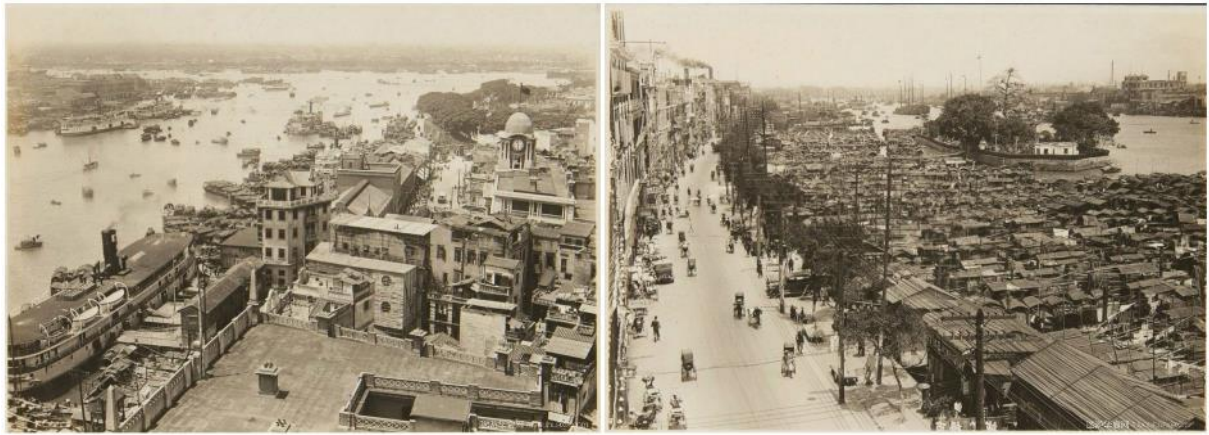


Fig.3-28 Scenes of the Pearl River (left) and the Changdi (right) in 1929

(Source: Yadong Seal Painting. Published by the Manchuria-Mongolia Seal Painting Association, September 1924.)

With its convenient transportation, thriving commerce, proximity to the Shamian concession, and direct connection to the Changdi, Taiping South Road emerged as a major commercial and transportation hub in Guangzhou from the late Qing through the early Republican period. To its south, it was closely linked to the Xihaokou Wharf and the Xihaokou Railway Station. The area was also densely populated with key institutions and infrastructures, including the Canton Customs House, the Guangdong Postal Administration, the Dashin Company(大新公司) outside the city walls, and numerous large-scale trading firms and guild halls.

The Qilou buildings lining both sides of Taiping South Road, along with the steady flow of pedestrians and rickshaw pullers, created the bustling atmosphere of a vibrant commercial pedestrian street. Along the road stood celebrated establishments such as the New Asia Hotel, Central Hotel, and Feng Qiang Shoe Store—renowned names that symbolized the prosperity of early 20th-century Guangzhou's urban streetscape. The newly constructed Qilou buildings along the avenue became the heart of Guangzhou's commercial life at the time, marking Taiping South Road as a focal point of the city's modernization.

(3) Architecture, Street, and Plot Patterns during the Republican Period

During the Republican period, the Anye Li area no longer directly bordered the Pearl River following the construction of the Changdi. At this time, a new architectural typology known as

Qilou buildings appeared along Taiping South Road, transforming the area into a commercial center with a concentration of banks and hotels. Elsewhere in the district, within the existing linear street and alley pattern, there was a noticeable trend toward plot consolidation and the construction of large-scale new buildings.

① Plot Patterns

The Cadastral Map of Guangzhou, (Fig.3-29) compiled by the Guangzhou Municipal Land Bureau in the 22nd year of the Republic of China (1933), represents one of the earliest cadastral records of the city and a product of modern surveying techniques. The map of the Anye Li area reveals that, during this period, the morphology of plots underwent spatial differentiation due to the construction of surrounding roads. Plots located along the outer edges of the block, adjacent to north-south roads, were characterized by narrow frontages and shallow depths, densely arranged in a continuous row. In contrast, those along east-west roads exhibited narrow frontages with longer depths and were separated by narrow alleyways. As road construction progressed and the surrounding environment improved, such plot configurations emerged as a spontaneous form of land use, aimed at maximizing spatial value in response to commercial potential.

Aside from the Jianan Tang - Nanhua Building, funded by overseas Chinese investors and notable for its larger street-facing frontage, most of the Qilou buildings along Taiping South Road on the western edge of the Anye Li Block feature small-scale street frontages between 3.5 and 5 meters. The street-facing plots along east-west roads differ significantly from those along north-south roads: while their frontages are also densely arranged, they typically have much greater depths, ranging from 10 to 40 meters. Within Anye Li, the interior plots adjacent to the inner lanes can be clearly categorized into two morphological types: extremely shallow bamboo house-type plots-oriented perpendicular to the inner streets, and longer-depth traditional bamboo house-type plots arranged parallel to the inner streets.



Fig.3-29 The Cadastral Map of Guangzhou, compiled by the Guangzhou Municipal Land Bureau in the 22nd year of the Republic of China (1933)

(Source: Reference ^[42])

Under this plot pattern, the typology of individual plots is directly shaped by their relationship to the adjacent transportation network. The hierarchical system of main roads and inner lanes connects and organizes the plots across the block, assigning functions to each plot according to its position within this network. These functions, in turn, influence subsequent changes in cadastral boundaries, such as subdivision or amalgamation.

Plots situated along wide arterial roads tend to exhibit a strong commercial orientation, with spatial layouts and building façades that emphasize the streetscape and pedestrian accessibility. Such plots often feature access on both the main street and a secondary rear lane, with the latter typically serving as a logistics or service entrance. This dual frontage reflects the adaptive nature of the street-block structure in accommodating functional needs. The plots

along the Qilou street of Renmin Nan Road exemplify this type.

By contrast, plots located deeper within the block and adjacent to internal lanes are predominantly residential in function. These are typically oriented perpendicular to the inner lanes and are single-fronted. Shallow-depth shophouse plots cater to small-scale family-run businesses and residential use, while the deeper bamboo house-typed plots, oriented parallel to the inner lanes, continue the traditional courtyard-based typology. These distinctions in plot form not only reflect functional diversification but also reveal the impact of modern road construction on the pre-existing urban fabric.

The widening and penetration of roads increased land-use efficiency along their corridors and spurred the reconfiguration and functional adaptation of adjacent plots. In contrast, the interior street network and original plot structure remained relatively intact, offering long-term stability for residential life. This coexistence of external transformation and internal continuity gave rise to a spatial mosaic within the Anye Li Block during the Republican period—a patchwork urban pattern that integrated emerging spatial forms driven by commercial modernization with a persistent foundation of traditional residential space.

② Street and Building Morphology

In terms of street configuration, the implementation of the Walls Demolition and Roads Building Movement led to the emergence of a dual-structured street system in the Anye Li Block, comprising newly constructed arterial roads and a network of internal lanes.^[45] This bifurcated street structure reflects, on one hand, the advancement of urban modernization efforts during the Republican period, and on the other hand, the incomplete nature of such transformations. A large number of plots and buildings connected by the internal lanes remained of traditional typology. Aside from the newly established peripheral roads, the internal street network of Anye Li experienced minimal change during this period, largely preserving the spatial configuration that had taken shape in the late Qing dynasty.

In terms of architectural characteristics, buildings in the Anye Li area underwent notable changes in both appearance and functional layout during the Republican period. The Qilou buildings and row-style bamboo houses emerged as the two predominant new building types introduced to the area at this time. These typologies represented updated iterations of traditional architectural forms—Qilou as a modern adaptation of street-facing commercial buildings, and the row bamboo houses as a renewal of conventional residential structures.



Fig.3-30 A View Toward Shamian from the Urban Area of Guangzhou. The colored area represents the rear side of the Qilou buildings along Taiping South Road in Anye Li.

(Source: <https://rmda.kulib.kyoto-u.ac.jp/item/rb00031443>)

The emergence of Qilou buildings marked an architectural response to the newly established road system during the Republican period. Following the completion of new arterial roads, buildings on both sides, which had previously been demolished to accommodate road expansion, needed to be reconstructed.

In this context, the Qilou system was formally institutionalized as part of urban governance, beginning with the promulgation of *the Regulations and Implementation Rules for the Prohibition of Building Activities* (广东省警察厅现行取缔建筑章程及施行细则) issued by the Guangdong Provincial Police Department in 1912. The enforcement of this regulation closely coincided with the implementation of the Walls Demolition and Roads Building Movement. The regulations included specific provisions for the construction of Qilou buildings:

"Article 14: All commercial buildings constructed along embankments and major roads must include an arcade (Qilou) of eight feet in width within privately owned land to facilitate pedestrian circulation. Roof eaves must be fitted with gutters and downpipes to direct water into open drains; no separate canopies shall be permitted to obstruct pedestrian pathways or damage the embankment road." [30]

These newly built structures generally abandoned traditional architectural styles in favor of more modern design principles, building materials, and construction techniques. The

prototype of the Qilou was the arcade-front building, which had already become a dominant typology for street-facing commercial buildings in cities like Singapore and Hong Kong by the 19th century.

In Guangzhou, the ground-floor arcade, which is a key feature of Qilou buildings, proved well-adapted to the region's subtropical monsoon climate, offering sheltered pedestrian space during heavy rains and strong sun. Moreover, the additional building height and expanded usable area provided by Qilou construction offered tangible economic benefits to shop owners who bore the financial burden of road construction, thereby linking spatial form to both environmental adaptation and fiscal incentive.

By the Republican period, the plot layout in the Anye Li area had already reached a high level of density. As a result, the only viable strategy to accommodate the spatial demands brought by population growth was to increase building height and thus improve land-use efficiency. It was under these conditions that row-style bamboo houses emerged as an adaptive transformation of the traditional bamboo house typology, originally characterized by a single-bay, deep-plan layout dating back to the Ming and Qing dynasties. The newly constructed row bamboo houses of the Republican era typically rose two to three stories, while maintaining a frontage width similar to that of their traditional counterparts. Whereas Qing-era bamboo houses were generally occupied by extended families, featuring staircases positioned mid- or rear-building and lacking separate entrances, the Republican-era variants adopted a “one floor, one household” configuration. In many cases, several households co-invested in construction and shared collective ownership of the building. Given the narrow frontage of individual plots and the need to ensure independent access for each household, staircases were relocated from the central or rear zones to the front end of the building, adjacent to the street-facing wall. These were arranged in a straight linear fashion against the side wall. Ground-floor residents accessed their units through the main entrance, while upper-floor residents entered via separate doorways on each landing of the shared stairwell.

3.3.4 From 1949 to the Present

(1) Postwar Urban Reconstruction and Development

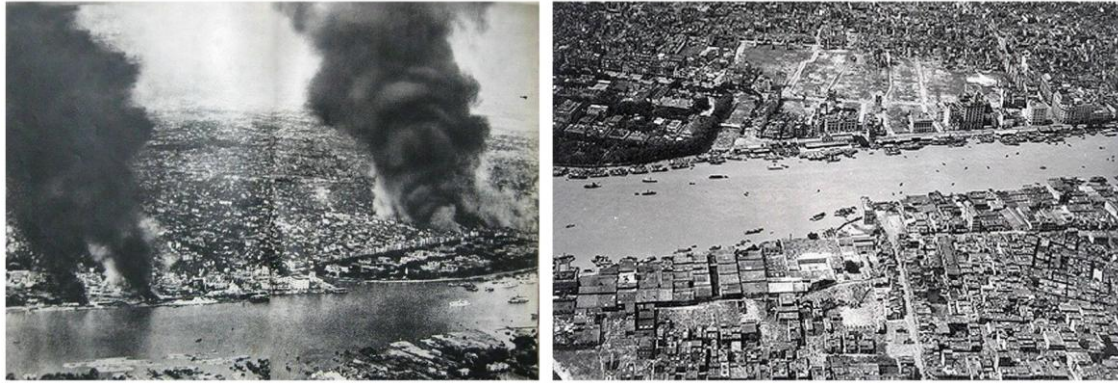
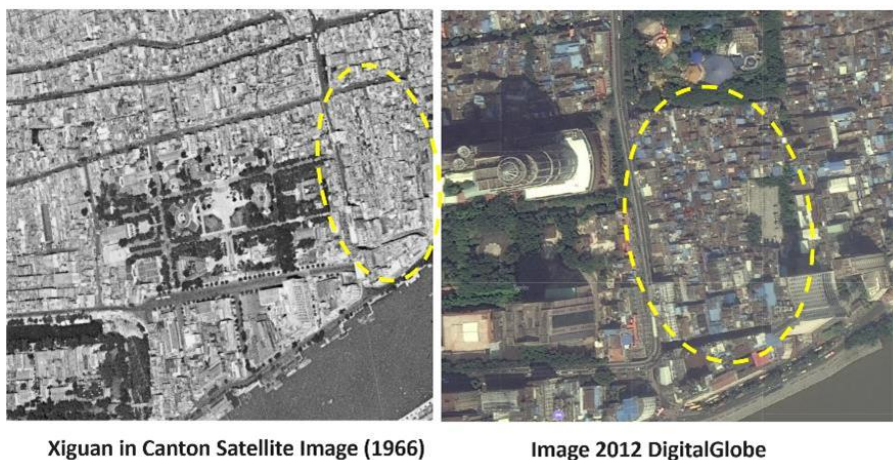


Fig.3-31 Japanese Bombing of Guangzhou in 1938 (left) and the Ruins of the Thirteen Hongs after the Air Raid (right)

(Source: Baidu Image and Aerial photograph taken by the Flying Tigers in 1944, printed by the 4th Photo Technical Unit, 14th U.S.A.A.F -Restricted. Scanned by Xu Jianing.)

During the Second Sino-Japanese War, large-scale urban development in Guangzhou was forcibly halted, and much of the city's infrastructure suffered extensive damage. Guangdong was among the regions in China most heavily affected by aerial bombardment during the war. Between the Marco Polo Bridge Incident in July 1937 and the Japanese invasion of Guangzhou in October 1938, Japanese aircraft carried out 56 air raids on the city, causing widespread destruction across urban areas. During this period, the area west of Renmin Nan Road (the Guangzhou Cultural Park now) was reduced to ruins under heavy bombardment. The Anye Li Block also sustained a certain degree of damage. However, the Qilou street along Taiping South Road largely survived and remained structurally intact.



Xiguan in Canton Satellite Image (1966)

Image 2012 DigitalGlobe

Fig.3-32 Comparative Satellite Images of the Anye Li Block (1966 and 2012)

(Source: Google Earth and Baidu Map)

Following the founding of the People's Republic of China in 1949, the Thirteen Factories area required urgent reconstruction. In 1951, the Guangzhou Municipal Government erected a series of exhibition pavilions on the ruins of the Thirteen Factories and hosted the South China Native Products Trade Fair. In 1956, the site was officially redeveloped into a cultural park and opened to the public, becoming one of Guangzhou's most important venues for cultural events and exhibitions. With this transformation, the linear street fabric that once defined the Thirteen Factories area—adjacent to Anye Li—vanished from the urban landscape, and the figure-ground relationship was fundamentally altered.

During this period, postwar reconstruction within the Anye Li Block was largely initiated spontaneously by residents. In several parts of the block, rebuilding was carried out informally along the inner lanes and surviving structures, often following a "first come, first served" logic. Due to the disruptions of war, some properties whose original owners had gone missing were nationalized and repurposed as public housing for work units (*danwei*). As a result, although the long-street urban fabric of Anye Li was largely preserved in terms of spatial structure, much of the architectural appearance was significantly altered through new construction.

In 1966, four former streets (Taiping South Road, Fengning Road, Changeng Road, and Huchang Road) were consolidated and officially renamed as "Renmin Road" (People's Road). The original section of Taiping South Road corresponds to what is now known as Renmin Nan Road.

(2) From the 1980s to the Present

Following the implementation of China's Reform and Opening-Up policy, Xihao Er Malu emerged as one of the most iconic streets in Guangzhou's historic city core, embodying the spatial memory of urban life in the 1980s. Though less than 125 meters in length, the street featured an intense concentration of functions within a compact space, integrating dining, entertainment, and nighttime consumption into a small-scale urban environment that catered to diverse everyday needs. During peak hours, its storefronts were densely packed, pedestrian traffic was heavy, and night markets flourished—making Xihao Er Malu one of the most vibrant and dynamic areas of Guangzhou during that era.

In 1983, RenRen(人人) Restaurant, Guangzhou's first Sino-foreign joint-venture in the food and beverage sector, was established along Xihao Er Malu. Pioneering the 24-hour business model, it became one of the earliest restaurants in China to offer late-night dining services. From its inception, the restaurant operated successfully and quickly recouped its

investment, reflecting broader trends in the restructuring of the catering industry during the early phase of economic reform. During this period, Xihao Er Malu earned the reputation of being “Guangzhou’s Tsim Sha Tsui,” becoming a key site for urban nightlife and a representation of the emerging modern commercial landscape associated with economic revitalization. The street was lined with well-known establishments such as the New Asia Hotel, Xinhua Grand Hotel, Xihao Cinema, and Datong Restaurant, forming a vibrant cluster of leisure and consumption venues.

Xihao Er Malu was also the birthplace of several municipal “firsts,” including Guangzhou’s first pedestrian overpass, first garden-style cinema, and first 24-hour restaurant. These spatial practices not only embodied the spirit of experimentation that characterized Guangzhou in the early reform era, but also played a formative role in reshaping and modernizing the city’s patterns of everyday life.◦



Fig.3-33 Photographs of the Renmin South Road Pedestrian Overpass before the Construction of the Elevated Road

(Source: Photograph by Ye Qiang; the documentary Tou Dan Tong)

At the same time, the spatial structure of Renmin Nan Road also underwent a significant transformation in the early 1980s. In September 1980, Guangzhou’s first pedestrian overpass was completed at the intersection of Renmin Nan Road and Xihao Er Malu, marking the introduction of modern transportation infrastructure into the traditional urban fabric. The scene beneath the overpass—buses passing through, Guangzhou Beer advertisements hanging from the railings, and streams of pedestrians flowing across the space, captured the spirit of transformation and dynamism that defined the city during this pivotal decade.

Before the construction of the Renmin Road elevated expressway, Renmin Nan Lu had always served as an important route connecting central Guangzhou with the Xiguan area. As commercial activity along Xihao Er Malu and Renmin Nan Lu became increasingly busy, traffic congestion also worsened. In 1985, city authorities began discussing ways to improve traffic conditions on Renmin Road, and construction of the elevated expressway started the following

year in 1986.

The expressway was built 6 to 7 meters above the ground, with lanes running in both directions. It extended southward from Dongfeng Road all the way to Yanjiang Road, crossing over all the roads in between. This helped create a direct north-south traffic route and marked a major step in improving Guangzhou's transportation network.

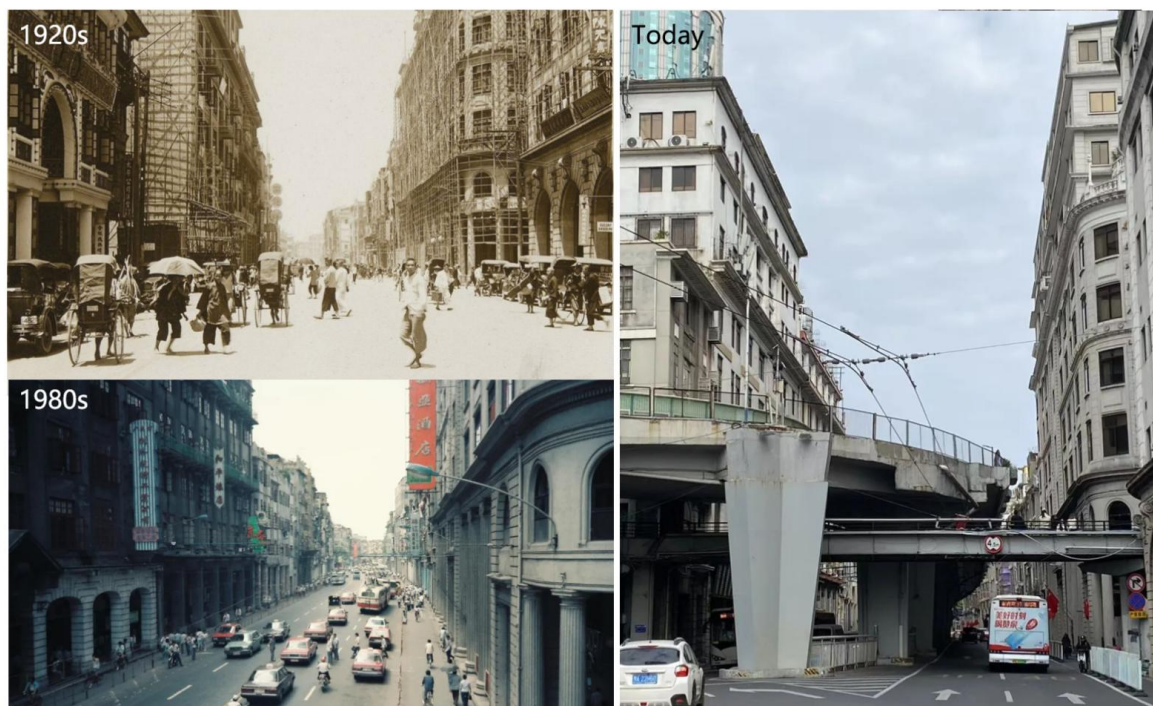


Fig.3-34 Renmin South Road in the 1920s, 1980s, and today

(Source: Baidu Image and the author)

After the Renmin Lu elevated expressway was completed, traffic congestion was eased significantly, but it greatly impacted the commercial atmosphere along Renmin Nan Lu. The Qilou street façades became obscured by the expressway structure. As a result, the shops along Renmin Nan Lu to the west and Xihao Er Malu to the south of Anye Li experienced a noticeable decline in both foot traffic and commercial value. Over time, these streets gradually shifted from a vibrant mix of cinemas, malls, and restaurants to primarily restaurants and clothing wholesale stores. At the beginning of the 21st century, the construction of New China Plaza within Cultural Park made it the tallest building in today's Renmin Nan historical district. Its scale significantly disrupted the skyline and spatial character of the historical area. However, the spacious interior of the plaza provided ideal conditions for the clothing wholesale stalls that later occupied the Thirteen Factories area.

(3) Architecture, Street, and Plot Patterns From the 1980s to the Present

① Plot Patterns

During the postwar reconstruction period, the Anye Li Block largely maintained its original street layout and spatial fabric. However, as the rebuilding process predominantly occurred spontaneously without systematic planning, some plots became excessively fragmented and undersized, making them inadequate for basic residential use and resulting in a highly subdivided spatial pattern. Within the area, the cadastral boundaries of the plots occupied by Qilou buildings generally remained consistent with those established in the Republican era, experiencing no significant alterations. Meanwhile, plots situated along the streets underwent modest consolidation to accommodate evolving functional demands.

② Architectural and Street Characteristics

In this period, Anye Li largely preserved its original linear street network, with street alignments and basic spatial structures remaining relatively stable. Nevertheless, due to the lack of coordinated plot boundaries during postwar reconstruction, variations in street widths emerged across different locations. In certain areas, excessive building encroachment disrupted street continuity, adversely affecting pedestrian movement and compromising the overall integrity of the street network.

Regarding architectural typology, buildings constructed from 1949 to the 1980s predominantly followed the basic layout of Republican-era bamboo houses, characterized by elongated, linear floorplans with spaces arranged sequentially from front to back. Starting from the 1980s, however, new constructions increasingly adopted reinforced concrete frame structures, featuring more flexible and open interior spaces and significantly altered functional layouts. Concurrently, facade materials transitioned from traditional brick-and-timber or exposed brick surfaces toward a diverse range of finishes such as ceramic tiles and terrazzo, resulting in a stylistically eclectic streetscape lacking unified visual coherence.

3.3.5 The Relationship Between Plot Patterns and the Evolution of Buildings and Street Networks

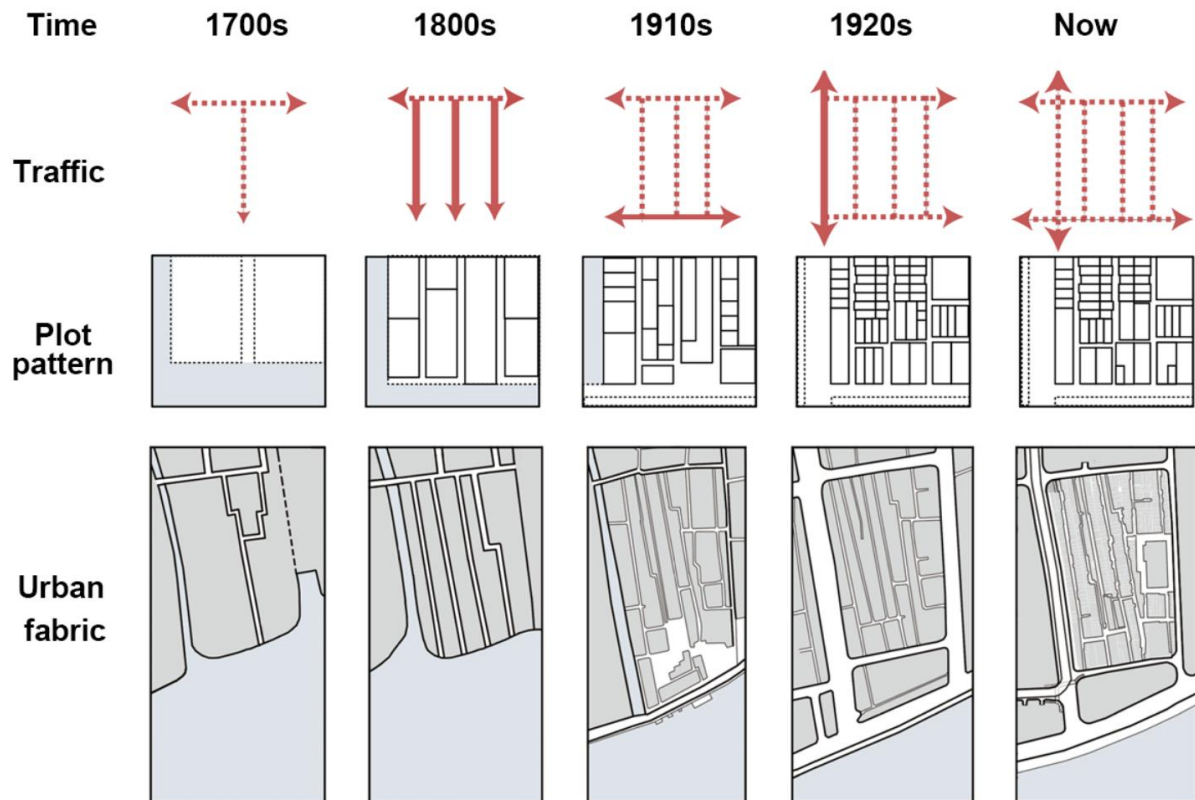


Fig.3- 35The Relationship Between Plot Patterns, Transportation, and Urban Fabric

(Source: the Author)

Based on historical maps and archival materials from various periods, Fig.3- 35 outlines the relationship between the plot configuration and the evolution of buildings and street networks in the Anye Li Block. As shown in Fig.3-37, since the 18th century, roads perpendicular to the Pearl River began to take shape in the Anye Li area due to the logistical needs of freight transport within the walled city of Guangzhou and along the riverfront piers. By the 19th century, a linear street urban fabric had emerged, and the plot layout of that period exhibited a traditional courtyard-style configuration aligned with the elongated street form. During the Republican period, the construction of the Changdi embankment and Taiping South Road, along with the disappearance of the Xihao Canal, transformed the functional structure and circulation patterns of the Anye Li area. From this time onward, changes in the plot configuration began to take place (as shown in Fig.3-36). Plots within the interior of the Anye Li Block were increasingly subdivided to meet residential demands, while those along main roads were gradually consolidated to accommodate commercial uses. Throughout Anye Li's history, changing functional orientations across different periods led to shifts in plot patterns,

and these evolving plot configurations subsequently shaped the urban spatial form. In the natural evolution of urban space, the plot has consistently served as a bridge between functional requirements and spatial structure. Therefore, the use of plots as a medium for regulating urban form is validated by the inherent spatial logic revealed through their evolutionary patterns.



Fig.3-36 The urban landscape of Canton around Anye Li in the 1920s

(Source: <https://hpcbristol.net/visual/Tr02-081>)



Fig.3-37 The urban landscape of Canton around Anye Li at 1906.

(Source: Presbyterian Archives Research Centre, Photo Gallery No 9:"A Tour of Old Canton")

3.4 Issues and Contradictions

(1) Fire Hazards

The linear street layout results in narrow spacing between buildings. Densely packed and closely connected structures make it easy for fires to spread. Since the Qing dynasty, the Thirteen Factories area has experienced frequent fires. There were ten recorded fires in the foreign factory district during the Qing period, caused either by accidents or wartime arson. These fires caused severe economic losses and significantly affected public security. Below is a summary of major fires that caused significant damage in the Thirteen Factories district:

Table3-2 Major Fires in the Thirteen Factories Area

Fire Date	Gregorian Date	Cause of Fire	Resulting Damage
Qianlong 8th Year, Oct 22	Dec 7, 1743	Residential fire	Over 130 shops burned down
Daoguang 2nd Year, Sep 18	Nov 1, 1822	Fire spread	Over 15,000 households and 11 foreign factories burned
Daoguang 15th Year, Dec 7	Jan 24, 1836	Fire spread	Over 100 shops burned, 5 people died in stampede
Daoguang 23rd Year, Sep 4	Oct 26, 1843	Fire from incense burning in a shop	1000 Chinese residences and 3 foreign factories burned
Xianfeng 6th Year, Nov 7	Dec 14, 1856	Invasion war	All the Thirteen Factories burned; thousands of riverside homes destroyed

The fire on December 7, 1743, caused by a residential fire, destroyed more than 130 shops. On November 1, 1822, a fire broke out in the Eighth Fu area and spread to the foreign factories by early morning. All foreign factories were engulfed in flames. The fire spread rapidly, destroying more than 15,000 homes and eleven foreign factories, resulting in the loss of a large amount of property and inventory. On January 24, 1836, a fire started near Carpenter's Square in the early morning and quickly spread to Xiaoxi Factory, the Dutch Factory, and others. The blaze was not fully controlled until 9 a.m. the next day. Over 100 shops were destroyed, and five people died in a stampede.^[34] In 1856, the Second Opium War broke out. On December 14 of the same year, angered by British aggression, residents of Guangzhou gathered in the Thirteen Factories area and set fire to the foreign factories. The fire started at the American and French factories and reached the British factory the next day, burning for two full days. In retaliation, British troops set fire to thousands of residential houses along the canal. The blaze completely destroyed all the foreign factories in the Thirteen Factories area, effectively marking the end of the district. For a time afterward, no foreign factory was rebuilt, and the area became a ruin.

After 1880, the Thirteen Factories site was redeveloped into a densely packed street market.

However, fire hazards remained unresolved. On December 8, 1922, a fire broke out in a shop on Tongwen Street and spread to surrounding streets, burning down many storefronts and causing heavy losses.^[22]

(2) The Issues of Residential Conditions and Public Facilities

① Conflict with Resident Needs:

In the historic district of Anye Li, there is a clear mismatch between current housing conditions and the needs of residents. As the city develops and society changes, residents' expectations and living standards have risen. One major issue is the incompatibility between traditional residential spaces and modern facilities—for instance, the tension between small traditional housing units and the demand from modern families for more spacious living environments.

② Conflict with Public Infrastructure Upgrades:

Traditional historic districts often lack modern infrastructure and public services, such as roads, drainage systems, and transportation facilities. As the area continues to develop, the nearby hospital has proposed expansion. As a result, a new research complex for the Sun Yat-sen Memorial Hospital is currently under construction within the study area, though its scale and form do not align well with the existing urban fabric.

3.5 Summary

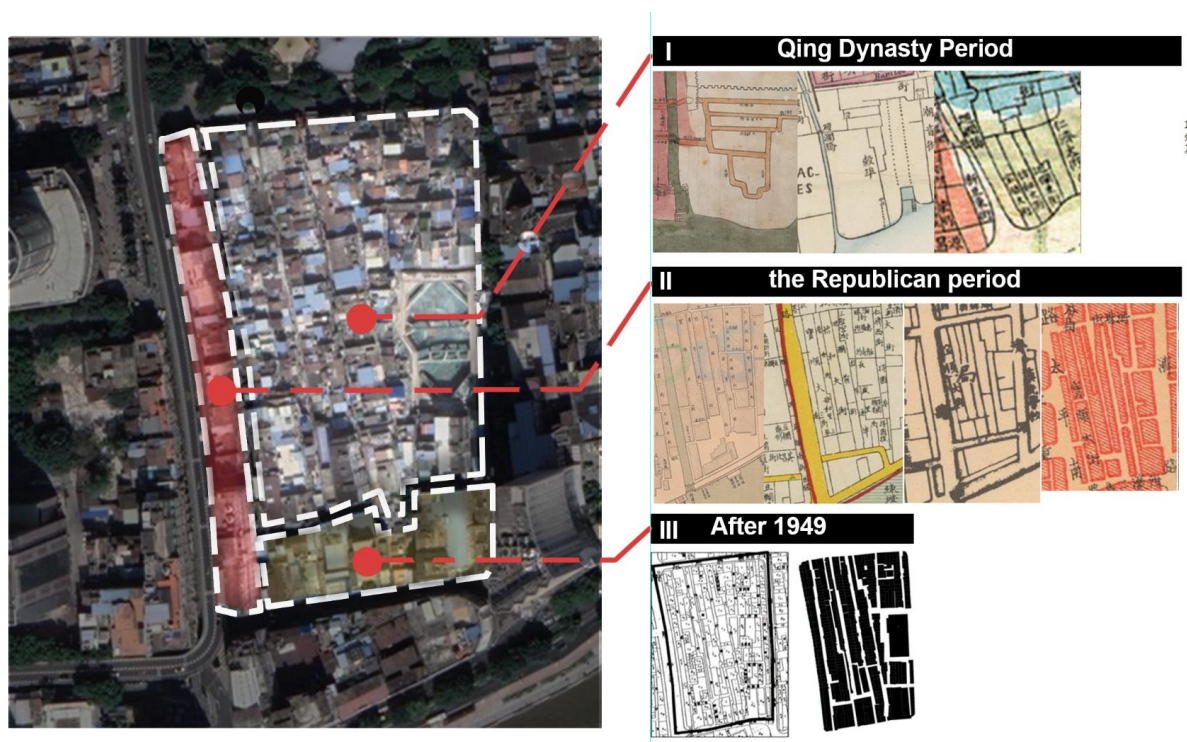


Fig.3-38 Historical Maps from Various Periods in Anye Li

(Source: Collected by the Author)

The existing spatial fabric of the site can be broadly categorized into three distinct typologies shaped during different historical periods: the linear street fabric of the Thirteen Factories, the Qilou buildings along Renmin Nan Road, and the commercial fabric around Xihao Er Malu. Each typology reflects the functional needs and collective urban memory of its respective period. Through both diachronic and synchronic analysis of the Anye Li area, this study underscores the necessity of preserving the linear street urban fabric while promoting the gradual renewal of existing buildings and continuation of local commercial functions within the block.

Chapter 4 Plot-Based Renewal Strategies for the Anye Li Block

The plots are not only fundamental components of urban historical form and fabric, but also practical tools for managing urban form in the process of renewal and development. In addressing the challenge of preserving indigenous morphological characteristics amid urban transformation, the use of plots as a regulatory mechanism for urban form offers both operability and adaptability.

The Anye Li Block presents a unique set of challenges in balancing the preservation of traditional urban fabric with the demands of urban renewal. On one hand, the linear street fabric shaped by historical conditions and natural geography stands as a distinctive testament to Guangzhou's maritime and commercial heritage. As such, this cultural asset requires holistic protection and continuity. On the other hand, residents of Anye Li face pressing needs for improvements in spatial quality and living conditions, which call for targeted urban renewal efforts. Building on the protection plan for the Renmin Nan historic and cultural block, this chapter proposes a set of renewal strategies based on plot-level interventions. These strategies aim to reconcile the dual objectives of preserving traditional block character and facilitating urban improvement, while incorporating mechanisms for public participation in the renewal process.

4.1 Traditional Character Preservation Needs

Anye Li Block is located within the Renmin Nan historic and cultural block. Based on *the Protection Plan for the Renmin Nan Historic and Cultural Block of Guangzhou City, Guangdong Province (2021–2035)* (hereinafter referred to as the Protection Plan), this study identifies the key conservation elements of Anye Li Block from three perspectives: traditional urban fabric, street and alley character, and traditional architectural features. It also summarizes the current preservation needs regarding traditional character, providing a basis and guidance for plot form adjustment and design.

4.1.1 Protection Scope and Control Requirements

The entire Anye Li Block falls within the designated Renmin Nan historic and cultural protection district. The total area of the Anye Li Block is 3.45 hectares, of which 0.32 hectares

are designated as the core protection area, while the remaining 3.13 hectares fall under the construction control zone. The core protection area is concentrated along the Qilou street section on Renmin Nan Road

According to the protection planning, no new construction or expansion is permitted within the core protection area, except for the development of essential infrastructure and public service facilities. Where such development is necessary, building height must be limited to under 12 meters. The volume, color, and materials of new buildings must be compatible with the historical character of the block, and the traditional urban fabric and architectural appearance must not be altered. Therefore, large-scale plot restructuring is not appropriate within the Qilou street zone. In the construction control zone, new construction and expansion must adhere to similar restrictions: building height should be limited to under 18 meters, and building volume, color, and materials must remain in harmony with the block's historical character. Developments must not disrupt the traditional spatial pattern or distinctive features of the district.

In addition, as Jianan Tang's Nanhua Building, located at the southwest corner of the block, is classified as an immovable cultural relic, any new or expanded infrastructure or public service facility within its control zone must be accompanied by a detailed cultural heritage protection plan when applying for planning permission.

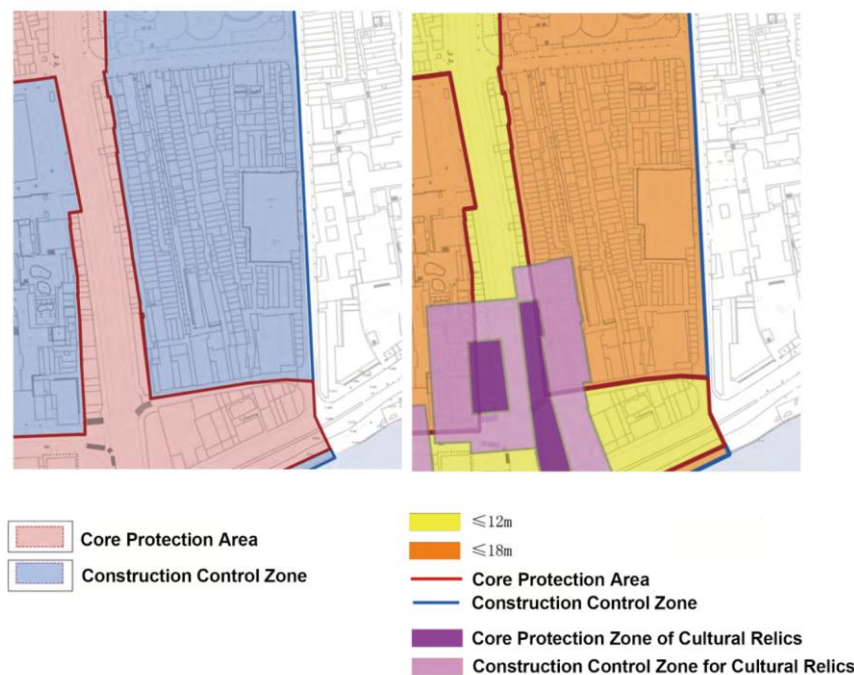


Fig.4-1 Maps of Protected Area Boundaries and Building Height Control

(Source: Reference ^[12])

4.1.2 Traditional Urban Fabric

The linear street urban fabric in the Anye Li Block, shaped by Pearl River shipping and commercial culture, is a distinctive feature of the Renmin Nan historic and cultural block. According to the protection planning, the street network is recognized as an essential component of the tangible cultural heritage. Protection of the spatial pattern involves preserving the traditional urban fabric formed by historic buildings and maintaining the existing street layout. The overall spatial structure and fabric of the Anye Li Block reflect two key elements: the spatial division between the inner and outer parts of Guangzhou's old city as defined by Renmin Nan Road, and the textured layout formed by winding historic streets and waterways.



Fig.4-2 Two Types of Negative Impacts on Urban Fabric

(Source: the Author)

The spatial fabric of the Anye Li historic block has been preserved to this day through the control of long and narrow alleyways as boundary elements. The integrity of this fabric cannot be maintained without preserving the alleys, which constitute its basic structure and are the most frequently used spaces in daily life. These alleyways carry collective memory and local identity for residents and serve as vital carriers of historical and cultural meaning. In the process of preserving urban fabric, the structure of historic streets and alleys must be given priority to ensure that spatial continuity within the block is not disrupted. Any adjustment to land plots should be based on the existing street pattern, avoiding changes that would fragment the scale of alleyways or result in spatial disconnection. Based on current conditions, two types of alterations that could impact the street layout are identified, each requiring a specific response strategy:

(1) Prevent Oversized Plot Mergers and Preserve Alleyway Functionality

The alleyway network in the Anye Li area has evolved through different historical periods, forming a self-consistent land parcel system that is adapted to current social and spatial conditions. However, plot-scale expansion driven by unrestrained growth-oriented development within the Anye Li Block has resulted in several oversized plots. This has led to the abandonment of adjacent traditional alleys that no longer serve as access routes and has disrupted the overall spatial continuity of the block's internal plot structure. Therefore, future plot adjustments should aim to moderate plot scales and prevent the emergence of excessively large parcels, in order to safeguard the functional role of alleys and preserve the coherence of the block's spatial fabric. For existing oversized plots that require redevelopment, appropriate subdivision and refinement should be employed to break them down into medium or small-sized plots that better align with the historical scale of the district.

(2) Appropriate Plot Mergers to Prevent Alleyway Encroachment and Spatial Disruption

Very small land plots often lack the spatial capacity to accommodate modern residential, commercial, or public facility needs. As a result, unauthorized encroachment into alleyway spaces is commonly observed in current developments. To address this issue, adjacent small plots can be merged into more functional units, improving land use efficiency while maintaining the original street and alley boundaries. During the merger process, appropriate open space configurations should also be incorporated—such as inner courtyards, shared spaces, or green strips along the street—to ensure that the resulting plots provide a livable residential environment. These measures also help enhance the overall habitability and vitality of the block.

4.1.3 Traditional Streets and Characteristics

In the section on tangible cultural heritage within the protection planning, traditional streets are listed as protected elements. The existing traditional streets in the Anye Li Block include the Qilou street along Renmin Nan Road, six secondary traditional street fabrics, and three stone-paved alleys. The key themes for protecting traditional streets and architectural character in the Anye Li Block include the orientation, scale, height-to-width ratio, and overall visual appearance of the main streets and traditional alleys within the block

(1) Scale and Height-to-Width Ratio

In this high-density urban fabric, the typical height-to-width (D/H) ratio of streets in the Anye Li Block is less than 1/2. (D represents the width of the street, while H refers to the height of the buildings on both sides.) Due to the increased number of floors in buildings on both sides, the current D/H values are greater than those during the Ming and Qing periods, although the

actual street widths remain similar. During the process of plot reconfiguration, adjustments should be made to the plots along streets where the D/H value is excessively high.

Table 4-1 Analysis of Spatial Dimensions in Selected Streets and Alleys





Name	Yihe Jie	Shanshengong Xin Jie	Pu'an Dajie	Renji Xi Jie
Length	192m	252m	136m	81m
Orientation	North-South	North-South	North-South	North-South
				
Width	4.3m(total)	2.6m	3.3m	3.6m
Height (average)	9.5m	12.3m	7.0m	10.0m
D/H	0.45	0.21	0.47	0.36



Fig.4- 3Continuity of Street Spatial Characteristics

(Sources: Terry Bennett, John B. Shackford)

(2) Traditional Street Paving

“Mashi streets” made with granite blocks are a traditional form of alley in Guangzhou. During the Republican period, granite streets in Xiguan were often laid across rivers or drainage channels, creating a unique feature known as “stone-covered open drains”. After the 1950s, as the drainage system was improved, open canals were gradually converted into covered ones, and the granite slabs began to be arranged vertically as seen today. In the past, granite streets were laid using either tight-joint or loose-joint methods. The tight-joint method placed granite

blocks close together without gaps, with a raised center and lower sides to help rainwater drain away. The internal alleyways of the Anye Li Block still preserve the form of granite-paved streets.



Fig.4-4 Photographs of Mashi Streets in Anye Li

(Source: the Author)

4.1.4 Traditional Style Building

According to the protection planning, there is one site in the Anye Li Block designated as a Class I protected building and listed as a municipal-level cultural relic protection unit in Guangzhou, which is the Jianan Tang Nanhua Building located at the intersection of Renmin Nan Lu and Xihao Er Malu. There are 49 Class III buildings within the block that are considered to have heritage value and a total of 40 Class V buildings within the block are in significant conflict with the traditional architectural character.



Fig.4-5 Map of Building Classification and Conservation Strategies

(Source: Reference^[12])

Table 4-2 Building Protection Categories

Category	Category I	Category II	Category III	Category IV	Category V
Applicable Buildings	Immovable Cultural Relic	Historic buildings and traditional style buildings	Other buildings of preservation value	Other buildings/structures that do not significantly conflict with traditional styles	Other buildings/structures that significantly conflict with traditional styles
Protection and Renovation Measures	Restoration	Restoration, Maintenance, Improvement	Maintenance, Improvement	Preservation, Maintenance, Improvement	Renovation

The buildings with conservation value in the area, except Jianan Tang Nanhua Building, can be divided into four categories:

Table 4-3 Building Categories in Anye Li Block


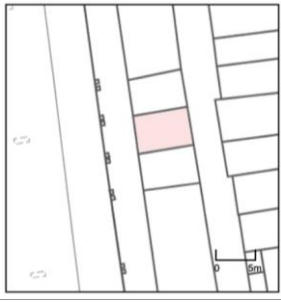

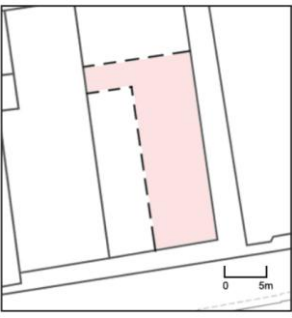


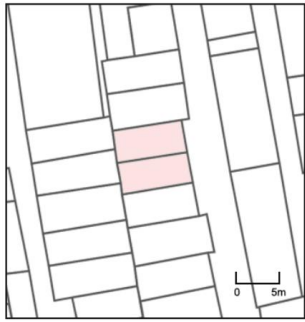
Type	Photo	Plot Pattern	Number and Distribution
Qilou buildings			12 sites, small-scale, distributed along Renmin Nan Lu
Republican-era Style Shops			4 sites, medium-scale, distributed along Xihao Er Malu
Traditional street shops			18 sites, small-scale, distributed along Renji Lu

Table 4-3 Building Categories in Anye Li Block (Continued)

Type	Photo	Plot Pattern	Number and Distribution
bamboo houses			13 sites, small-scale, Distributed within the Anye Li Block

From the diagram above, it can be seen that the main type of plots containing buildings of preservation value in the block are small-scale plots. These plots are mostly rectangular with regular boundaries and small in size, closely aligned with the traditional alleyway fabric. In the future design of plot reconfiguration, it is important to respect the original scale and boundaries of the plots while exploring flexible strategies for form repair and functional guidance, in order to achieve a balance between the preservation of historical value and spatial adaptability.

4.2 Urban Renewal Needs

4.2.1 Principle of Incremental Adjustment

Incremental renewal is an effective approach to coordinate top-down planning models with bottom-up self-organizing patterns. Since the establishment of the Historic and Cultural City Protection System in China in 1982, there has been a shift from individual protection to integrated conservation for cultural heritage, which has continued for more than forty years. At the national level, strategic goals are set. At the provincial level, coordinating regulations are clarified. At the city level, implementation policies are issued. These three levels form a collaborative governance system that supports the protection and inheritance of cultural heritage during rapid urbanization. Incremental renewal is an effective approach to coordinate top-down planning models with bottom-up self-organizing patterns. Since the establishment of the Historic and Cultural City Protection System in China in 1982, there has been a shift from individual protection to integrated conservation for cultural heritage, which has continued for more than forty years. At the national level, strategic goals are set. At the provincial level, coordinating regulations are clarified. At the city level, implementation policies are issued. These four levels form a collaborative governance system that supports the protection and inheritance of cultural heritage during rapid urbanization:

- (1) Urban renewal concepts guided by short-term economic benefits often lead to high-

intensity, concentrated development in a short period. These approaches lack long-term regulation of urban systems and internal block patterns, as well as sustainable planning for traditional character and spatial features.

(2) Renewal measures based on large-scale demolition and reconstruction cause serious and irreversible damage to the traditional character and original community ecology of historic and cultural blocks. The main approach to urban renewal should shift from demolition-led to preservation-led, with incremental improvement of the existing environment, functions, and business forms while preserving urban memory.

(3) Strategies to balance conservation and development are mostly general guidance at the macro level. They often lack concrete and workable coordination mechanisms and implementation paths. In practice, measures related to building reuse and commercial revitalization of the block are often difficult to implement effectively.^[27]

(4) Neglect of the everyday environment and social context. High-intensity redevelopment in the short term may quickly increase the commercial value of the block, but current comprehensive plans often fail to consider the needs of everyday environments and the social fabric. They overlook the basic function of the block as a place for residents' daily life, which leads to a lack of long-term internal momentum for autonomous development after renewal.

In the renewal of historic and cultural blocks, while the top-down planning approach has the capacity and advantage to carry out large-scale environmental improvements and boost economic value in a short period of time, it often results in the fragmentation of traditional block character and a lack of long-term internal momentum for autonomous development. Relying solely on a bottom-up process of self-organization may result in a slow renewal process, lack of coordinated direction, and ultimately fail to achieve systematic improvement. The essence of self-organization lies in the way numerous random processes, under certain constraints and interactions, eventually produce order and regularity at the macro level. In traditional self-grown environments, such constraints often took the form of shared cultural backgrounds, conventional construction methods and styles, or common functional needs. In today's diverse context, however, attempting to recreate the original organic order of historic areas through isolated building practices that simply follow traditional models is no longer realistic. Nevertheless, Bill Hillier's research on the integration of street networks in the non-organically developed central area of London shows that even within a predetermined spatial structure, self-organizing mechanisms can still find their own way to influence urban development.^[28]

Overall, the strategy for protecting and modifying the urban fabric of the Anye Li Block

should integrate the structural constraints introduced by top-down planning, while preserving and encouraging the driving forces and conditions for self-organized development within the existing spatial context. Based on an understanding and respect for the existing spatial layout and social relationships, a strategy of gradual adjustment and flexible intervention should be adopted to progressively refine the urban fabric through plot-level restructuring. The core of gradual adjustment lies in local optimization and small-scale modifications that enhance the existing built environment without disrupting the key characteristics of the urban fabric or the street network, while also allowing room for future change. For example, a phased, area-based approach can be adopted—starting with plot adjustments in selected zones, assessing the outcomes and spatial impact, collecting feedback, and then gradually extending optimized strategies to broader areas. This method not only helps minimize disruption to the historical environment that often results from large-scale redevelopment, but also provides a practical foundation for refining the adjustment process, enhancing the adaptability and feasibility of future stages of block renewal.

4.2.2 Sustainability of Urban Spatial

In the common renewal models of historic and cultural blocks in China, renovation is often accompanied by the large-scale displacement of original residents. The mixed spatial functions of the block are replaced by a single commercial use. This causes the place, which once supported everyday life and social networks, to lose its role and vitality as a fundamental part of the city. When commercial activity becomes unsustainable, the block faces high vacancy rates, functional monotony, and the breakdown of its community structure. It lacks a basic system to support daily life and eventually becomes a hollow, lifeless space that loses its internal momentum for sustainable development.

A single-function approach focused on commercial or tourism development reduces the ability of historic and cultural blocks to adapt to changing needs. During the renewal process of historic and cultural blocks, there is a need to balance commercial development with residential functions. Historic and cultural blocks carry not only the physical heritage and cultural value of a place, but also rely on the long-term residence and daily use by local people to maintain and continue local cultural patterns. Daily activities by residents give the block lasting vitality. They help keep public spaces active through everyday use and interaction, and support the stable operation of small-scale economic and community functions in the area. When commercially driven blocks face a decline in business or market demand, those without daily residential activity quickly become vacant and struggle to adjust or adapt to changes in

the environment. This ultimately affects the continuity of historical and cultural identity and limits the block's sustainable development. Thus, the renewal of historic and cultural blocks should avoid excessive commercialization, and should maintain a proper balance between residential and commercial uses, in order to keep the block vibrant throughout different stages of development.

Plot adjustment should not be treated as a fixed planning action, but should follow the approach of urban seeding, in order to meet the changing needs of future urban development. Traditional urban planning often arranges land use based on fixed zoning of functions, but as social and economic structures change, the original land functions may no longer meet new demands. In the case of plot adjustment in Anye Li, it is important to build a spatial framework that can evolve over time, so that future changes in use can be accommodated with flexibility.

Specifically, flexible-use plots can be designated to allow moderate changes in function at different stages of development. For example, some mixed-use areas combining commercial and residential functions may adopt different usage patterns at different times, or certain blocks can reserve flexible shared spaces so they can be adjusted according to market needs. At the same time, during the planning process, low-density buffer areas can be reserved so that gradual infill through small-scale updates is possible in the future rather than intensive development all at once.

4.2.3 Residential Space Demand

There are many existing residential plots in the Anye Li Block, with individual plot sizes ranging from less than 5 square meters to 200 square meters, showing a clear variation in scale. The residential plots in the Anye Li Block are densely arranged, which results in a large number of plots that can hardly meet the current urban residential needs. Due to limited building size, tight spatial layout, and inadequate ventilation and lighting, some plots that do not meet current residential needs have been rented out for temporary storage or garment processing. Other plots are still occupied by residents, but the living conditions are relatively poor. Considering the high-density and compact pattern of land plots in the Anye Li Block, the new residential plots will still generally remain small in scale after adjusting their layout while maintaining the original street pattern.

To respond to this issue and provide a basis for future plot layout adjustments, this section will propose designs for two typical types of plots, based on everyday residential function needs.

(1) Minimum plot model for a single bamboo house type:

This model defines the appropriate minimum plot size that meets modern residential needs.

The minimum area for this type of plot should be about 30 square meters, including basic functions such as kitchen, bathroom, living room, and bedroom.

(2) Suitable plot model for bamboo house apartment type:

This model defines the appropriate small-size plot standard for multiple households living on the same plot. The minimum area for this type of plot should be about 60 square meters, with each unit having basic functions such as kitchen, bathroom, living room, and bedroom.

By defining these benchmark values, practical guidance can be provided for optimizing plot structure, formulating renewal strategies, and controlling the scale of adjustments.

4.3 Property Rights and Public Participation

Type	Private Housing	Proxy-managed Housing	Public Housing			
			Sale-permitted		Non-sale-permitted	Directly-managed
Property Right	Private Ownership	Private Ownership or State Ownership	Private Ownership	Private Ownership (limited right of income)	Work unit ownership	State Ownership

Fig.4-6 Classification of Property Ownership in Anye Li Block

(Source: the Author)

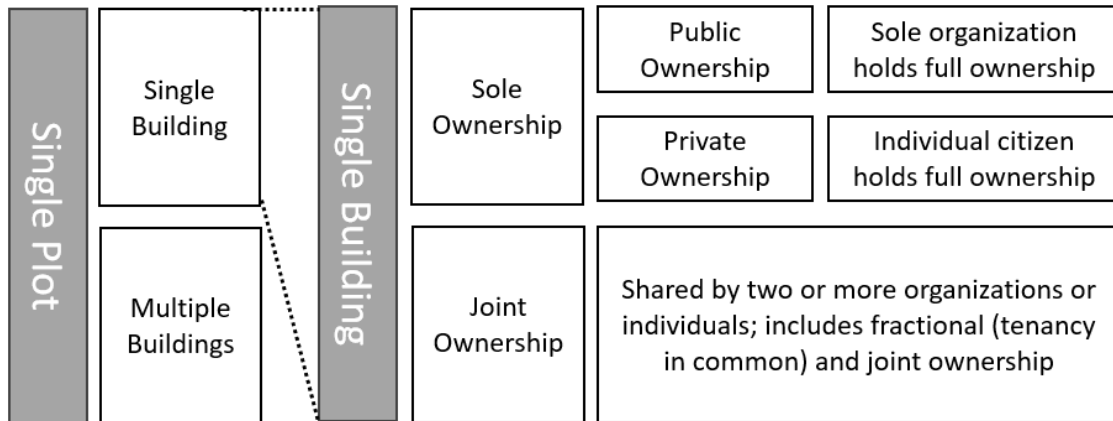


Fig.4-7 Possible Types of Property Ownership Within a Single Plot

(Source: the Author)

Plot adjustment involves multiple stakeholder interests, and planning adjustments alone are often difficult to implement smoothly. Meanwhile, property ownership in the Anye Li area is complex. In the process of optimizing plots in Anye Li, it is necessary to incorporate a property coordination mechanism and promote public participation to ensure the feasibility of

the plan. The key to property coordination lies in establishing a benefit-balancing mechanism before and after plot adjustment, so that different stakeholders can reach a consensus.

In addition, residents, as the direct users of the block, have the best understanding of actual spatial needs, so they should be included in the decision-making process through a model of community co-governance. For example, community consultation meetings and public hearings can be organized to collect residents' opinions on plot adjustments, which can be reasonably considered during planning. During implementation, small-scale pilot projects can help gradually adjust plot configurations and improve them based on community feedback, increasing public acceptance and adaptability to renewal plans.

This approach emphasizes incremental adjustments, spatial adaptability, preservation of historic street networks, and resident participation. It ensures that plot optimization in the Anye Li Block respects historical context while meeting the needs of contemporary urban development. The methodology is both practical and adaptable, offering a valuable reference for broader urban renewal efforts.

4.5 Summary

This chapter integrates the theory of plot-based urbanism with the actual conditions of Anye Li Block, identifying both the key elements for preservation and the current demands for renewal. It analyzes and extracts a methodology for plot restructuring suited to Anye Li Block.

Chapter 5 Design for the Renewal of Plot Patterns in Anye Li Block

Building on the methodology and renewal guidelines established in Chapter Four, this chapter puts forward a practical design for the repair and reconfiguration of land plots, and outlines the corresponding implementation guidelines.

5.1 Determining the Scope of Plot Adjustment

An analysis of the current cadastral map of the Anye Li area reveals several critical issues in terms of plot configuration and spatial structure within the block. (1) Portions of the original linear street networks have been encroached upon by residential buildings, resulting in excessively narrow alleyways that severely hinder circulation and emergency evacuation, thereby posing heightened fire risks. (2) Along Puan Street and adjacent to Anye Li, residential plots exhibit a high degree of fragmentation, with plot sizes generally too small to support adequate infrastructure provision and equitable access to public services. (3) Although some spontaneous plot amalgamations have occurred within the block, indicating residents' adaptive responses to spatial constraints—certain newly developed large-scale plots (such as the hospital site) are significantly misaligned with the fine-grained traditional urban fabric in both scale and frontage, leading to disruptions in the historic spatial order.

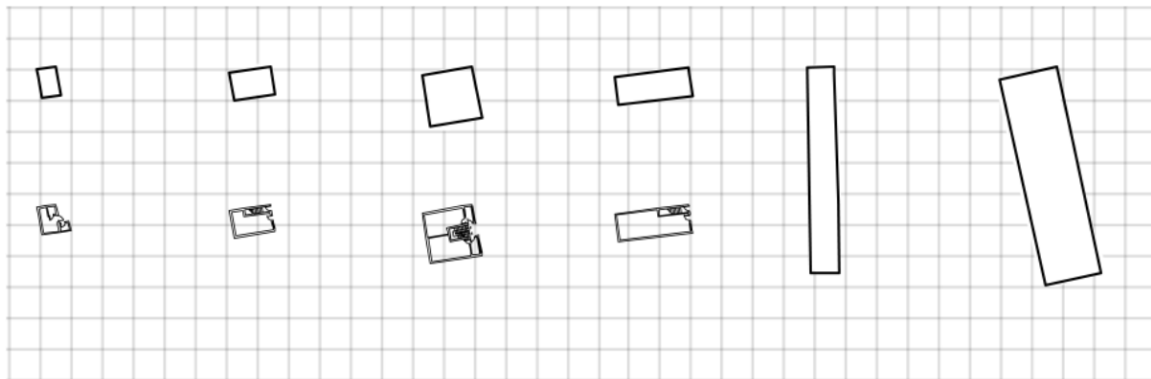


Fig.5-1 Cadastral Map of the Anye Li Block, 2024

(Source: the Author)

Given these conditions, it is both necessary and urgent to optimize and restructure the existing plot layout in the Anye Li area. To guide the orderly renewal of the block's spatial form, the next stage will involve a functional classification of plots into three categories: residential, commercial, and public service, followed by a detailed assessment to define the spatial scope of the current plot restructuring initiative.

(1) Residential Plots

Residential Plots5m x 5m 

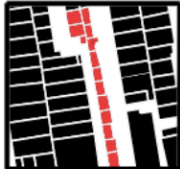
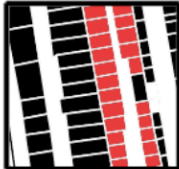




Fragmented Type	Ultra-Short Plot	Row Apartment Type	Medium-Sized Plot Type	Ultra-Deep Plot Type	Modernized Type
13.66m²	28.05m²	54.93m²	52.36m²	140.40m²	295.19m²
1-2 F	2-3 F	4-5 F	2-4 F	3-5 F	6 F
General	General	General	General	General	Specific
					

Fig.5-2 Types of Residential Plots in the Anye Li Block

(Source: the Author)

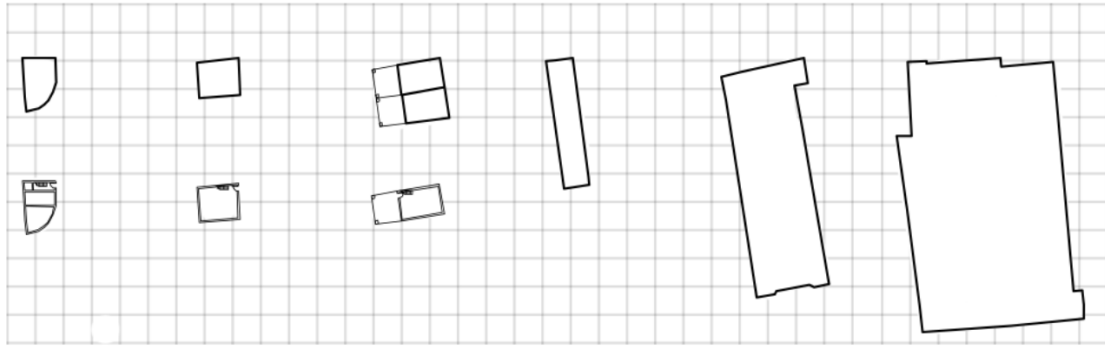
Residential plots in the Anye Li Block exhibit considerable typological diversity, but overall they are characterized by a high degree of fragmentation and undersized dimensions. A large number of plots are smaller than 60 square meters, with some under 20 square meters, featuring shallow depths, inadequate ventilation, and poor natural lighting, conditions that fail to meet the basic requirements for residential use. While some spontaneous plot amalgamations have occurred along main streets, they often lack coordinated planning. The resulting larger plots have been developed with newly built residential buildings of non-traditional character, which disrupt the coherence of the historic urban fabric. The current plot structure cannot adequately support residents' spatial needs under existing conditions, and issues related to residential quality are becoming increasingly pronounced. It is therefore necessary to reestablish a rational plot scale system through functional classification and structural

optimization, in order to improve the overall spatial capacity and adaptability of the block. In particular, plots smaller than 20 square meters require targeted and comprehensive restructuring.

(2) Commercial plots

Commercial Plots

5m x 5m 





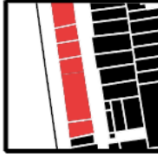



Corner Type	Streetfront Type	Qilou Type	Deep-Plot Type	Large-Scale Type	Extra-Large-Scale Type
44.11m ²	43.55m ²	38.04m ²	98.11m ²	483.40m ²	1214.37m ²
3-4 F	2-4 F	3-6 F	2-4 F	4-6 F	6 F
General	General	General	General	General	Specific
					

Fig.5- 3 Types of Residential Plots in the Anye Li Block

(Source: the Author)

Based on the classification of commercial plot types in the diagram, the adjustment scope focuses on addressing scale imbalance and the coordination between plot structure and urban fabric. Small-scale plots such as corner, street front, and Qilou types reflect traditional block characteristics and will generally remain unchanged. However, some of these plots exhibit issues such as mixed functions and disorganized access points, which require minor boundary refinements. Deep-plot types are suitable for retaining their longitudinal spatial advantages but should be improved in terms of internal accessibility. Large-scale and extra-large-scale plots often conflict with the traditional urban texture due to their excessive size and tend to create spatial fragmentation. Therefore, it is necessary to control their expansion and enhance their integration with the surrounding block scale. Through typological identification and spatial

analysis, the adjustment strategy prioritizes large-scale and extra-large-scale plots as key targets for renewal.

(3) Public Service Plots

Public service facility plots within the Anye Li Block are limited in number and exist as isolated cases. As shown in the diagram, one extra-large plot with an area of 2,745 square meters is entirely out of scale with the traditional historical fabric of the district and has significantly disrupted the existing street network. However, this plot is currently occupied by a newly constructed large-scale hospital building. Due to its substantial built volume, recent construction, and the complexity of ownership, the adjustment of this plot's configuration presents considerable challenges. Therefore, it is not included within the scope of the current round of plot restructuring.

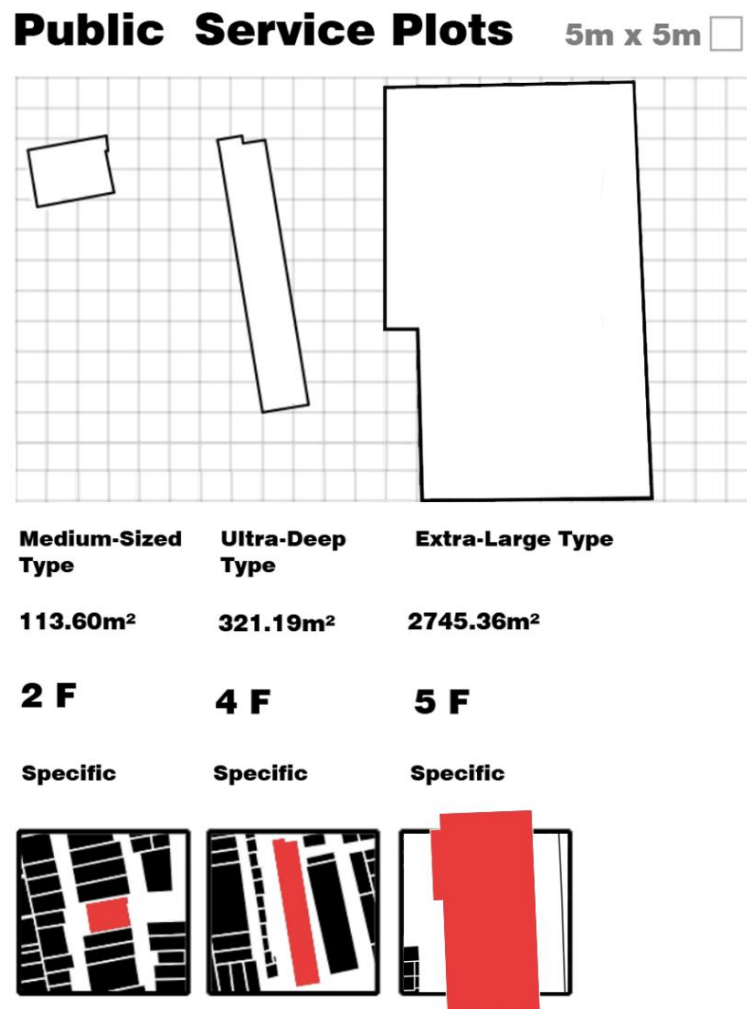


Fig.5- 4 Types of Public Service Plots in the Anye Li Block

(Source: the Author)

5.2 Design Strategy

5.2.1 Adaptive Renovation for Fire Safety

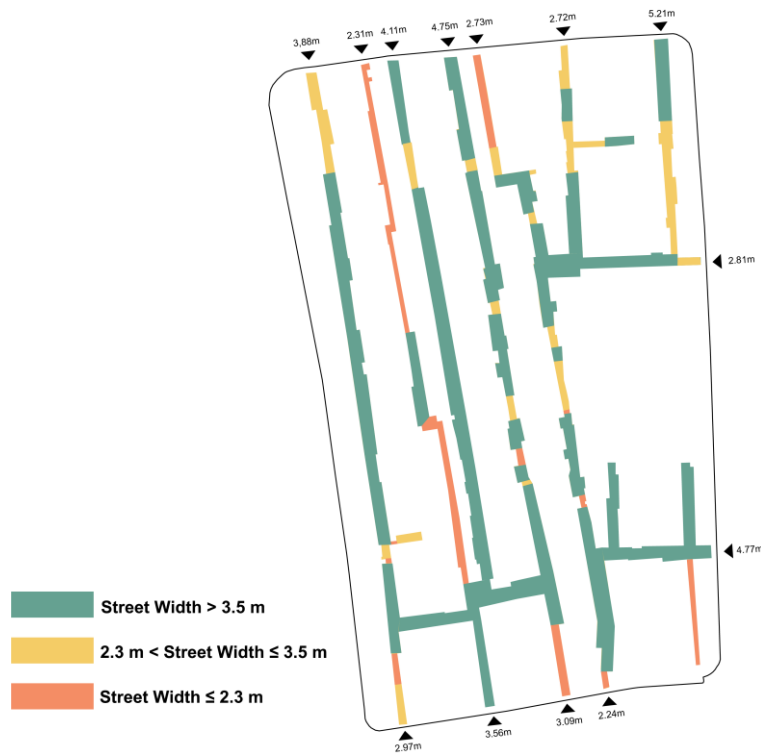


Fig.5-5 Street Width Map of the Anye Li Block

(Source: the Author)

Fire safety in historic districts is of particular importance. These areas often suffer from high building density, narrow streets, and a lack of proper fire access routes. Traditional brick-and-wood structures are highly flammable, and problems such as aging electrical systems further increase the risk of fire. At the same time, the contradiction between modern usage needs and the limited spatial capacity of historic districts has led to the spread of the “residential-to-warehouse” phenomenon in the Anye Li Block. A large quantity of flammable textiles is being stored in residential buildings that do not meet fire safety standards for warehousing use.

According to *the Protection Plan for Renmin South Road Historic and Cultural District, Guangzhou City, Guangdong Province (2021–2035)*, certain internal stone-paved roads in the district are required to reserve a minimum road width of 3.5 to 4 meters as emergency evacuation passages, which also meet the width requirements for fire truck access. In addition, fire hydrants must be installed along major roads in accordance with national regulations. As a result, the land parcel restructuring in the Anye Li Block must address fire safety concerns by reducing the number of narrow internal alleys that currently fail to meet the requirements for fire truck access and emergency evacuation routes.

5.2.2 Protection of the Original Urban Fabric

The linear street urban fabric has been shaped through more than a hundred years of growth and change along the river. It carries the rich commercial and maritime culture of Guangzhou. It is a non-renewable and hard-to-replicate mark of urban culture. The renewal of the Anye Li Block should not go against or damage the linear street urban fabric and the traditional alleyway character of the Mashi streets.

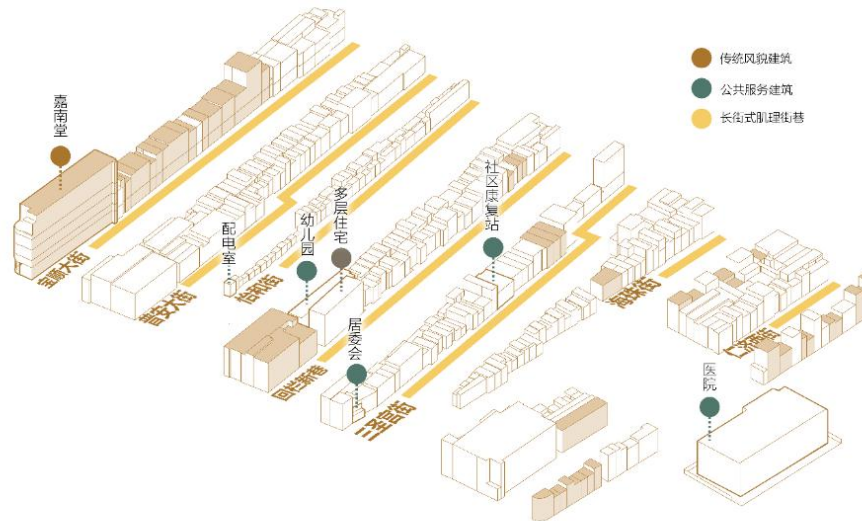


Fig.5-6 Protected Elements and Public Service Facilities within the Anye Li Block

(Source: the Author)

5.2.3 Site Condition Improvement

Some plot units are too small to meet the functional needs of modern daily living, while others are too large, which affects the traditional fabric and results in problems such as poor internal lighting. For these two types of plots, appropriate land readjustment measures should be taken, including plot merging, subdivision, and reconfiguration.

5.2.4 Preservation of Diversity

Plot-based urbanism promotes diversity. Spontaneous diversity contributes to the sustainable vitality of blocks and strengthens their resilience against single-function risks. However, if diversity is not properly organized, it can lead to disorder, as fragmented development tends to produce scattered clusters rather than a cohesive whole.

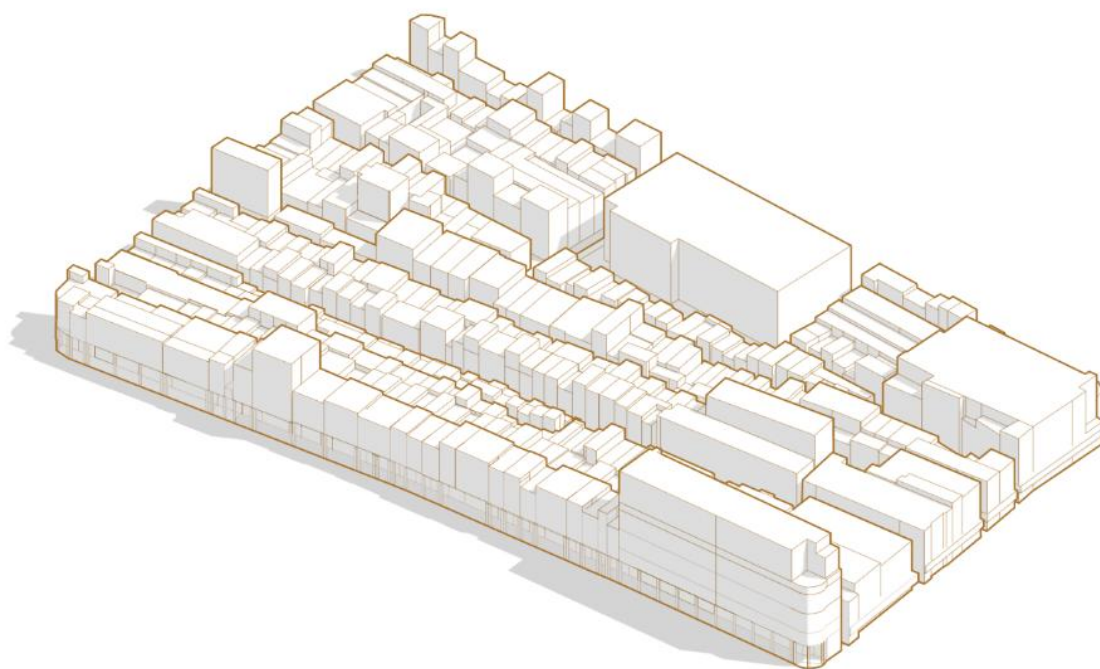


Fig.5-7 Building Massing Diagram of the Anye Li Block

(Source: the Author)

5.3 Plot Form Rehabilitation Design

This plot adjustment plan is based on the current cadastral map and plot type classification of the Anye Li Block. Guided by the Regulations on the Conservation of the Renmin South Historical and Cultural District and the functional needs within the area, the plan aims to address key issues related to plot configuration and spatial structure within the block.



Fig.5-8 Plot Form Rehabilitation Design Plan

(Source: the Author)



Fig.5-9 Comparison of Plot Patterns Before and After Rehabilitation

(Source: the Author)

A total of 148 existing plots have been included in the plot reorganization scope, covering a total area of 6769.72 m². After reorganization, the number of plots was reduced to 81, with a total area of 6245.317 m².

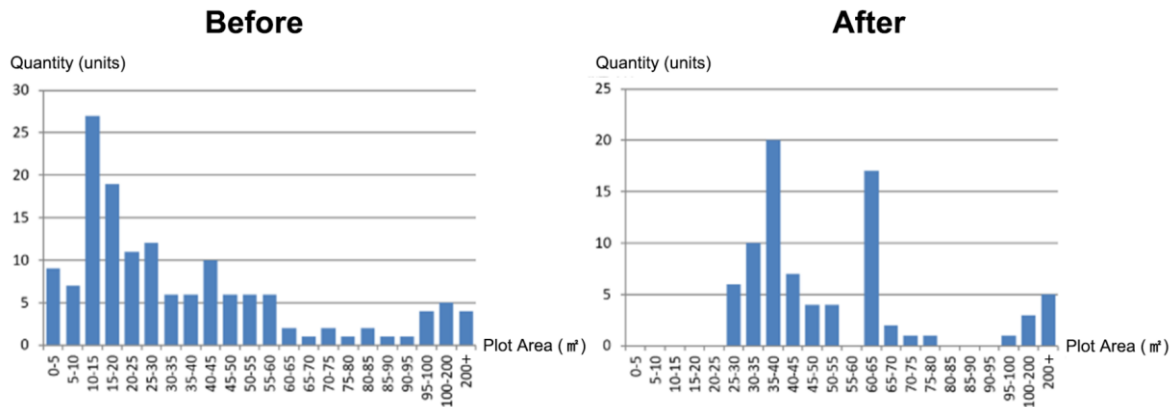


Fig.5-10 Comparative Chart of Plot Area Ranges in the Target Area

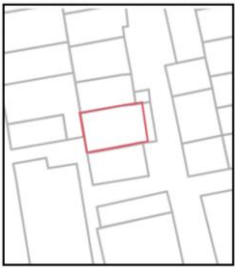
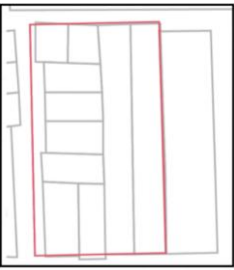


(Source: the Author)

After reorganization, the plot sizes are mainly concentrated in the 30 to 70 m^2 range, effectively resolving issues related to plots that were previously too small or too large. The reorganized area includes two plots designated for constructing multi-story residential buildings, which will provide on-site housing for some of the affected land rights holders. Each residential unit has a floor area of 32 m^2 , and each building has six floors, providing a total of 5376 m^2 of living space, excluding shared areas. For land rights holders whose original plots are smaller than 10 m^2 , financial compensation will be provided.

5.4 Implementation Guidelines

5.4.1 Classification of Plot Rehabilitation


Table 5-1 Classification of Plot Rehabilitation

Type	Boundary Adjustment	Plot Merging	Frontage Commercial Plot Adjustment	Regional Reconfiguration
Diagram				
Change in Plot Count	Unchanged	Reduced	Reduced	Reduced
Types of Plot Adjustment Involved	Boundary Adjustment	Merging, Boundary Adjustment	Merging, Boundary Adjustment, Plot Removal	Merging, Boundary Adjustment, Plot Removal
Scope of Adjustment	Individual Plot	Plot Cluster	Plot Cluster	Street, Plot Cluster
Numbers	8 cases	3 cases	3 cases	2 streets

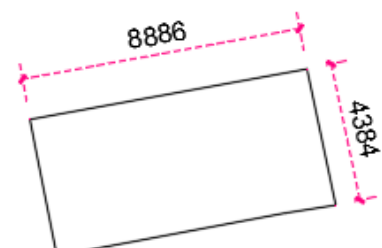
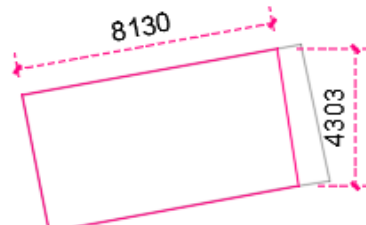
5.4.2 Boundary Adjustment

Boundary Adjustment type plot reorganization refers to adjustments made to the boundaries of individual plots that encroach on roadways or similar public spaces. This type of adjustment does not involve a change in the number of plots. There are 8 such cases included in this project.

Table 5-2 Detailed information about Boundary Adjustment

Plot Number	No. 13 Anye Li	
Land Use Type	Class 2 residential land(R2)	
Building Type Defined in the Protection Planning	Category IV Buildings	
Building Ownership Status	State-Owned Entities	
Existing Building Area	152 m²	
Existing Number of Floors	4	
Construction Year	After the 1980s	
Existing Issues	Plot encroaches on the street	
Adjustment Method	Plot boundary setback	

Plot Reorganization Plan

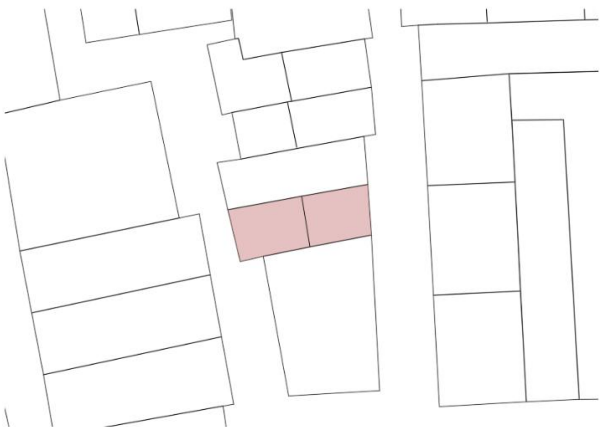
Before		After	
			
Plot Area	39.01 m ²	Plot Area	35.13 m ²
Frontage	4.384 m	Frontage	4.303 m
Existing Number of Floors	4	Height Limit	18 m
Plot Area Change	3.88 m ²	Value Balancing	Monetary Compensation

5.4.3 Plot Merging

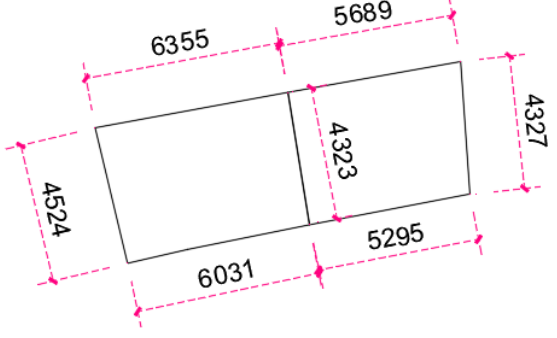
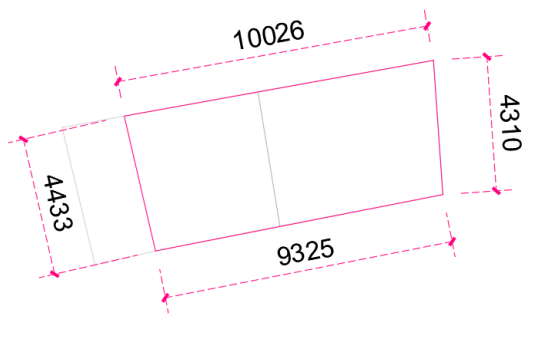
Three cases of this adjustment type are included in the project. Property owners who lose their plots due to consolidation will receive either financial compensation or resettlement within

the area, depending on specific circumstances.

Table 5-3 Detailed information about Plot Merging

Plot Number	No. 23, Sanshenggong Xin Jie (①)/ No. 11, Haizhu Jie(②)		
Land Use Type	Class 2 residential land(R2)		
Building Type Defined in the Protection Planning	Category IV Buildings		
Building Ownership Status	Mixed Private and Public Ownership		
Existing Building Area	152 m²		
Existing Number of Floors	3-5F		
Construction Year	After the 1980s		
Existing Issues	Plot encroaches on the street		
Adjustment Method	Plot merger and boundary adjustment		

Plot Reorganization Plan

Before				After			
							
Total Plot Area		51.19 m²		Total Plot Area		42.13 m²	
Number of Plots		2		Number of Plots		1	
	Plot①	Area	23.72 m²	After	Area	42.13 m²	
	Plot②	Area	27.47 m²		Area	0	
Existing Number of Floors		4		Height Limit		18 m	

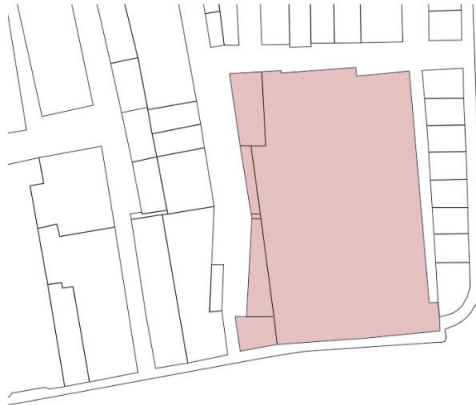
Plot Value Equalization Strategy

Total Plot Area Change		-9.06 m²	Value Balancing	Details
	Plot①	+18.41 m²	Recovery of value increment	Return of land transfer value difference
	Plot②	-27.47 m²	On-site Resettlement	Equal building area

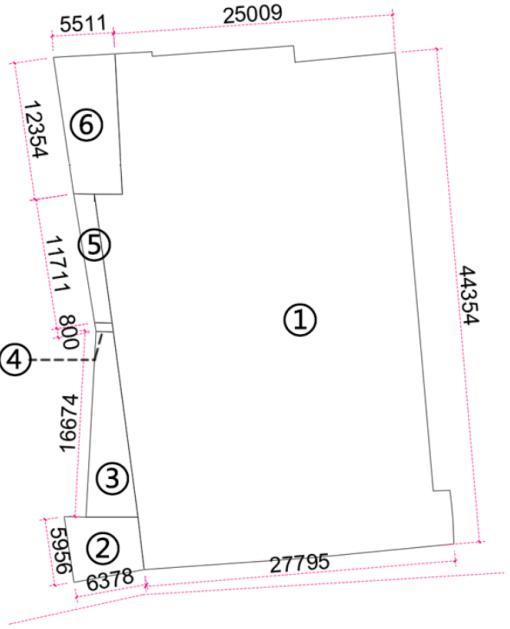
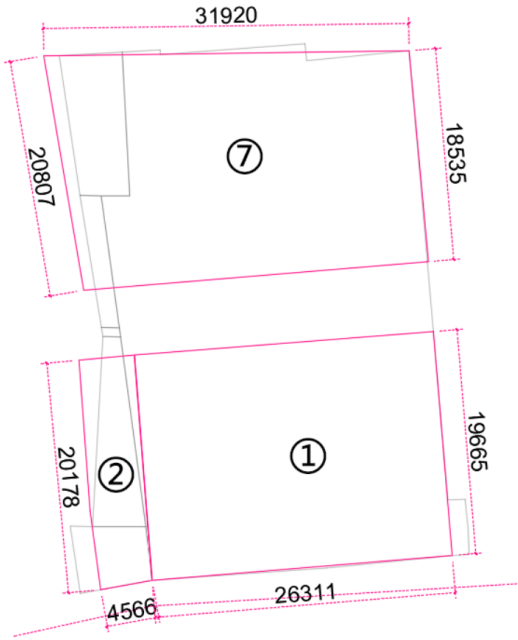
5.4.4 Frontage Commercial Plot Adjustment

Three cases of this adjustment type are included in the project. This implementation guideline includes the addition of street-facing shop area statistics.

Table 5-4 Detailed information about Frontage Commercial Plot Adjustment

Plot Number	Xihao Er Malu No. 31(①)、No.33 (②)、Sanshenggong Jie No.3 (③)、No.4 (④)、No.5 (⑤)、No.6 (⑥)	
Land Use Type	Commercial/ Hotel land use	
Building Type Defined in the Protection Planning	Category IV/ V Buildings	
Building Ownership Status	Private/ State-owned/ Mixed private	
Existing Building Area	7043 m²	
Existing Number of Floors	3-6F	
Construction Year	After the 1980s	
Existing Issues	The plot obstructs street width and has an unsuitable configuration	
Adjustment Method	Plot merger and boundary adjustment	

Plot Reorganization Plan

Before		After	
			
Total Plot Area	1379.9 m²	Total Plot Area	1221.31 m²
Number of Plots	6	Number of Plots	3
Number of Street-facing Shops	2	Number of Street-facing Shops	2

	Plot①	Area	1214.37 m ²		Area	517.90 m ²
		Street Frontage	277.95m		Street Frontage	263.11m
	Plot②	Area	34.48 m ²		Area	96.14 m ²
		Street Frontage	63.78m		沿 Street Frontage	45.66m
	Plot③	Area	51.52 m ²		Area	0 m ²
	Plot④	Area	1.23 m ²		Area	0 m ²
	Plot⑤	Area	19.67 m ²		Area	0 m ²
	Plot⑥	Area	61.26 m ²		Area	0 m ²
	New Plot⑦	-	-		Area	607.27 m ²
Max Floors		5		Height Limit		18 m

Plot Value Equalization Strategy

Total Plot Area Change		-158.59 m ²	Value Balancing	Details
Plot①	Area	-232.29 m ²	Compensation for Plot Area Loss	Compensation for Lost Plot Value
	Street Frontage	-14.84 m	Monetary Compensation	Compensation for Street Frontage Value Loss
Plot②	Area	199.33 m ²	Value Appreciation Recovery	Land Transfer Price Difference
	Street Frontage	-18.12 m	Monetary Compensation	Compensation for Street Frontage Value Loss
Plot③		-51.52 m ²	On-site Resettlement + Monetary Compensation	Resettlement of a Fixed Building Area
Plot④		-1.23 m ²	Monetary Compensation	Compensation for Reclaimed Land Use Rights
Plot⑤		-19.67 m ²	On-site Resettlement	Resettlement of Equivalent Building Area
Plot⑥		-61.26 m ²	On-site Resettlement + Monetary Compensation	Resettlement of a Fixed Building Area
New Plot⑦		607.27 m ²	New Multi-unit Residential Buildings	Used to Resettle Owners of Reclaimed Land Rights

Taking newly designated Plot ⑦ in Table 5-4 as an example, this type of plot is allocated to balance interests within the overall plot adjustment plan. Stakeholders who have lost plots or building area as part of the plan will be resettled in newly constructed collective housing on this site. The floor plan and residential units of this type of collective housing, as shown in the

accompanying figure, are primarily composed of small-sized units designed to meet basic daily living needs.

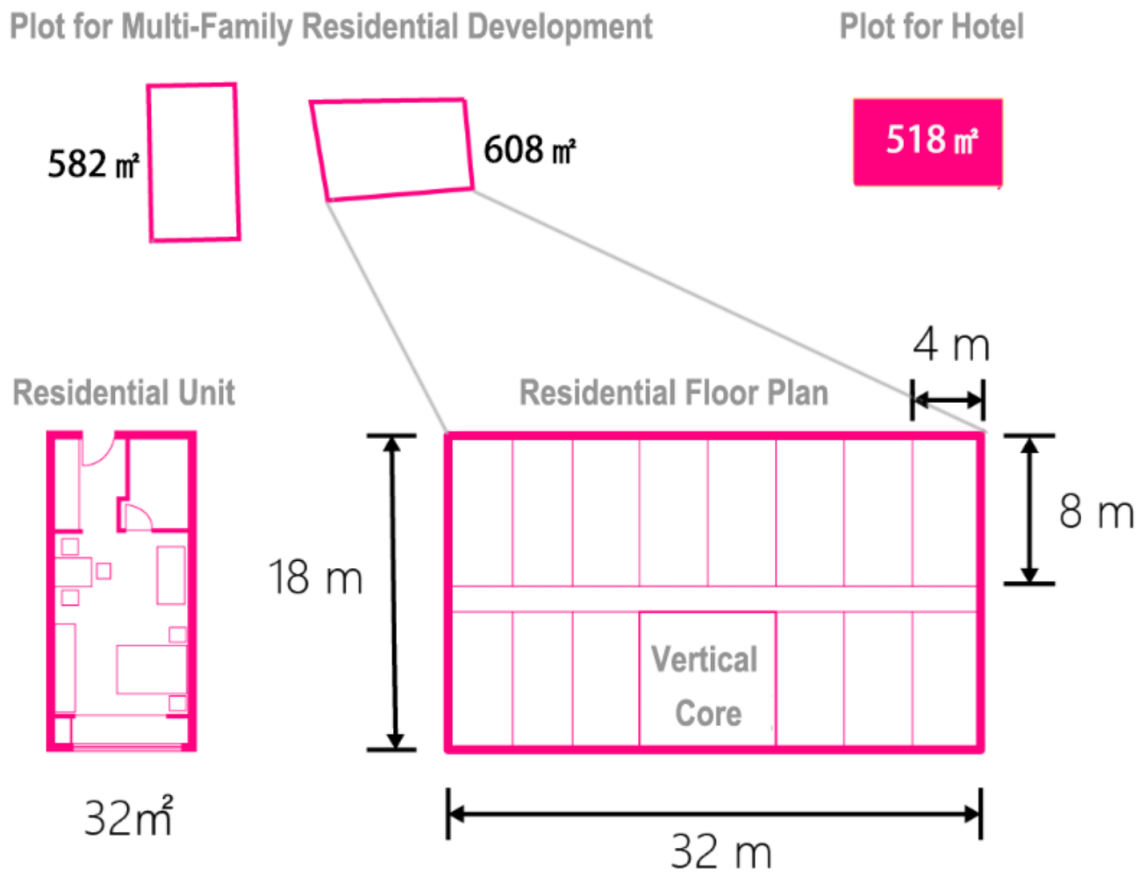


Fig.5-11 Schematic Floor Plan of Newly Built Multi-Story Residential Building

(Source: the Author)

5.4.5 Regional Reconfiguration

In this design project, four locations are involved in area-replotting-based plot rehabilitation:

① The plot cluster at the junction of Baoshun Street and Baoshun Third Lane, located behind Jianan Tang. The reason for the form adjustment is to widen the fire evacuation route surrounding the designated cultural relic protection unit.

② The plot cluster between Anye Li and Yihe Street. The adjustment is due to the fact that the current plot sizes are too small to meet the basic spatial needs of residential life.

③ The plot cluster enclosed by Baoshun Street and Puan Street. The adjustment aims to provide 60–70 m² plots suitable for higher-quality residential development within the block.

④ The plot cluster within Yihe Street and Puan Street. The adjustment aims to protect the


traditional urban fabric, widen Puan Street, and restore over-subdivided plot patterns.

Each plot cluster involves a large number of individual plots, with adjustment methods combining plot merging, boundary modification, and plot cancellation.

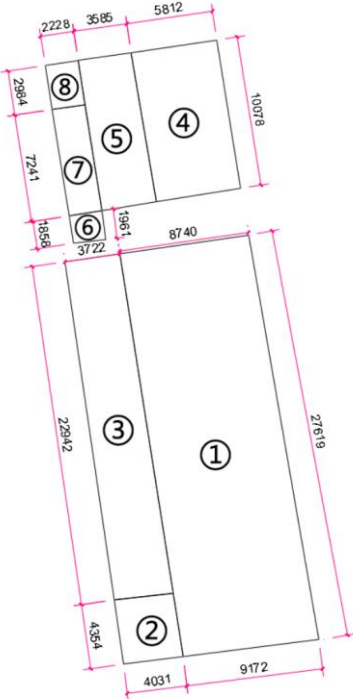
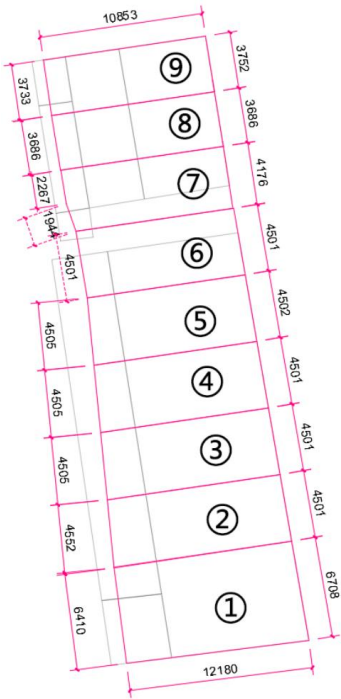
Dividing the area-based replotting practice into smaller clusters is beneficial, as it allows the large number of stakeholders with property rights to be organized into smaller groups, making it easier to reach consensus during the expropriation process. Furthermore, within a single updated plot cluster, multiple implementation units can be defined as needed, enabling incremental adjustment of plot forms on a small group basis. After the replotting process, the relocation of plot area or building area within the Anye Li Block is prioritized using plots or buildings located within the same cluster.

The following is the detailed table of plot form adjustment for the cluster at the junction of Baoshun Street and Baoshun Third Lane:

Table 5-5 Detailed information about Regional Reconfiguration

Plot Number	Baoshun San Xiang.NO10 (①)、 No.12 (②) 、 Baoshun DaJie.No.6 (③) 、 No.5 (④) 、 No.3 (⑤) 、 No.7 (⑥)		
Land Use Type	Class 2 residential land(R2)		
Building Type Defined in the Protection Planning	Category IV/ V Buildings		
Building Ownership Status	Private/ State-owned/ Mixed private		
Existing Building Area	1832 m²		
Existing Number of Floors	2-6F		
Construction Year	After the 1980s		
Existing Issues	Alleyways are too narrow. Plots are inconsistent with the traditional urban fabric.		
Adjustment Method	Boundary adjustment, Plot Division		

Plot Reorganization Plan

Before				After			
							
Total Plot Area		468.35 m²		Total Plot Area		454.94 m²	
Number of Plots		8		Number of Plots		9	
	Plot①	Area	245.81 m²	Area	78.94 m²		
	Plot②		17.33 m²		52.80 m²		
	Plot③		88.64 m²		51.32 m²		
	Plot④		58.30 m²		49.84 m²		
	Plot⑤		37.09 m²		48.36 m²		
	Plot⑥		42.01 m²		47.58 m²		
	Plot⑦		160.49 m²		45.04 m²		
	Plot⑧		66.64 m²		40.20 m²		
	New Plot⑨	-	-		40.71 m²		
Max Floors		5		Height Limit		18 m	
Plot Value Equalization Strategy							
Total Plot Area Change		-13.41 m²		Value Balancing		Details	
	Plot①	-166.87 m²		On-site Resettlement + Monetary Compensation		A mix of resettlement and cash compensation	

Plot②	35.47 m ²	Value Appreciation Recovery	Recovery of value gains due to plot Reorganization
Plot③	-37.32 m ²	On-site Resettlement	Resettlement of Equivalent Building Area
Plot④	-8.46 m ²	Monetary Compensation	Direct financial compensation
Plot⑤	11.27 m ²	Value Appreciation Recovery	Recovery of value gains due to plot Reorganization
Plot⑥	5.57 m ²	Value Appreciation Recovery	Recovery of value gains due to plot Reorganization
Plot⑦	-115.45 m ²	On-site Resettlement + Monetary Compensation	A mix of resettlement and cash compensation
Plot⑧	-26.44 m ²	Monetary Compensation	Direct financial compensation
New Plot⑨	40.71 m ²	Resettlement or On Sale	Access funding for plot rehabilitation

5.5 Summary

This chapter is guided by the conservation and renewal needs identified in the previous chapter. It begins with the formulation of design strategies for the renewal of plot forms in the Anye Li Block, and proceeds to reorganize and redesign the plot forms and boundaries within the block. The chapter develops detailed implementation guidelines based on four types of plot adjustments, namely plot boundary modification, plot consolidation, adjustment of street-facing commercial plots, and area replotting.

Conclusion

This research takes the plot, the fundamental unit of urban spatial structures its point of departure, drawing upon theories of plot-based urbanism and the Japanese land readjustment system. By analyzing the historical development of the traditional urban fabric in the Anye Li Block and employing plot morphology and pattern as operative tools, the study explores approaches to urban regeneration. It aims to identify plot-based regulatory strategies that both preserve historical spatial patterns and facilitate spontaneous urban renewal.

1. Research Innovation

This study explores a localized renewal approach for historic urban districts based on plot structure, using plot form rehabilitation as a method to protect historical urban fabric while achieving spatial optimization. By integrating the theory of plot-based urbanism and the Japanese land readjustment system, the research clarifies the fundamental role of plots as the basic structural unit of urban space and outlines practical processes for plot adjustment, thereby providing a theoretical foundation for a locally adaptive plot restructuring strategy.

Taking the Anye Li Block as the case study, the research traces the transformation of plot structure over different historical periods and its impact on urban form. It also examines the formation process of the area's linear street-based urban fabric. Based on identified conservation and renewal needs in the Anye Li Block, the study proposes a set of targeted plot form adjustment strategies, providing a referential pathway for the sustainable renewal of similar historic districts.

2. Research Limitations and Reflections

Beyond its spatial characteristics, the plot also functions as a legal boundary of property ownership. Due to the complexity and sensitivity of land and housing ownership in the Anye Li Block, the study does not delve deeply into potential issues of property rights disputes or stakeholder interest balancing that may arise during the plot adjustment process. Further exploration is also needed regarding the implementation procedures and value-balancing mechanisms associated with plot adjustment.

Given the plot's pivotal role in shaping urban spatial structure, it serves as an effective tool for regulating the conservation and renewal of historic districts. One of the key directions in future research on incremental urban renewal is to explore how to better leverage the structure and logic of plot patterns within existing heritage conservation systems.

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