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South China University of Technology

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战术都市主义视角下的广州人民南路
街道空间微改造设计研究

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A Study on the Micro-Renovation Design of Street Space on Renmin South Road in Guangzhou from the Perspective of Tactical Urbanism

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摘 要

广州人民南路是典型的岭南骑楼街道，不仅有近代商贸发展形成的历史空间格局，还叠加了广州历史上第一座高架桥这一现代交通基础设施，形成了一条兼具历史界面、交通功能和商业活动的复合型街道。骑楼街与高架桥在空间形态、使用逻辑和环境体验上存在明显差异，使人民南路的街道空间更新长期处在交通运行、历史保护与空间活化多重目标交织的困境中。所以传统的以整体整治和一次性改造为主的方式已经不能有效地应对其复杂的问题。

在西方兴起的战术都市主义，以短期、低成本且具有弹性的干预方式激活城市环境，为解决人民南路的复杂问题提供了新的思路。本文通过文献研究、案例分析，系统梳理战术都市主义的核心特征、实施逻辑及其在街道空间更新中的应用方式。并通过实地调研、问卷调查、现场测绘与行为观察等方法对人民南路现状问题进行综合分析。

研究从街道空间结构、产业机制、行为活动及环境感知四个方面展开，发现人民南路当前存在三方面核心矛盾：一是批发物流主导下的装卸、搬运与通行行为相互叠加，导致街道空间长期处于物流效率与公共通行相互竞争的状态。二是骑楼界面虽在形态上保持较高连续性，但因界面开放性不足、展示性减弱而难以有效支撑街道活力。三是高架桥的纵向叠加持续压制街道断面比例、视觉联系与环境体验，使桥下空间与街道公共空间之间长期缺乏有效联动。因此本文提出从战术都市主义视角出发，发掘适用于人民南路街道空间微改造的本土化策略，构建在地化的战术工具箱，并结合场地忙时与闲时交替出现的分时使用特征，形成兼顾短期试验与后续优化的微改造方案。

本研究创新性地将西方战术都市主义理论与广州在地语境相结合，提出了面向兼具历史、商业价值和交通功能的复合型街道空间的分析框架与改造思路。研究结果不仅为人民南路更新提供了策略参考，也为现代交通设施与传统街道空间并存条件下的历史街区更新提供了可借鉴的思路。

关键词：战术都市主义；广州人民南路；街道空间；微改造

Abstract

Guangzhou Renmin South Road is a typical Lingnan arcade street. It has not only a historic spatial pattern formed by the development of modern commerce, but also Guangzhou's first elevated bridge as a piece of modern transport infrastructure. Together, these elements have shaped a complex street that combines historic frontage, traffic functions, and commercial activities. The arcade street and the elevated bridge are clearly different in spatial form, use pattern, and environmental experience. As a result, the renewal of Renmin South Road has long faced the overlapping demands of traffic operation, historic preservation, and space revitalization. Under these conditions, traditional methods based on large scale improvement and one time reconstruction can no longer deal well with its complex problems.

Tactical urbanism, which first developed in Western cities, uses short term, low cost, and flexible actions to activate urban space, and this provides a new way of thinking for the problems of Renmin South Road. Through literature review and case study analysis, this study examines the main features, working logic, and ways of applying tactical urbanism in street space renewal. It also uses field research, questionnaire surveys, site mapping, and behavior observation to make a full analysis of the current problems on Renmin South Road.

The study looks at the street from four aspects: spatial structure, industrial mechanism, behavior and activity, and environmental perception. It finds that Renmin South Road now has three main conflicts. First, under the influence of wholesale logistics, loading and unloading, goods handling, and daily movement overlap with each other, which leads to long term competition between logistics efficiency and public movement. Second, although the arcade frontage still keeps a high level of physical continuity, its lack of openness and weaker display function make it hard to support street vitality. Third, the elevated bridge continues to weaken the street's section proportion, visual connection, and environmental experience, so the under bridge space and the public street space have not formed an effective relationship for a long time. Based on this, the study explores local strategies for the micro renovation of Renmin South Road from the perspective of tactical urbanism, builds a local tactical toolbox, and, together with the time based pattern of busy and quiet periods on the site, proposes a micro renovation scheme that combines short term testing with later improvement.

This study combines Western tactical urbanism theory with the local context of Guangzhou, and puts forward an analytical framework and renewal ideas for a complex street space with historical, commercial, and traffic value. The results not only provide strategic reference for the renewal of Renmin South Road, but also offer useful ideas for the renewal of historic districts

where modern transport facilities and traditional street spaces exist together.

Keywords: Tactical Urbanism; Renmin South Road; Street Space; Micro-Renovation

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Chapter 1 Introduction

1.1 Research background

1.1.1 The contradiction of street space renewal in the new stage

Chinese urban development has entered the stage of stock renewal, and the focus of urban construction has gradually shifted from scale expansion to spatial quality improvement and refined governance. Therefore, as the most basic and public space carrier of the city, the renewal of street space has gradually become an important issue of urban governance and space optimization. Streets not only bear the traffic function, but also carry commercial activities, social interaction and cultural expression. Their spatial status often directly affects urban vitality and daily life experience of residents. However, under the previous development model oriented by efficiency priority and scale construction, the street space gradually shows many problems in the process of renewal.

At the level of material space, in the practice of renewal, there are often phenomena such as the imbalance between the continuation of historical space and the actual functional organization, and the uncoordinated operation mechanism of the street^[1]. Some of the renovation projects overemphasize functional adjustment and image enhancement, ignoring the original street interface relationship and spatial scale, resulting in the fragmentation of street texture and the fragmentation of public space. In the process of renewal, some blocks in Guangzhou also have problems such as building addition, style destruction and insufficient public space^[2], which weakens the overall environmental quality and continuity of street space.

At the social level, the government-led and capital-driven renewal model makes public participation relatively limited. After the improvement of the physical environment, the street space may not be able to simultaneously restore social relations and disrupted life rhythm. In the study of Yongqing Square in Guangzhou, Tan Junjie et al pointed out that although micro-renovation has improved the environment and economic conditions, it is also accompanied by the migration of aborigines and the tendency of space commercialization^[3]. From the perspective of “space production”, Sun Fei pointed out that under the influence of capital logic, the renewal of historical blocks may have the trend of commercialization of public space, the space of public activities is compressed, and the streets gradually deviate from the original living scenes of residents^[4].

In high-density central urban areas, the structure of street space itself is often more complex. Due to the embedding of transportation facilities such as elevated roads, the street space is no longer a two-dimensional plane form formed only by the building interface, but

presents a composite structure of horizontal interface and vertical transportation facilities. The traffic system in the street pays more attention to the rapid passage of vehicles, so it often requires wider roads and larger spatial scales. The street public life is more dependent on the continuous street interface, the spatial scale suitable for walking and the better staying environment. There are differences in the spatial demand between the two. If they are concentrated on the same street at the same time and lack of coordination, they are prone to problems such as poor spatial relations, declining environmental quality and difficulty in carrying out public activities. At the same time, street space not only bears the traffic function, but also is an important carrier of daily activities and local cultural memory of residents. When the traffic facilities are superimposed, the original spatial form and living scene of the street are easily disrupted, and the local characteristics and cultural atmosphere will also be affected. If there is a lack of overall coordination, the street will slowly lose its original public and cultural value.

Therefore, in the current stage of development, street renewal is not only to solve the problem of simply completing the function and trimming the appearance. Instead, it is necessary to deal with the relationship between traffic and street life under complex spatial conditions, so that the streets can become orderly, usable and stayable again. How to retain the continuous interface of the street and the original cultural characteristics as much as possible under the premise of ensuring the normal operation of the city and traffic efficiency has become a key issue in the current street space renewal.

1.1.2 Realistic dilemmas in renewal of Guangzhou Renmin South Road

Renmin South Road in Guangzhou is an important space of modern “Thirteen Hongs” commercial port culture, and also an important part of Lingnan arcade street. Different from the general historical blocks, the problems faced by Renmin South Road today are not only the old buildings or the decline of street functions, but also the continuous superposition of historical streets, viaduct traffic facilities and wholesale commercial activities in the long-term development process, gradually forming a more complex spatial contradiction.

The construction of the Renmin Road viaduct is a product of traffic efficiency-oriented at a specific stage of development. It has assumed the important traffic function of the north-south direction of the old city for a long time, and also has certain characteristics of the times and retention value. However, after the viaduct entered the Renmin South Road, the street space structure, which was mainly formed by the arcade interface, was changed. Although the bridge pier does not directly occupy the pedestrian passage, the influence of the bridge on the street

space has always existed. Under the bridge, a continuous shelter space has been formed, which has changed the section ratio, lighting conditions, visual connection and environmental feelings of the street space. The original relatively complete street space experience has been weakened, and the space under the bridge itself has long lacked clear public function arrangements. Many sections have been in a state of passive use.

The problem of Renmin South Road is not only caused by the viaduct. There is also a continuous arcade interface on both sides of the street, which has also changed to varying degrees in the subsequent reconstruction, reconstruction and elevation adjustment. Some sections of the building interface back, some of the pavement is relatively closed, the facade style is not uniform enough, the result is that the street does not look coherent enough, the arcade of the original kind of continuous walking, continuous view of the store space feeling interrupted. More obviously, the street has long been dominated by the wholesale clothing and footwear industry, and many pavements are no longer used for street display, but are more inclined to warehousing, stacking and fast trading. Curtain doors, cargo stacking, temporary loading and unloading are common phenomena. The space under the arcade that could have stayed and communicated has gradually become a transition zone for service wholesale and logistics.

Therefore, the current difficulties of Renmin South Road are not a single problem, but the result of several factors working together. On the one hand, the viaduct is still undertaking the real traffic function, and it is impossible to dismantle it in a short time. On the other hand, the traditional wholesale format and related logistics activities will continue to exist, and it is impossible to withdraw at once. Such conditions determine that the renewal of Renmin South Road is difficult to be solved by large-scale demolition and construction or simply doing style renovation. It is more necessary to slowly adjust the street space relationship on the existing basis and try to alleviate the contradiction between transportation, operation, walking and public activities.

1.2 Research problems

The renewal of Renmin South Road's street space is not an issue of isolated spatial improvement, but a complex topic shaped by the interaction of historic preservation, traffic operation, industrial activities, and demands for public use. Although existing studies have examined street renewal, conservation of historic districts, the use of space beneath elevated roads, and tactical urbanism, there is still a lack of targeted discussion on how micro scale renewal can respond to the practical contradictions of a compound street such as Renmin South

Road, which is characterized by dynamic patterns of use. Therefore, this study focuses on the following three aspects.

First, it examines the main contradictions of Renmin South Road's street space under the long term presence of the elevated road, the weakening of the arcade interface, and the continued occupation of street space by wholesale logistics activities, as well as the differences in how these contradictions are manifested across different time periods and different sections of the street.

Second, it explores how tactical urbanism can be translated, in relation to the local conditions of Guangzhou's historic districts, into a localized approach suitable for the micro renewal of Renmin South Road, and how such an approach can form a strategic system for arcade interfaces, under viaduct spaces, and street nodes.

Third, it discusses how micro renewal of street space can establish an organizational framework based on time, street section, and implementation stage in response to the dynamic operational characteristics of Renmin South Road, which are primarily shaped by everyday temporal patterns of use, while also accommodating spatial adjustments during special periods when necessary, so that short term experiments may support subsequent long term renewal.

1.3 Definition of core concepts

1.3.1 Street space

The street space is one of the most basic, public and open components of the urban space system. In the traditional sense, streets are often regarded as the infrastructure to undertake the traffic function. However, with the transformation of the concept of urban development, the role of streets has gradually shifted from a single traffic channel to a multi-functional public space. The "Global Street Design Guide" states that streets should be understood as integrated public spaces that support walking, cycling and social activities, not just road facilities that serve motor vehicles^[5]. This definition clarifies the humanistic attributes and public orientation of street space.

From a theoretical perspective, Lefebvre (Lefebvre, 1974) put forward the theory of space production, which holds that space is the result of continuous construction and reorganization under the influence of social relations and power structure^[6]. As the most frequently used public place in the city, the changes in the form and function of the street reflect the adjustment of social structure and governance logic. At the level of urban design and cognition, Lynch (1960) reveals the core position of streets in the construction of urban image through the concepts of "path, node" and so on^[7]. Jacobs (1961) emphasized that street vitality comes from continuous

interface, diverse activities and humanistic scale [8]. Yoshinobu Ashihara pointed out that spatial scale and enclosure relationship directly affect the behavior and willingness of people to stay [9]. Therefore, street space not only has the property of material form, but also an important place for social practice and public life. Its spatial organization is directly related to the realization of publicity.

From the perspective of spatial organization, street space is not only a place for public activities and social interaction, but also has a clear structural logic. The public life in the streets does not occur out of thin air, but depends on the specific spatial form and interface relationship. The street in the traditional urban form is usually composed of the building interface on both sides and the open space in the middle, and its spatial order depends largely on the continuous organization along the street interface. The continuous and interactive street interface can not only form a relatively clear enclosure relationship, but also provide material support for commercial display, entrance and exit activities and daily communication. Therefore, this paper summarizes this structural form with architectural interface and pedestrian space as the core, emphasizing the continuity and scale control along the street as a horizontal interface system, which constitutes the basis for the development of traditional street public life.

However, in contemporary high-density cities, as three-dimensional transportation facilities such as elevated roads enter the street space, the shape of the street begins to become more complex. The viaduct and its space under the bridge have changed the proportion, environment and use of the original streets, so that the streets are no longer just a flat space, but increase the structural relationship of the upper and lower superposition. Therefore, this paper summarizes the viaduct embedded in the street and its ancillary space as a vertical superposition system. Horizontal interface system and vertical superposition system work together to form a more complex street space structure in contemporary cities (Figure 1-1).

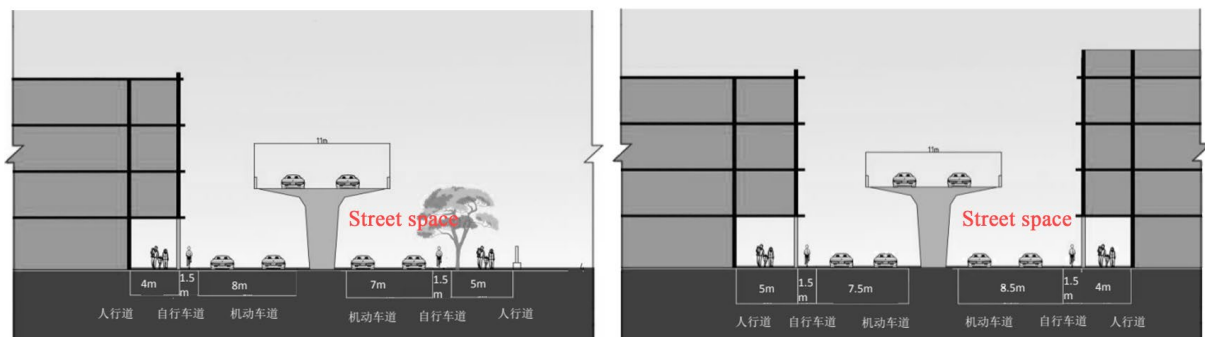


Figure 1-1 Street space schematic diagram

Source: Author

1.4 Purpose and significance of the study

1.4.1 Purpose of the study

This study takes the street space of Renmin South Road in Guangzhou as its research object and focuses on how micro renewal of street space in historic districts can be carried out under the conditions of the long term presence of the elevated road, the gradual weakening of the arcade interface, and the continued occupation of street space by wholesale logistics activities. The current problems of Renmin South Road do not stem from the failure of any single spatial element, but from a compound predicament formed through the long term superimposition of transport infrastructure, commercial operations, and the historic street fabric. On this basis, this thesis attempts to introduce the approach of tactical urbanism into the study of street space renewal on Renmin South Road, with the aim of drawing on its small scale, gradual, and adjustable characteristics to provide a more realistic renewal approach for this kind of street space, where comprehensive reconstruction is difficult to achieve.

The first research purpose of this paper is to sort out the relevant theories and practices of tactical urbanism and analyze its applicability in complex street renewal. By sorting out relevant cases at home and abroad, this paper summarizes its characteristics of low cost, short cycle, reversibility and public participation, and discusses the functions and limitations of these methods under different institutional and spatial conditions, so as to establish a methodological basis for the study of Renmin South Road.

The second research purpose is to analyze the actual dilemma of Renmin South Road in combination with the actual situation of the site, and put forward targeted renewal strategies on this basis. It focuses on the analysis of the current situation of street space from the aspects of street space structure, industrial mechanism, behavioral characteristics and environmental perception, and further judges which spatial contradictions are necessary for priority adjustment, and which contents are suitable for intervention through small-scale and progressive ways.

The third research objective is to translate the preceding analysis into the specific site and to develop an experimental micro renewal scheme suited to Renmin South Road. The design study does not seek to solve all problems at once. Instead, within the existing requirements of historic preservation and the actual conditions of use, it explores how the under viaduct space, arcade interface, street nodes, and the connections with the square can be adjusted step by step through a framework based on different time periods, different street sections, and different implementation stages. It also aims to provide a reference for other street spaces that are likewise confronted with the combined pressures of historic preservation, transport

infrastructure, and wholesale commercial activities.

1.4.2 Research significance

Based on the background of the transformation of urban renewal from large-scale transformation to refined governance in China, this study has the following research significance:

At the theoretical level, this study introduces tactical urbanism into the study of arcade street spaces shaped by the added presence of elevated roads, and attempts to understand the issue of micro renewal in historic districts from the perspective of compound street space. Previous studies on the renewal of historic districts have mainly focused on architectural conservation, streetscape improvement, or functional replacement, while relatively little attention has been given to how street space can be adjusted gradually under the long term presence of modern transport infrastructure. By taking Renmin South Road as a specific case, this study examines street space issues arising from the combined effects of the elevated road, the arcade interface, and wholesale logistics activities. In doing so, it helps enrich the application of tactical urbanism in local historic districts and provides a more concrete analytical perspective for understanding the contradictions involved in the renewal of complex street spaces.

At the practical level, this study focuses on how the street space of Renmin South Road can be improved through small scale, time based, and gradual interventions under conditions in which comprehensive reconstruction is difficult to achieve. The study does not treat renewal as a one time physical transformation. Instead, on the basis of existing preservation requirements, traffic operation, and commercial use, it seeks to explore an implementation path through which short term experiments can gradually lead to long term optimization. This has a certain practical reference value for Renmin South Road itself and also offers useful insight for other street spaces that are similarly confronted with the combined pressures of historic preservation, transport infrastructure, and traditional commercial activities. In addition, this study seeks to show that the renewal of historic districts is not limited to either large scale demolition and reconstruction or simple streetscape improvement. Under complex conditions, the gradual optimization of street space through experimental and adjustable approaches may also become a realistic and feasible method of renewal.

1.5 Research methods

1.5.1 Literature research method

Literature review serves as the foundational method of this study. During the research

process, relevant domestic and international studies on street space, arcade districts, the renewal of under viaduct spaces, and tactical urbanism are systematically reviewed in order to clarify the core concepts, theoretical context, and major issues involved in this study. At the same time, in light of the shift in the context of urban regeneration from street space as a purely traffic oriented space to a compound public space, the study summarizes the main concerns and methodological characteristics of current street space micro renewal. On this basis, theories and practices related to tactical urbanism are further examined, and its basic features, including small scale intervention, low cost, gradual implementation, participation, and responsiveness to feedback, are identified and refined. This provides a theoretical foundation for the subsequent study of micro renewal in the street space of Renmin South Road.

1.5.2 Case study

The case study method is mainly used to draw on the experience of street space renewal and tactical urbanism practices in China and abroad, so as to provide references for the development of micro renewal strategies for the street space of Renmin South Road. The study selects representative cases, including the Times Square pedestrian plaza project in New York, the No Longer Empty project in New York, IKEBUKURO LIVING LOOP in Tokyo, the Xiwan Qianhai Bay pedestrian public space project in Shenzhen, and the Guangzhou Spring Festival Flower Market as a local supplementary practice. These cases are analyzed in terms of project background, implementation process, modes of intervention, participating actors, and implementation outcomes. Although these cases belong to different urban contexts and spatial scales, they all reflect the relationship among temporary experimentation, spatial redistribution, the activation of public activities, and subsequent long term transformation. The case study method not only helps to extract general approaches of tactical urbanism in street space renewal, but also supports the localized translation and application of renewal strategies in relation to the historical setting, industrial structure, and spatial characteristics of Renmin South Road.

1.5.3 Questionnaire survey method

In order to more accurately grasp the problems and needs of the street space of Renmin South Road in actual use, this study uses the questionnaire survey method to collect and analyze the spatial perception, behavioral characteristics and renewal willingness of street users. The questionnaire objects mainly include merchants along the street, surrounding residents, wholesale practitioners and general passers-by. The survey content focuses on street environment cognition, walking experience, stay behavior, space use under the bridge, arcade interface feeling and attitude towards street reconstruction direction. Through the questionnaire

survey, we can supplement the information that is difficult to obtain through simple observation in the analysis of the current situation of space from the perspective of users, and identify the different needs of different groups in the use of street space.

1.5.4 Field research method

The field research method is an important method to understand the characteristics and problems of the real space of Renmin South Road in this study. In the process of research, through many on-site reconnaissance, space observation, photo recording, behavior recording and node mapping, the street space of Renmin South Road was systematically investigated. The research content mainly includes the composition of street section, the state of arcade interface, the space environment under the bridge, the mode of traffic organization, the operation status of pavement, the characteristics of node activities, and the difference of people flow and space use in different periods.

During the field investigation, this study focuses on the spatial conditions of Renmin South Road under two overall scenarios, namely peak time and off peak time, and further analyzes the transitions between different periods within the same day. In the daytime, wholesale operations, loading and unloading, and rapid movement dominate the street, and spatial conflicts are more pronounced. At night, with most wholesale businesses closed, the overall vitality of the street declines, although certain local nodes still retain some potential for activity. Through a comparative analysis of spatial conditions across different periods, the main contradictions of Renmin South Road's street space and the areas with potential for intervention can be identified more clearly, thus providing a direct basis for the subsequent development of tactical renewal strategies, the selection of experimental sections, and the formation of specific design proposals.

1.6 Research framework

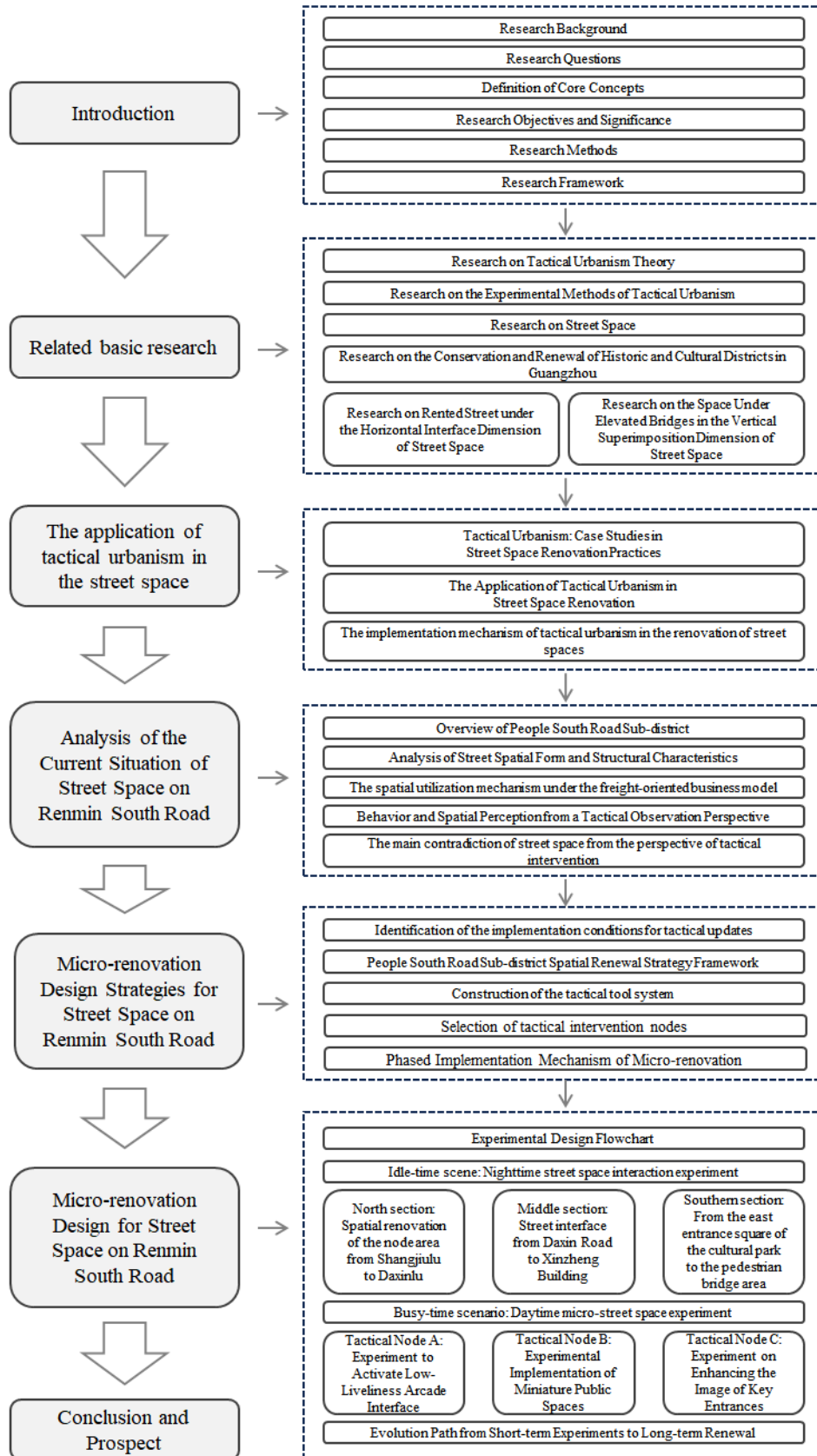


Figure 1-2 The research framework of the thesis

Source: Author

Chapter 2 Relative Basic Research

This chapter reviews the core concepts and foundational studies relevant to this thesis. It first summarizes the theoretical origins, development, basic characteristics, and experimental methods of tactical urbanism, clarifying its role as both the research perspective and methodological tool of this study. It then reviews the theoretical evolution and composite structural characteristics of street space. Based on existing research on the conservation and renewal of historic and cultural districts in Guangzhou, the chapter further examines two key spatial components, arcade streets and spaces beneath elevated roads, providing a theoretical basis for the analysis of the current conditions of Renmin South Road and the subsequent micro-renewal strategies.

2.1 Research on Tactical Urbanism Theory

2.1.1 Origin of Tactical Urbanism Theory

Tactical Urbanism is a paradigm of urban design with a clear theoretical proposition and practical orientation. The widespread use of its terminology began with the 2011 report “Tactical Urbanism: Short-term Action Creates Long-term Change” published by American urban designers Mike Lydon and Anthony Garcia. The report defines it as “a means of building and activating the urban environment through short-term, low-cost and resilient interventions or policies.” Its participants cover many subjects such as ordinary citizens, artists, non-profit organizations and government departments, emphasizing the use of open, progressive and penetrating methods, efficient use of resources, and the release of urban potential through social interaction^[10].

The formal formation of the concept of 'tactical urbanism is not a theoretical construction divorced from the realistic background, but closely related to the emerging spatial problems and social conditions in the process of urban transformation in the early 21st century. After entering the post-industrial period, urban functions continued to adjust, and a large number of industrial land and buildings gradually withdrew from the original production system, thus forming the so-called urban holes. In order to re-drive space utilization and economic vitality, local governments and property rights entities began to try to promote the temporary use of vacant buildings, which led to a series of creative flash space practices including guerrilla stores. These practices have promoted the expansion of the flash concept from the commercial field to the urban space transformation field, and also accumulated an important practical basis for the proposal of tactical urbanism.

After 2005, there was a wave of temporary, small-scale, self-service places created by

citizens in North America, which further strengthened the development trend of related practices. With the help of low-cost materials and recyclable resources, the public has carried out temporary transformation and functional reorganization of public spaces such as streets and open spaces, and gradually formed an urban hacker culture rooted in daily life. In 2012, this kind of practice was spontaneously intervened in the Venice Architecture Biennale and was officially displayed in the design for the common interests, which also marked that this kind of grassroots action began to enter the mainstream urban discourse^[11].

The formation of tactical urbanism is also deeply influenced by a variety of theoretical trends, the most prominent of which is the concept of DIY (Do-it-yourself). DIY urbanism covers flash urbanism, user-generated urbanism, rebellious urbanism, guerrilla urbanism and urban hacking^[10]. The practice of DIY in the urban field is manifested in the decoration or functional replacement of space by ordinary citizens and artists using cheap or recyclable materials, emphasizing individual creativity and autonomy. However, the difference between tactical urbanism and general DIY practice is that it emphasizes the strategic nature and transformation potential of action, that is, through short-term and low-cost intervention, it leads to long-term urban form or policy change, rather than just temporary space beautification or functional replacement^[12]. In addition, the theoretical connotation of tactical urbanism is also closely related to the right to the city theory and the self-organizing and evolutionary urban view in the complexity theory. Lefebvre's *right to the city* advocates that citizens have the initiative in the production and transformation of urban space, while complexity theory emphasizes the nonlinear, self-organizing and adaptive evolution characteristics of urban systems, which provides a theoretical framework for understanding tactical urbanism as a "bottom-up urban evolution mechanism."^[13]

From this perspective, tactical urbanism is not only a design method, but also an adaptive response of urban system in the face of institutional rigidity and resource constraints. It is a set of theoretical and practical methods gradually developed under the background of the aggravation of urban vacancy problems, the increasing awareness of public participation and the difficulty of traditional planning methods to effectively respond to practical problems. The formation of tactical urbanism is also influenced by the related thoughts of scholars such as Henry Lefebvre, Jane Jacobs and William White.

2.1.2 Development of Tactical Urbanism Theory

2.1.2.1 Grassroots Action and the Germination of Experimental Urban Practice

Since the beginning of the twenty first century, the process of global urbanization has

shown increasingly complex and closely interconnected characteristics. In cities in developed regions such as North America, the traditional linear model of planning, construction, and management has gradually revealed a number of problems, including slow response, limited public participation, and the high cost of large scale projects^[10]. At the same time, there are also many spaces in the city that are idle or inefficiently used, such as abandoned parking lots, over-wide motorways, and space under viaducts. On the one hand, these spaces reflect the practical problems in urban development, on the other hand, they also provide a venue for new urban renewal practices. In this context, an idea of urban renewal that emphasizes “first action, then adjustment” began to emerge, which was later summarized as tactical urbanism. This approach is mainly through low-cost, short-term and reversible spatial intervention to carry out exploratory transformation of urban space, hoping to test the design scheme in practical use, stimulate community participation, collect public feedback, and further promote the optimization of policies and long-term planning^[14]. From this point of view, the emergence of tactical urbanism also reflects that the way of urban governance is shifting from fixed planning to an experimental path that is more flexible and pays attention to feedback.

The early formation of tactical urbanism was closely related to reflections on modernist urban planning. Among them, the influence of Jane Jacobs is particularly obvious. In *The Death and Life of America's Big Cities*, she criticizes modernist planning characterized by mass demolitions and functional zoning, emphasizing that urban vitality comes from dense crowds, mixed functions, and the continued use of public space by ordinary people^[8]. This understanding provides an important basis for tactical urbanism, that is, real urban vitality stems from bottom-up, daily social interaction, rather than top-down blueprint planning. In addition, the concept of participatory design also had an impact on early practice. This kind of concept emphasizes putting users at the center of the design process and forming solutions together through collaboration^[15]. At the same time, the theory of urban social innovation also provides support. It focuses on how community organizations and ordinary citizens use their own resources and creativity to respond to urban problems that are difficult for mainstream markets and governments to effectively solve^[16]. These ideas jointly shaped the basic characteristics of tactical urbanism, including its people centered orientation, collaborative participation, and small-scale experimentation.

In the 2000s, a number of representative early practices appeared in many cities in North America. Among them, the street closure experiment in New York Times Square has a strong typicality. In 2009, the New York City Department of Transportation, spurred by Janette Sadik-Khan, used low-cost materials such as folding lawn chairs, potted plants, and Temporary

barricades were used to quickly transform part of the Broadway carriageway through Times Square into a pedestrian plaza^[10](Figure 2-1). This transformation is not directly implemented as a final plan, but first carried out in the form of a pilot. The project proved the effectiveness of this approach in improving safety, improving the environment and driving economic vitality by monitoring data such as pedestrian flow, air quality, commercial sales and traffic accident rates, and collecting feedback from the public and businesses. Subsequently, the municipal government further transformed the temporary transformation into a permanent design. This process clearly reflects the path from pilot to evaluation and then to institutionalization. It is also regarded as an important node for tactical urbanism from concept to policy practice^[17].



Figure 2-1 Comparison of Times Square in New York before and after renovation

Source: Reference^[10]

At almost the same time, Park(ing) Day, initiated by the San Francisco art collective Rebar, demonstrated another mode of practice. In 2005, by paying for a parking space, Rebar temporarily transformed an ordinary parking spot into a miniature park equipped with turf, benches, and trees. This action quickly spread through the internet and gradually developed into a civic event held simultaneously in multiple cities around the world every September^[18]. The significance of this practice is that it uses a simple, intuitive and easy-to-replicate way to put forward the question of why public space gives priority to serving parked vehicles rather than serving people who are using space, thus directly questioning the car-centered urban planning method.

In addition to these representative cases, community led practices also emerged in cities such as Boston, Portland, and Los Angeles, including the temporary widening of sidewalks with provisional materials, the painting of guerrilla crosswalks, and the installation of movable street furniture^[19]. Although these practices are different in form, they all reflect several common characteristics: first, they emphasize temporary and low cost, and minimize the implementation threshold and trial and error risk. The second is to attach importance to participation and collaboration, usually with the participation of communities, designers, governments or

businesses. The third is to regard short-term intervention as a process of collecting information and verifying ideas, and constantly adjust through feedback; fourth, it has a clear problem orientation, hoping to promote greater space and institutional change through small-scale actions.

The formative stage of tactical urbanism in the 2000s holds important historical significance in the fields of urban research and practice. On the one hand, it offered an alternative path for urban renewal at the methodological level and challenged the traditional project delivery model that depended on large scale capital, long implementation cycles, and expert dominance. It demonstrated that carefully considered small scale interventions could serve as effective policy tools and preliminary planning devices, allowing design ideas to be tested and public support to be built at a relatively low cost before the implementation of long term and expensive infrastructure^[10]. On the other hand, it also renewed discussion on the democratization of urban space, enabling ordinary citizens, to a certain extent, to participate in the shaping of urban space. This formed a certain resonance with Henri Lefebvre's idea of the right to the city^[21]. Of course, there are some limitations in early practice. For example, the participating groups are sometimes mainly concentrated in communities with relatively strong resources and discourse power, and the issue of fairness and inclusiveness in the process still needs further discussion.

2.1.2.2 Theorization and academic dissemination of tactical urbanism

Since 2010, Tactical Urbanism has gradually evolved from a local urban experiment and grassroots action to a more systematic and theoretical research topic, and has begun to be widely discussed and applied globally. This stage shows that tactical urbanism is no longer just a flexible urban governance practice, but gradually turns to an urban renewal method with both academic significance and policy value. With the continuous participation of scholars, designers, governments and communities, its core concepts, implementation methods and theoretical frameworks are also continuously enriched, and it has gradually become an important topic in contemporary urban design and planning.

Between 2010 and 2011, a group of young American planners compiled and published *Tactical Urbanism, Volume 1*, which provided a relatively systematic account of early tactical practices in North America. Although these projects pursued different goals, including the enhancement of economic vitality, the improvement of living environments, and the strengthening of social interaction, they shared several clear features. First, they were small in scale. Second, they responded more directly to community needs. Third, through temporary and

creative forms of intervention, they were able to reactivate public resources such as leftover spaces and underused facilities. The publication of this work reflected the practical demand for flexible strategies in North American urban renewal at the time. It also promoted the spread of tactical urbanism within the planning field and came to be regarded as one of the more notable urban planning trends of 2011 and 2012.

Subsequently, the Tactical Urbanism series, from Volume 1 to Volume 5, further compiled a large number of practical cases, covering a wide range of tactical forms, from short term and unauthorized temporary actions to those gradually incorporated into formal institutional frameworks. These actions were promoted by different actors, including government agencies, nonprofit organizations, local groups, and residents, and gradually formed a relatively clear set of tactical approaches. In 2015, Lydon and Garcia published *Tactical Urbanism: Short Term Action for Long Term Change*, which marked an important stage in the further theorization of the concept. This book not only provided a clearer theoretical foundation for academic research, but also offered practitioners an operational framework, allowing tactical urbanism to be increasingly regarded as an urban renewal strategy that could be replicated and adapted to different contexts.

With the deepening of theoretical research, tactical urbanism has gradually spread from North America to Europe and Asia, becoming an important reference framework for urban experiments. For example, the GREEN BLVD MARKET project in Tokyo, Japan, tried to explore the possibility of street space reuse through a week of social experiments. The project uses mobile devices to temporarily transform the space between the carriageway and the sidewalk to form a dining and leisure place, and collects data through questionnaires and behavioral observations to provide a basis for subsequent updates^[22]. Although the experiment is not long, its results have been officially recognized at the government level, indicating that short-term intervention can also have an impact on long-term planning (Figure 2-2).



Figure 2-2 After the market transformation of Pool Bag Green Avenue

Source: Reference^[22]

In Europe, Milan launched the *Piazze Aperte* programme in 2018 and used tactical

urbanism methods to transform selected parking areas and streets into community public spaces. During the pandemic lockdown in 2020, these forms of urban tactical intervention were implemented more rapidly across the city, resulting in the addition of several kilometers of cycle lanes and temporary public squares^[23]. At the same time, there are also some disputes, such as the conflict of space use rights and the difficulty of later maintenance. These phenomena show that tactical urbanism still needs to deal with the balance between multiple needs in the process of institutionalization.

The global spread of tactical urbanism is not a simple copy, but a process of continuous adjustment and re-understanding in different regions. It has gradually developed from grassroots action to a more complete theoretical system, which not only shows the diversity of urban renewal methods, but also shows that "temporary" strategies can become an important starting point for promoting long-term changes under complex social conditions.

2.1.3 Basic Features of Tactical Urbanism

The French philosopher Michel de Certeau was among the earliest to elaborate the distinction between tactics and strategies. In *The Practice of Everyday Life*, he argued that strategy is a formal tool of government, whereas tactics are tools through which citizens express themselves and respond to circumstances. In this sense, tactics refer to the actions by which ordinary people alter the form or use of the built environment in order to meet their changing needs, and the two are often placed in a relationship of competition.

Lydon and Garcia, however, argue that governments can also adopt tactical thinking and work in a more strategic way. In their view, the tension between top-down government action and bottom-up civic initiative can be effectively addressed through the tools of tactical urbanism, thereby contributing to the creation of more responsive and better urban environments. They suggest that the combination of top down and bottom-up planning approaches can promote implementation more effectively. Within tactical urbanism, citizens are able to exercise their creativity in response to actual needs and directly participate in the redesign and reorganization of public space.

According to the description in *Tactical urbanism: short-term action, long-term change*, tactical urbanism has the following five characteristics^[10]:

- (1) a cautious, phased approach to change;
- (2) Provide local solutions to local planning challenges and issues;
- (3) Short-term projects and practical expectations;
- (4) Low risk and possible high return;

(5) The goal is to develop social capital among residents and enhance the ability of multi-party co-governance.

From the perspective of subject characteristics, the implementation subject of tactical urbanism covers all social levels, including government, enterprises, non-profit organizations, planners, artists, community groups, citizens and so on. It can be said that anyone can use tactical urbanism projects to build cities. Citizens exercise their urban rights through tactical urbanism, and governments, enterprises and social groups mobilize more people to participate through tactical urbanism.

In terms of space, tactical urbanism is mostly used in dense urban areas and space suitable for walking. It is applied to urban road parking lots, vacant lots, space under viaducts, over-wide streets, and other underutilized public spaces^[10]. In streets, communities, buildings and smaller spaces, tactical urbanism can fully mobilize social capital and creativity and effectively improve the livability of cities^[24].

From the perspective of time characteristics, tactical urbanism is different from temporary urbanism. It is not only a short-term project, but also pays more attention to the realization of long-term goals. The goal of tactical urban planning is to drive permanent change through short-term, phased planning^[10]. In *The Tactical Urbanist's Guide to Materials & Design, Street Plans Collaborative* classifies tactical urbanism projects into three categories according to duration: demonstration projects, pilot projects, and interim design plans. Their time frames are one day to one month, one month to one year, and one year to five years, respectively.^[25] Government-led tactical urbanism projects are often demonstration projects for community participation and can provide more practical opportunities.

2.1.4 Comparative analysis of related theories

Tactical urbanism covers many different forms of practice, and this diversity is also reflected in the use of related terms, such as DIY urbanism, temporary urban practice, flash, guerrilla, rebellious and everyday, etc. as shown in Table 2-1. Although there are some intersections between these concepts, there are still differences in the subject of action, normative relationship, implementation process and target appeal. Specifically, different practices show different characteristics in terms of whether the participants are citizens or institutions, whether they are formally authorized, whether they include the preliminary preparation stage, and whether they focus more on functional improvement or aesthetic expression. The formation of these practice types is closely related to the reflection on the traditional urban planning methods.

Table 2-1 Comparison of related theories

Concept	Core Characteristics	Actors	Regulatory Framework	Project Process	Objectives	Core Tactical Attributes	Differences from Tactical Urbanism
Temporary Urbanism	Addresses urban vacancy and transition through short-term use and flexible planning	Government, developers, community organizations	Authorized or semi-authorized	Planning, implementation, removal	Space reuse, risk reduction, flexible transition	Temporality, adaptability	Tactical urbanism draws on its temporality and flexibility, but places greater emphasis on replicability and long-term policy feedback
Austerity Urbanism	Maintains urban vitality through low-cost approaches under conditions of economic austerity	Government, non-profit organizations, communities	Authorized	Resource allocation, Temporary intervention, transitional governance	Resource efficiency, maintenance of urban functions	Resource redistribution, strategic flexibility	Tactical urbanism can be seen as a concrete manifestation, with stronger emphasis on community participation and experimentation
Guerrilla Urbanism	Centers on resistance and claims to rights, emphasizing the reclamation of public space	Civic groups, social movements	Informal or illegal	Occupation, action, transformation	Spatial rights, social equity	Confrontational and socio-political	Tactical urbanism inherits its spirit of civic engagement but tends toward collaboration and strategic legalization
Do-It-Yourself (DIY) Urbanism	Spontaneous transformation of micro-spaces by individuals or communities to improve environments	Residents, community groups	Unauthorized	Initiation, execution, feedback	Meeting daily needs, strengthening sense of belonging	Self-organization, grassroots nature	Tactical urbanism incorporates its spontaneity but is more institutionalized and linked to planning and policy extension
Pop-up Urbanism	Creates social interaction and cultural experiences through temporary spatial installations	Enterprises, cultural institutions, communities	Authorized or semi-authorized	Planning, installation, removal	Place activation, promotion of consumption and cultural exchange	Temporality, experientiality	Tactical urbanism not only activates space but also pursues sustainable governance and long-term transformation
Street Experiments	Street-space interventions characterized by data-driven approaches and participatory evaluation	Government, research institutions, citizens	Authorized	Experimental design, implementation, monitoring, evaluation	Improve mobility experience, test policies	Empirical approach, data feedback	Tactical urbanism serves as its theoretical foundation, while street experiments are more scientific and institutionalized

Table 2-1 Comparison of Related Theories (Continued table)

Concept	Core Characteristics	Actors	Regulatory Framework	Project Process	Objectives	Core Tactical Attributes	Differences from Tactical Urbanism
Urban Living Labs	Cross-sector collaborative platforms for urban innovation experimentation	Government, research institutions, enterprises, citizens	Authorized	Planning, co-creation, monitoring, feedback	Explore systemic innovation and sustainable transitions	Experimental governance, policy co-creation	Tactical urbanism can be regarded as a preceding stage, while this approach represents deeper institutionalization and multi-actor governance

Source: Author

Temporary Urbanism, proposed by Bishop and Williams in 2012, focuses on temporary uses and short-term occupation in cities, such as temporary markets, art spaces, and the reuse of vacant land^[26]. Temporariness is understood not only as a transitional condition, but also as an important way of exploring the potential of urban space, helping to challenge rigid planning systems and long-term development logics. Temporary urbanism places greater emphasis on the reuse of space through temporality and adaptability, whereas tactical urbanism stresses the use of these short-term actions to bring about long term policy and social change.

Austerity Urbanism, proposed by Tonkiss in 2013, emerged in the context of European cities after the global financial crisis of 2008^[27]. Under conditions of limited public finance, urban governance tended to move toward low input and high flexibility, and informal as well as temporary interventions became major means of sustaining the vitality of public space. Tonkiss points out that temporary use and community collaboration became new strategies for responding to urban resource constraints, reflecting the idea of creating durability through temporariness^[27]. Austerity urbanism is a macro level strategy of economic governance, with an emphasis on resource allocation and fiscal response, whereas tactical urbanism focuses on community participation and spatial experimentation at the micro level.

Discussion of Guerrilla Urbanism is mainly centered on Insurgent Public Space, the edited volume by Hou published in 2010. This book brings together the work of multiple scholars and explores how citizens reshape urban order through spontaneous and informal actions in public space outside official planning systems. In the introduction, Hou emphasizes that the term insurgent does not imply absolute resistance, but rather a logic of action that responds to institutional gaps through creative practice^[28]. Guerrilla urbanism carries a stronger confrontational character and more explicit socio-political claims, whereas tactical urbanism, while drawing on its spirit of participation, seeks collaboration with institutions, legalization,

and policy integration. This perspective provides an intellectual foundation for tactical urbanism in terms of action politics and social participation.

Do-It-Yourself Urbanism, as a concept derived from community self-organizing action, has been widely discussed in academia by Talen and others. Its core lies in citizens carrying out micro scale spatial interventions on their own, such as corner gardens, self-made seating, and temporary art installations, with an emphasis on creative participation from the bottom up^[29]. Although such practices lack formal permission, they can stimulate social innovation and spatial identity, which is an important manifestation of the grassroots level of tactical urbanism. The difference between tactical urbanism and general DIY practice is that it emphasizes the strategic nature and transformation potential of action, that is, through short-term and low-cost intervention, it leads to long-term urban form or policy change, rather than just temporary space beautification or functional replacement.

Pop-up Urbanism, as a temporary spatial activation strategy, is common in the field of business and cultural activities, and refers to the stimulation of urban vitality through short-term interventions (such as flash mart, installation art or community activities). It is generally believed that it reflects the trend of urban space from function to experience, and is a concrete extension of the “aestheticization” and “culturalization” of tactical urbanism. Flash urbanism is biased towards business and aesthetic drive, with experience and consumption as the goal; tactical urbanism focuses on social structure, public interest and urban governance innovation.

The concept of Street Experiments was proposed by Verlinghieri and other scholars in recent years. It refers to the short-term intervention of streets as experimental sites, such as traffic conversion, temporary squares or walkable projects^[30]. Such experiments usually receive official support or participation of research institutions, emphasizing data collection and evaluation mechanisms, reflecting the institutionalized evolution of tactical urbanism to policy experiments and urban governance innovation.

The concept of Urban Living Labs, proposed by Bulkeley and others in 2019, represents an innovation mechanism based on collaboration and experimentation in real urban environments^[31]. Urban Living Labs emphasize cross-sectoral cooperation, scientific evaluation, and long-term impact monitoring, serving as an important pathway for incorporating tactical urban interventions into institutional frameworks. This concept marks a new stage in which tactical urbanism evolves from grassroots actions toward policy innovation and co-creation in research.

2.2 Research on the experimental method of Tactical Urbanism

2.2.1 Tactical observation method

The observation method in Tactical Urbanism is mainly to respond to the complex and scattered practical problems in contemporary cities. It emphasizes the activation of marginal space with small-scale tactical actions by focusing on the actual interaction between different subjects, thus breaking through the more rigid treatment in traditional planning.

The characteristics of this observation method are as follows: first, it pays more attention to the use of space at the micro level; second, it pays more attention to the real situation in the specific site; third, it puts the actual experience of user in a more important position. Its focus is not whether the macro planning indicators are up to standard, nor is it just whether the existing norms have been implemented, but how people walk, stay, detour, avoid risks or spontaneously use space in real space, such as pedestrian paths, informal activities, space conflict points and some seemingly irregular but highly frequent use behaviors. In the process of observation, on-site recording, behavior mapping, photography and time-sharing observation are usually used, and residents, designers and managers are encouraged to participate together, thus forming a bottom-up problem identification method. This kind of observation based on daily use experience can provide a more direct basis for subsequent temporary intervention, and also make tactical actions easier to respond to those originally neglected space needs.

2.2.2 Tactical design thinking

The “five-step design method” in tactical urbanism practice constitutes a systematic design methodology. These steps do not need to be carried out in a linear sequence; rather, they often overlap with one another and should be repeated as needed. They should be understood as a framework for addressing a wide range of major urban issues^[10]. Before any planning is undertaken, careful deliberation is essential, and a detailed plan must be formulated with due seriousness (Figure 2-3).

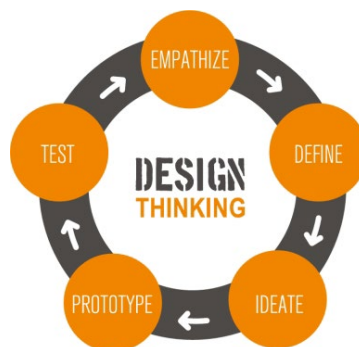


Figure 2-3 Tactical urbanism design thinking

Source: References^[10]

In the empathize phase, the central task is to identify the actual needs of the users that spatial renewal is intended to address. Unlike conventional planning approaches, which rely more heavily on technical judgment and expert experience, tactical urbanism places greater emphasis on everyday patterns of use, seeking to uncover spatial problems through the observation of human behavior and perception. Many problems in public space arise not simply from a lack of space, but from an insufficient understanding of how space is used and what users actually need. Accordingly, this stage usually involves on-site observation, interviews, questionnaires, and participatory activities to examine patterns of use and the social structure of the site, while also analyzing the differing needs of various user groups, such as permanent residents, transient populations, street-front shopkeepers, and pedestrians, thereby laying the groundwork for subsequent interventions.

The define phase is to further transform the previously identified needs and contradictions into clearer problem expressions. The spatial problems faced by tactical urbanism are often more complex and do not pursue a one-time solution. Therefore, it emphasizes that the problem should be focused on a certain range first. Existing studies generally regard it as a method of micro-renewal, through which small-scale and localized improvements gradually influence the broader environment. In this way, the intervention object usually chooses the space where the problem is relatively concentrated, the frequency of use is high and has a certain demonstration effect. By narrowing the scope of intervention and clarifying the research object, tactical experiments can maintain strong pertinence and operability in complex urban environments.

The ideate phase pays more attention to proposing a variety of possible action plans, rather than determining the only design result at the beginning. Tactical urbanism emphasizes openness and inclusiveness, hoping to break through the limitations of single path and linear decision-making in traditional planning through multi-agent participation and the introduction of different experiences. At this stage, the scheme is usually considered from the aspects of value orientation, site adaptability, implementation difficulty, test feasibility and follow-up observability. social recognition of the intervention program.

The prototype phase is to further transform the previous ideas into space practice. The prototype in tactical urbanism is not the final result, but a temporary approach to verify the space vision, which is mainly characterized by low cost, reversibility and flexibility. Through rapid implementation of small-scale interventions, changes in human behavior can be observed in a real environment and the basic feasibility of the program can be tested. This stage is not only a simple physical space adjustment, but also involves the main body of action, organization and resource allocation. Therefore, it also reflects the characteristics of tactical urbanism that

combines space design, social action and governance practice.

The testing phase is to judge the effect of spatial intervention through continuous observation and feedback, and to provide a basis for subsequent adjustments. Unlike conventional evaluation approaches, which rely more heavily on prior prediction, tactical urbanism places greater emphasis on testing spatial outcomes through actual use. The test content usually includes aspects such as space use behavior, social interaction changes, and public perception, and constantly revises the action strategy through a “build-measure-learn” cycle. The experience formed at this stage not only serves a certain project, but also provides a realistic reference for subsequent longer-term spatial decision-making and institutional adjustment.

2.2.3 Tactical type of practice

Lynch noted in his discussion of urban evolution that “there is no final result in the city, only a continuity of stages.”^[7] This concept reveals the dynamics of urban development and provides a theoretical basis for the time logic of tactical urbanism. Tactical urbanism uses simple, low-cost, temporary and highly visible interventions as a means to promote the continuous renewal of public space and social relations through incremental action (Table 2-2). Its common forms include color transformation of pavement and building facades, setting up flexible movable seats, basic greening and traffic slow-moving devices, so that urban space can support active travel and social interaction. This strategy begins with temporary interventions and is characterized by both reversibility and experimental potential: if the results prove satisfactory, it can be transformed into permanent facilities; if not, it can be adjusted or removed at low cost, thereby reducing economic and managerial risks. In its broader practice, tactical urbanism also encompasses a range of activities commonly referred to as “pop-up interventions,” such as container-based and semi-permanent street food structures, pop-up cafes, pop-up bars, cinemas, and other temporary cultural venues. These “pop-up” spaces often serve as sites of consumption or transitional uses in areas undergoing transformation, although their design may at times also create a sense of alienation for certain groups.

For example, many tactical urbanism projects in North American cities usually have a clear time frame. Although they are not permanent, they carry multiple goals: some promote long-term renewal with short-term intervention, such as site pre-visualization and chair bombing, some promote public discussion in a temporary form, such as pop-up town hall, and some have periodic characteristics, such as build a better block, parking day, pop-up retail, and open streets^[10]. These interventions enable the public to gradually adapt to new spatial experiences

through different time scales, and allow urban activities to alternate in a variety of time frames. Short-term actions can not only verify the design before large-scale development, but also provide an opportunity for public participation in planning and design.

As Lydon and Garcia argue, tactical urbanism advocates “short-term action for long-term change”^[10], and its temporal logic reflects an evolutionary trajectory from the temporary to the long-term, and from experimentation to institutionalization.

Table 2-2 Tactical type approach

Type		Approach	Partici pants	Example	Image example
Temporary intervention	Open streets	Temporary closed streets, prohibiting motor vehicles to provide safe space for walking, cycling, skating and other activities.	Official	Ride the Drivein Madison Wisconsin	
	Play streets	Temporary closure of some motor vehicle driving streets for people to play safely.	Official	NYC Play Streets	
	Parking day	Temporary occupation of parking spaces and other car special space, paving the turf, set up tables and chairs, green plants, and do the interval limit, increase the vitality of the street.	Semi-official	NYC Park(ing) Day	
	Pop-up town hall	With movable and detachable space devices, the neglected space is transformed into a temporary gathering place for citizens to conduct important discussions.	Semi-official	The BMW Guggenheim Lab	
	Pop-up retail	Use the empty roadways, streets, parking lots or other unexpected places in front of the store to preset the starting and ending time, temporarily or permanently sell products or create an atmosphere.	Unofficial	The Rocks Pop Up in Sydney	

Table 2-4 Tactical type approach (Continued table)

Type		Approach	Partici pants	Example	Image example
Temporary intervention	Camp s	Using tents to temporarily occupy space, the goal is to promote permanent changes in space.	Unoffic ial	Roman Military Camp Outposts	
Transitional intervention	Park makin g)	Convert vacant land and parking lots into urban parks.	Semi-official	Bayfront Parkway in Downtown Pensacola	
	Site pre-visual ization	Vacant spaces are temporarily used for community markets, art exhibitions and studios, community festivals, urban agriculture, micro-retail, or other temporary projects, thereby activating places that have already been developed or are in need of redevelopment.	Semi-official	Pallet Pavillion in Christchurch , Canterbury, New Zealand	
	Gueril la garde ning	Gardening activities are carried out in public or private spaces, such as converting vacant land into vegetable plots and planting various forms of greenery.	Unoffic ial	International Sunflower Guerrilla Gardening Day in Brussels	
	Park mobil e	Transport the movable greening device to a suitable place for installation, increase the greening space of the residential area, and further increase the vitality of the street by increasing the public seats.	Official	A park mobile located outside in the urban center of SPUR	
	Mobil e vendo rs	Street trading activities such as mobile bookstores, ice cream sales stations, and mobile waste collection stations help citizens earn income.	Unoffic ial	The bouquinistes of Paris	

Table 2-4 Tactical type approach (Continued table)

Type		Approach	Partici pants	Example	Image example
Transitional intervention	Food carts/tru cks	The use of trailers, motorhomes, and home-made sheds to sell snack foods can facilitate the transfer of locations. Some vendors rent fixed stalls for sale within a limited time, and some vendors rent parking spaces for sale.	Unoffic ial	Portland food carts	
	Weed bombing	Paint over neglected patches of grass to turn them into elements of the streetscape, thereby drawing attention to the residential environment and encouraging cleanup action.	Unoffic ial	A Weed Bomb Just North of Downtown Miami	
	Visual catalyst	By painting on blank walls, installing artworks in underused spaces, and transforming existing infrastructure, these interventions enhance the visual quality of public space and make the environment more engaging and attractive. In doing so, they can stimulate social interaction, draw the attention of visitors, reduce vandalism, strengthen a sense of community belonging, and encourage further long-term change in the public realm.	Semi-official	Doorways in Glenroy, Victoria, Australia	
	Chair bombing	Public seating and other forms of street furniture can be made from dismantled, recyclable building or industrial materials and placed in quiet or uncomfortable public spaces, thereby activating the public realm and making streets more inviting.	Unoffic ial	Seating placed adjacent to blue bottle coffee in Brooklyn, New York	

Table 2-4 Tactical type approach (Continued table)

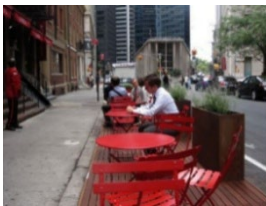
Type	Approach	Participants	Example	Image example
Transitional intervention	Adjusting	Unofficial	The <i>WeSee.Us</i> installation being deployed in Brooklyn, New York	
	Pavement to plazas	Official	NYC plaza program	
Permanent intervention	Parklets/pavement to parks	Official	<i>Pavement to Parks</i> program in San Francisco	
	Pop-up cafes	Official	NYC DOT <i>Pop-up Cafes</i>	
	Depave	Official	<i>Fargo Forest Garden</i> in Inner North Portland	

Table 2-4 Tactical type approach (Continued table)

Type	Approach	Partici pants	Example	Image example	
Permanent intervention	Intersect ion repair	Transform the crossroads near the community to set up self-service tea stations, large community bulletin boards, information kiosks or children’s parks, making it a communication space.	Semi-official	City repair in Portland	
	Informal bike parking	Add bicycle parking spaces and shelves at intersections, traffic facilities, or shops.	Official	The parkiteer cages in Melbourne	
	Build a better block	Mobilize residents, owners, artists and musicians to increase shared space, reduce car space, activate vacant storefronts and block public space by setting up bicycle roads, temporary stores, placing street furniture and planting plants.	Official	<i>Build A Better Block</i> in Oak Cliff	
	Reclaim ed setbacks	Activate the semi-open public space that is not fully used, especially the concession space between buildings and sidewalks formed by planning requirements, and weaken the distance perception of concession space by expanding structures or adding temporary landscapes to create a more attractive streetscape and neighborhood environment.	Official	<i>Food not Lawns</i> in Eugene, Oregon	
	Micro-mixing	Through mutual support and cooperation in the same space, a variety of commercial purposes are carried out at the same time, and a new business model is cultivated. Such as adding coffee sales in bookstores or bicycle shops.	Semi-official	Salvagetti Bicycle Workshop in Denver	

Table 2-4 Tactical type approach (Continued table)

Type	Approach	Partici pants	Example	Image example
Permanent intervention	Co- trading	Gather boutiques, bookstores, salons and cafes in urban spaces such as neglected roadways through flexible and intelligent marketing and efficient spatial layout: Let underutilized spaces quickly adapt to the needs of various merchants or transactions.	Semi- official	Winn Lane in Fortitude Valley QLD, Australia
				

Source: Redrawn by the author based on Reference^[32]

2.3 Research on street space

Street is an important part of the urban space system. In different historical stages, the focus of related research is different. The early planning practice was more based on traffic efficiency, and regarded the street as an infrastructure for organizing urban streamlines and allocating traffic resources. With the change of the concept of urban development and the gradual attention to the problem of public space, the street is no longer just a channel for traffic functions, but also an important place for urban public life.

Therefore, the research on street space has gradually formed two main directions. The first is to sort out the changes in the paradigm of street research from the theoretical level, and analyze how the way of street cognition has changed in different periods; the second is to discuss the changes of street structure characteristics from the perspective of spatial organization, and further understand the composition and use logic of street space. This section will focus on these two aspects to provide a basis for the specific analysis of the elements of the street.

2.3.1 Theoretical evolution of street space research

Before the middle of the 20th century, influenced by modernist planning ideas, urban construction generally emphasized functional zoning and traffic efficiency. Streets were more regarded as infrastructure for traffic organization and streamline distribution, and their public life attributes were relatively neglected at this stage. After the 1960s, with the gradual emergence of problems such as the decline of public life in the process of modern urban renewal, the academic community began to re-recognize the role of streets in urban life.

In the process of this transformation, some important studies have gradually promoted the change of street cognition. Jacobs proposed that the street is not only a traffic channel, but also

an important place for social interaction and neighborhood interaction. Continuous street interface and functional mixing are important conditions for maintaining street vitality^[8]. Appleyard further pointed out through empirical research that high-intensity motor vehicle traffic will significantly inhibit community interaction, indicating that traffic structure will directly affect social behavior in the street^[10]. From the perspective of human behavior, Gehl emphasizes that the design of public space should be carried out around the needs of human activities, and believes that the proportion of space, the facilities and the interface relationship will have an important impact on the occurrence of public activities^{[34][35]}.

At the same time, Lefebvre, starting from the theory of space production, points out that spatial form is not a simple material result, but is closely related to social relations, power structure and development logic. The change of street spatial form also reflects the change of urban governance concept^[6]. In recent years, Long Ying proposed the concept of “street urbanism,” emphasizing that streets should be regarded as an important research object and analysis unit in the new data environment. With the help of analysis, statistics, simulation and evaluation methods at the street scale, street research should be further systematized^[36]. In general, street research has shifted from paying more attention to traffic function in the early days to paying more attention to public life, humanistic scale and spatial structure.

2.3.2 The composite structure characteristics of contemporary street space

After the gradual shift of relevant theories, the academic community has also begun to pay attention to the changes in the internal structure of street space. Traditional streets are generally composed of building interfaces on both sides and open space in the middle, and their spatial order depends largely on the continuity of the interface and the spatial proportional relationship. Lynch (1960) pointed out that the street, as a “path” element, plays an important organizational role in the urban cognitive structure^[7]. Ashihara distinguishes between positive space and negative space in “Exterior Design in Architecture”, emphasizing that interface organization will directly affect space quality^[37]. Trancik (1986) proposed that after modern infrastructure enters urban space, it often brings about problems such as structural fragmentation and loss of space, which affects the original spatial order^[38]. Waldheim (2006) discussed the possibility of integrating infrastructure and public space from the perspective of landscape urbanism, emphasizing that traffic structure should be coordinated into the overall spatial system^[39].

In this context, the contemporary street space began to show the characteristics of the coexistence of two types of structural relations. One is a street-expanding structure composed of building interfaces and pedestrian space, and the other is a vertical superimposed structure

formed by three-dimensional transportation facilities such as viaducts. These two types of structures often appear in the same street section at the same time, so that the street space is no longer just a simple plane form, but gradually turns to a more complex composite structure. With the emergence of this change, the proportion of street space, environmental conditions and the way of use have also changed.

2.3.3 Summary: The enlightenment of street space research from the perspective of composite structure

By combing the theoretical evolution and structural characteristics of street research, it can be seen that street space has gradually changed from being regarded as a single transportation facility in the past to an important urban space carrying public life and social behavior. At the same time, in the contemporary urban environment, the embedding of three-dimensional transportation facilities also makes the street space present more complex composite structure characteristics. The problems faced by street renewal are no longer just the adjustment of single function, but more to the re-coordination of different spatial relations.

Therefore, in the follow-up study, it is necessary to further identify the spatial logic and updating methods of different components of street space from the structural level. For the street space with both continuous interface and three-dimensional traffic facilities, on the one hand, it is necessary to analyze the problems of interface organization, on the other hand, it is also necessary to analyze the use of ancillary space. On this basis, the next section will sort out the two key elements of street space: arcade street space and viaduct space, so as to provide more targeted theoretical support for the later research.

2.4 Research on the Conservation and Renewal of Historic and Cultural Districts in Guangzhou

Starting from the theoretical evolution of street space and its composite structural characteristics, contemporary street renewal needs to address spatial form, public life, and multiple patterns of use at the same time. In the case of Renmin South Road, this issue also needs to be understood within the specific context of historic and cultural districts in Guangzhou. Renmin South Road is located within Guangzhou's historic and cultural district system. It has the spatial foundation of a modern commercial street and arcade street, while also incorporating traditional wholesale industries, everyday circulation, elevated transport infrastructure, and requirements for historic conservation. Therefore, before examining the two specific spatial components of arcade streets and spaces beneath elevated roads, it is necessary to review existing research on the conservation and renewal of historic and cultural districts in Guangzhou.

The spatial form of Guangzhou's historic urban area is characterized by long-term evolution and multiple layers of accumulation. Huang Huiming and Tian Yinsheng analyzed the evolution of the morphological pattern of Guangzhou's old city since 1949 from the perspective of morphological zoning. They proposed identifying morphological units in the old city through elements such as the street system, plot organization, land use, morphological base, and building types, providing a methodological reference for understanding spatial differences among different districts within Guangzhou's old city^[40]. Deng Shushan, Cai Meng, and Tian Yinsheng, taking the traditional Zhuangyuanfang district as an example, related the evolution of commercial space to governmental power, market forces, and social forces. They pointed out that the form of commercial districts in Guangzhou's historic urban area continues to change along with institutions, industries, and patterns of social use^[41]. Understanding the historic urban area as a constantly changing spatial system helps explain Guangzhou's old-city streets from the perspectives of both street form transformation and renewal dynamics.

In studies on the Xiguan historic and cultural district, scholars have further connected the spatial form of Guangzhou's old city with local life, heritage conservation, and renewal governance. From the perspective of heritage urbanism, Feng Jiang and Mu Qi reviewed the formation, difficulties, and revitalization paths of old neighborhoods in Xiguan, Guangzhou. They argued that Xiguan developed a distinctive old-neighborhood structure through the Thirteen Hongs trade, water and land transportation, clan organizations, neighborhood development, and folk commercial activities. The Renmin South Historic and Cultural District is also part of Guangzhou's historic and cultural district system^[42]. Li Rui et al., in their study on the conservation and renewal of historic and cultural districts in Liwan District, pointed out that the historic and cultural districts of Liwan District collectively carry Guangzhou's historical transformation, urban construction, and cultural preservation. Current problems are mainly reflected in the large number of conservation objects, high residential density, an evident aging population, conflicts between traditional wholesale industries and historic conservation, and deficiencies in infrastructure^[43]. This research extends the focus of conservation and renewal from simple control of historic character to practical issues such as housing, industry, infrastructure, and public space, providing a more specific background for understanding the complex contradictions within Guangzhou's old urban districts.

The commercial character of Renmin South Road is closely related to the evolution of modern commercial space in Guangzhou. Gu Xueping and Peng Changxin's research on the architectural evolution of the Thirteen Hongs in Qing-dynasty Guangzhou shows that the Hong merchants' factories underwent a spatial transformation from local warehouses to foreign

factories, and from dispersed riverside distribution to a relatively independent district. Their architectural organization and district structure were closely related to Guangzhou's foreign trade system, rules for managing foreign merchants, and commercial activities^[44]. From this perspective, the formation of modern commercial space in Guangzhou was reflected not only in changes in architectural form, but also in the adjustment of goods circulation, spatial control, and commercial organization. Renmin South Road is close to historic commercial spaces such as the Thirteen Hongs, Cultural Park, Shamian, and Shangxiajiu. Its wholesale transactions, goods turnover, and use of arcade interfaces along the street therefore need to be analyzed in the context of the continuity and transformation of commercial space in Guangzhou's old city. Research on arcade streets provides a direct basis for the later analysis of the horizontal interface of Renmin South Road. Peng Changxin and Yang Xiaochuan, from the perspective of the arcade system, argued that modern Lingnan arcades had the dual attributes of urban regulation and architectural type. The arcade system was closely related to late Qing and early Republican city-wall demolition, road construction, municipal improvement, and road-section control. Its original purpose was to improve traffic and unify street interfaces through building setbacks and covered pedestrian spaces, and it became an important means of modernizing Lingnan cities in the 1920s^[45]. Lin Chong's studies on modern arcades in Guangdong and the development of modern arcades in Guangzhou also indicate that the development of Guangzhou arcades accompanied modern urban construction and architectural regulations, undergoing a process from privately initiated urban development to government legal control^{[46][47]}. Lin Chong's research on the development and form of arcade shophouses further supplements the morphological characteristics of arcades as spatial units of commercial streets at the shophouse typology level^[48].

In terms of renewal methods for historic and cultural districts, related research has gradually shifted from material repair to everyday life, community participation, and multi-actor governance. Li Rui et al. proposed that the conservation and renewal of historic and cultural districts in Liwan District should return to everydayness and explore sustainable implementation methods through livelihood improvement, co-creation, public-sector-led private improvement, and district-based and category-based organization^[43]. The heritage urbanism proposed by Feng Jiang and Mu Qi also emphasizes that the revitalization of Xiguan's old neighborhoods should proceed through heritage space restoration, municipal system improvement, public space organization, community building, and the reconstruction of everyday life services^[42]. Zhang Fan and Li Xun's study on the co-creation workshop in Shenjing Village shows that participatory community planning can connect social life with

physical space, thereby affecting residents' participation capacity, the publicness of public space, and public social life^[49]. Based on empirical studies in Guangzhou and Foshan, Zhao Nannan et al. pointed out that in the post-growth stock-renewal era, community renewal is shifting from development-oriented redevelopment to inclusive governance, and public interest expression is also turning toward the integrated expression of multi-actor negotiation, local emotions, and action expectations^[50]. Rui Guangye and Li Ziming proposed a participatory action framework of "point-based cultivation, area-wide consensus, and network activation," showing that spatial intervention can serve as an entry point for building trust, forming consensus, and stimulating autonomous action^[51]. These discussions are related to tactical urbanism's emphasis on low-cost experimentation, public participation, and incremental adjustment, and they also provide support for the later discussion of micro-renewal implementation mechanisms.

Research on the conservation and renewal of historic and cultural districts in Guangzhou provides three insights for this study. First, Renmin South Road should be understood within the evolution of Guangzhou's historic urban area and Xiguan's commercial space. Its street problems are related to the historical spatial pattern, the continuity of commercial functions, and the transformation of old-city form. Second, the arcade street interface of Renmin South Road has composite attributes involving regulation, form, and use function. Third, the renewal of historic and cultural districts needs to address everyday life, public space, and multi-actor collaboration, which connects with this study's introduction of tactical urbanism as a methodological approach.

2.5 Arcade street research under the horizontal interface of street space

2.5.1 The origin and development of arcade street

The commercial tradition formed in Guangzhou since ancient times has provided an important social basis for the evolution of its street space form. As an important port city in southern China, Guangzhou has become an important node of foreign trade in the Han and Tang Dynasties. Commercial activities have been carried out along the main streets for a long time, and gradually shaped the urban public space structure with the streets as the core^[40]. In modern times, frequent trade between China and foreign countries and the process of urban modernization have made Guangzhou show the characteristics of integration of Chinese and Western in the form of street architecture^[53], among which the arcade street space is the most representative(Figure 2-4).

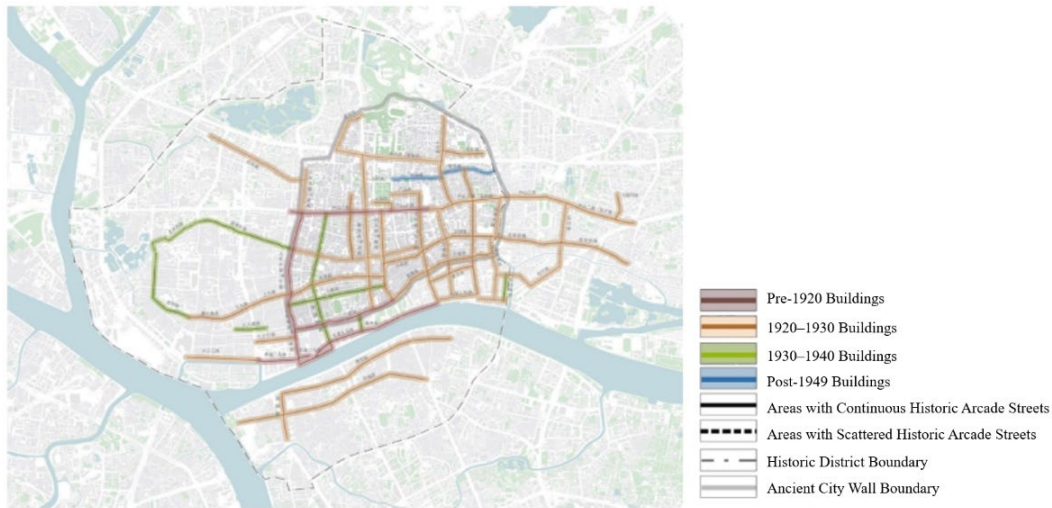


Figure 2-4 The distribution drawing of the historical evolution of Guangzhou arcade street

Source: Guangzhou Institute of Transportation Planning

As a corridor form combining architecture and street space, the arcade is not a single building type in essence, but a street space form serving commercial activities and public passage. From the perspective of origin, the arcade can be traced back to the archway shops built by British colonists in India in the 18th century, and it became widely established in Southeast Asia with the institutionalization of the “five-foot way” in Singapore in the early nineteenth century. By relinquishing the first floor of the building to the street to form a continuous semi-public corridor, this kind of space realizes the multiple functions of shading from the sun and rain, guiding walking and promoting business along the street. Since then, overseas Chinese in Southeast Asia introduced this street space model into South China and gradually localized it in Hainan, Fujian, Guangdong and Guangxi^[54].

The institutionalized construction of arcade street space in Guangzhou began in the late Qing Dynasty. In 1888, Zhang Zhidong, the Governor of Guangdong and Guangxi, proposed the concept of “corridor” by referring to the relevant practices of Hong Kong, and took the arcade as an important means to regulate the street interface. In 1912, Chen Jiongming, the governor of Guangdong Province, made clear the requirements of arcade construction for the first time in the urban management regulations, making it an institutional content of street construction. From 1918 to 1928, the Guangzhou municipal government promoted the construction of arcades along the main commercial streets through a series of policies, and finally formed a spatial system of arcade streets with a total length of nearly 40 kilometers^[40]. In its heyday, arcade street not only constituted the main carrier of urban commercial activities in Guangzhou, but also shaped a continuous, open and highly life-oriented street space form.

After the late 1920s, influenced by the concept of “garden city” and modern urban

planning theory, arcades, as the dominant form of street space, gradually withdrew from the new street system^[53]. By the end of the 1970s, with the widening of urban roads and the construction of transportation facilities, some arcade street spaces were demolished or their functions were weakened, and the continuity and publicity of street space were affected to a certain extent. In spite of this, arcade street, as an important street space form that adapts to the Lingnan climate and carries business and public life, still persists in the urban structure of Guangzhou and has a profound impact on the renewal of contemporary street space.

2.5.2 Theoretical research status of protection and renewal of arcade street

2.5.2.1 Research status in China

Domestic research on the protection and renewal of arcade streets has been gradually carried out since the end of the 20th century, and its research heat is highly related to the introduction of policies related to national urban renewal and historical style protection. In general, the relevant research mainly focuses on the formation mechanism, spatial characteristics, street interface morphology and renewal strategy of arcade street. In recent years, the research has gradually shifted from the protection of single buildings to the overall level of street space.

At the level of historical context and overall protection, Yang Honglie put forward the view of “cultural renaissance” of Guangzhou arcade commercial street earlier, emphasizing that the strategy of hierarchical renewal should be adopted according to the preservation status of arcade street, the complete street section should be continued to use, and the damaged part should be repaired and revived to maintain the overall style of the street^[55]. By combing the development process of arcade street in Guangzhou, Li Ying and Liu Yunya pointed out that the renewal process should pay attention to the continuity and comprehensive benefits of the street and avoid isolated single repair^[56]. Yu Qianwen and others put forward the principle of “protection first, taking into account traffic, from line and surface, organic renewal” in the study of arcade street protection planning, emphasizing the importance of arcade street as a street space system^[57]. From the perspective of cultural memory, Zheng Yu analyzed the renewal strategy of arcade street in Beijing Road, and put forward the path of combining street space promotion with urban cultural display^[58].

At the level of street aesthetics and spatial perception, Zhao Shuwang, Yu Junhua and other scholars systematically analyzed the spatial aesthetics of arcade street from the aspects of street scale, building proportion, spatial interface and walking experience, emphasizing the important role of arcade as a continuous component of street interface^{[59]-[60]}. In addition, research by

Chen Guoxiong and Mo Bingru on the advertising of arcade facades and the visual order of streets further reveals the complexity of arcade streets as commercial street spaces in terms of visual expression and urban image-making^[61].

In general, domestic research has gradually realized that arcade street is not a single building problem, but a comprehensive issue involving the overall structure, functional organization and use experience of street space. However, in terms of renewal strategy, it still focuses on morphological restoration and policy guidance, and the comprehensive renewal research under the condition of multi-layer superposition of street space is relatively insufficient.

2.5.2.2 Foreign research status

Foreign related research is more based on arcade buildings or corridor commercial streets, and there are relatively few studies directly on Chinese arcade streets, but many of the theoretical results still have reference value for the space renewal of arcade streets. In “The History and Protection of Shopping Arcades,” McGee points out that the vitality of arcade buildings is closely related to the urban space in which they are located. The subtle adjustment of walking lines and traffic organization often has a significant impact on the vitality of street commerce^[62]. This view shows that the corridor street space does not exist alone, and it has always been closely related to the overall street system.

Fujimori, a Japanese scholar, studies the origin and spread of verandah architecture from the perspective of climate adaptability. He believes that the important value of this kind of spatial form lies in its ability to respond to the climatic conditions of tropical and subtropical regions through its own structure. This perspective helps to understand the environmental adaptability of arcade street as street space^[63]. In addition, in research related to arcades, the concept of the “tropical arcade city” proposed by Ken Yeang is particularly representative. The book discusses the relationship between continuous corridor space, pedestrian system and urban environment from the perspective of tropical urban design. It emphasizes the important role of sheltered corridors in organizing street walking connections, forming a continuous interface, and improving the outdoor environment. It also provides a reference for understanding the relationship between architectural corridors and external public spaces in arcade streets^[64].

Taking Xiamen as an example, Li also studied the spontaneous use mechanism of the arcade corridor space, pointing out that the arcade corridor does not only bear the function of walking, but also constantly superimposes activities such as stay, communication and temporary operation in the daily use process, thus forming a street space with both transitional and public nature^[65]. In general, foreign related research pays more attention to the impact of

the overall environment of the street, walking system and public activities on the vitality of corridor buildings. Although these studies are not completely aimed at Chinese arcade streets, they still have certain reference significance for the study of arcade streets from simple building protection to street space renewal.

2.5.3 Research status of practice related to space protection and renewal of arcade street

2.5.3.1 Research status in China

In recent years, the renewal practice of historical arcade blocks in China has gradually increased. This kind of transformation has achieved certain results in improving street image and enhancing commercial attraction, but it has also exposed problems such as increased commercialization tendency, single street function and weakened public life. On the whole, the renewal of domestic arcade streets is mostly led by the government, and the scale of renovation is relatively large. The goal of renewal is often more focused on the improvement of street image and the reshaping of commercial value.

Taking Shangxiajiu arcade street as an example, after the completion of the overall transformation in 2009, the block has completely retained the original spatial pattern of arcade street through pedestrian streetization and commercial tourism development, but the street space has gradually shifted to tourism consumption orientation. The homogenization of commercial formats is more obvious, and the original daily life functions are continuously compressed. This case shows that although the overall renewal promoted in a top-down manner can enhance the vitality of the street in the short term, it is also easy to weaken the diversity and elasticity of the street space in the long-term operation^[66]. The renewal of Enning Road in Yongqingfang has some differences in the path. After the completion of the first phase in 2018, the block has gradually become a representative cultural tourism landmark in Guangzhou by repairing the Xiguan arcade building, introducing cultural and creative industries and micro-transformation. Its renewal adopts a combination of government-led, market operation and residents' participation, which improves the degree of participation of residents in renewal to a certain extent, and also reduces the impact of single commercial development on street space, reflecting the possibility of finding a balance between economic benefits and space quality in the renewal of arcade street^[67]. The renewal of arcade street in Beijing Road shows the characteristics of the combination of the overall improvement of the street and the cultural archaeological display. After the completion of the pedestrian street renovation and upgrading project in 2020, the block became a national demonstration pedestrian street, attracting a large number of tourists. This case also shows that in the case of better core location conditions,

through systematic street space upgrading, the commercial effect can be significantly amplified and the development of surrounding areas can be promoted. From these cases, it can be seen that the renewal practice of domestic arcade street is still more focused on the restoration of the overall shape and function of the street. It is not enough to pay attention to the continuous use of street space as a carrier of public life. The renewal method is also relatively rigid, and the response to different spatial levels and different users is not detailed enough.

2.5.3.2 Foreign research status

In the international context, the renewal practice of arcade street or similar historical street space emphasizes more on the simultaneous promotion of moderate protection and functional activation, and the renewal process is usually carried out in a gradual and adjustable way (

Table 2-3). Taking Chinatown arcade street in Singapore as an example, as a historical and cultural district, its renewal focus is not to completely change the street space form, but to maintain the continuous use of street space by introducing diversified street activities and daily functions under the premise of maintaining the continuity of the arcade space and the basic stability of the street scale^[68].

The renewal practice of Chinatown arcade street pays more attention to the continuation of community life. In the formulation of protection policies, the government also reserves a certain amount of autonomous adjustment space for merchants and residents, so that the street space can maintain a relatively dynamic balance between tourism, business and daily life. This progressive update method, to a certain extent, avoids the street space function too fast to a single, and also helps to improve the social and economic sustainability of the street space in the long-term use. Compared with the domestic renewal path that is more oriented to overall transformation and image improvement, foreign related practices emphasize more on the process adjustment and multi-agent collaboration of street space.

Table 2-3 Domestic and foreign cases related to the protection and renewal of arcade streets are sorted out

Case location	Completion time	Update strategies	Update mode
Shangxiajiu arcade street, Guangzhou	Overall renovation completed in 2009	Pedestrian street + arcade renovation + commercial tourism	Government-led, market operation
Yongqingfang (Enning Road), Guangzhou	The first phase is completed in 2018, with continuous updates to follow.	Renovation of Xiguan arcade + introduction of cultural and creative industries + micro-renovation	Government-led, market operation, residents' participation

Table 2-3 Domestic and foreign cases related to the protection and renewal of arcade streets are sorted out
(Continued table)

Arcade street in Beijing Road, Guangzhou	2010 update, 2020 Beijing Road Pedestrian Street upgrade completed	The overall upgrading of the street + arcade renovation + archaeological display	Government-led, market operation
Chinatown arcade street, Singapore	In 1998, the protected area was established, and the 2000 s transformation was completed.	Retain the appearance of the arcade + functional activation (catering / tourism / residence)	Government-led, market operation, owner participation

Source: Author

2.5.4 Summary

Based on the renewal practice of arcade streets at home and abroad, it can be seen that although the existing renewal path has achieved certain results in improving the street environment and driving commercial functions, it still generally faces the contradiction between protection objectives and development demands. Domestic practice focuses more on form repair and policy promotion, and the renewal process is relatively concentrated and rigid. Foreign experience emphasizes more on community participation and progressive activation, and maintains the diversity and publicity of street space through continuous adjustment.

From this point of view, the renewal of arcade street needs to introduce a more flexible renewal mechanism, and regard the street space as a system that can be continuously adjusted, rather than a one-time transformation object. Through phased, small-scale and feedback intervention, on the one hand, it can retain the characteristics of historical space, on the other hand, it can also help to improve the flexibility of street space and community vitality. This understanding also provides important inspiration for the subsequent introduction of tactical update methods from the overall perspective of street space, and further discussion of the collaborative optimization between arcade street and other street space components.

2.6 Research on the spatial correlation under the viaduct under the vertical superposition dimension of street space

2.6.1 Research status of spatial correlation theory under viaduct

With the rapid development of urban motor vehicle traffic system, the superposition of street space in the vertical dimension is becoming more and more obvious. The emergence of elevated roads has re-stratified the street space that was originally organized mainly on the ground, and the space under the viaduct has thus become an integral part of the street space

system that cannot be ignored. Due to the influence of structural occlusion, noise interference, insufficient lighting and complex management ownership, this kind of space is often regarded as edge space or gray space for a long time, and its public attributes and use value have not been paid enough attention.

Since the second half of the 20th century, with the change of urban renewal concept and the deepening of public space research, the space under the viaduct has gradually entered the scope of academic research and planning practice. Relevant research has begun to break through the understanding of simply viewing it as a traffic subsidiary space, and turned to discuss its potential value and utilization methods from the perspectives of urban public space, social activity carrier and street space composite system. Combined with the research direction of this paper, the following will focus on combing the relevant theoretical research on the utilization and transformation of the space under the viaduct.

2.6.1.1 Foreign research status

The research on the space under the viaduct in foreign countries started earlier, and on the whole, it shows a trend from problem identification to system design theory. Relevant research generally believes that the space under the viaduct should follow the people-oriented design concept, not only to meet the ancillary needs of the traffic structure, but also to undertake the functions of public activities and urban living space.

Charles Waldheim proposed in *Landscape Urbanism* that viaducts and their ancillary spaces should be regarded as an important part of urban landscape infrastructure. Through ecological and landscape design methods, the space under the bridge should be transformed into a public place for leisure, recreation and communication^[69]. In his study of public space in Asia-Pacific cities, he points out that roads and bridges do not only serve traffic, but also have the potential to be transformed into public or commercial space in high-density cities, which can effectively alleviate the problem of insufficient supply of public space^[70].

In terms of specific research methods, foreign scholars pay more attention to the accessibility, permeability and activity adaptability of the space under the bridge from the perspective of user behavior and spatial characteristics. Hormigo et al. (2004), through a comparative study of elevated space cases in Japan and other countries, pointed out that the efficiency of space utilization under the bridge is closely related to the urban pedestrian system and traffic organization^[71]. Taking the space under the bridge in Beirut as an example, Youssef (2017) proposed a targeted optimization strategy based on problem diagnosis and opinion survey, emphasizing the importance of public participation in the transformation of space under

the bridge^[72]. Azadeh et al. (2019) systematically analyzed user needs and spatial preferences through a combination of quantitative and qualitative methods, providing data support for the restoration of space under negative bridges^[73]. Ahmed et al. (2020) introduced Lefebvre's "daily life" theory and proposed the system framework of space design under the bridge from the perspective of social use^[74]. AbuBakr (2021) further pointed out from the perspective of users that the space design under the bridge should be based on real demand research, rather than simple form transformation^[75]. It can be seen that foreign research has formed a relatively mature theoretical system, emphasizing that the space under the bridge is an important potential carrier of urban public space, and its value needs to be considered in the overall spatial structure of the city.

2.6.1.2 Research status in China

Compared with foreign countries, the domestic research on the space under the viaduct started late. For a long time, related research has paid more attention to the elevated road body and traffic efficiency, and the systematic discussion of the space under the bridge is relatively insufficient. With the continuous improvement of the quality requirements of urban public space, as well as the problems of space under the bridge in terms of safety, environmental quality and urban image, domestic scholars have begun to pay more and more attention to its renewal and utilization. Part of the research starts from the theory of urban surplus space and discusses the reuse path of the space under the bridge. Based on the perspective of residual space, Gong Shuchen systematically sorted out the space renewal strategy under the bridge, and proposed to enhance its use value through functional replacement and environmental improvement^[76]. Qin Jian summarizes the practical experience of under-bridge space governance in China, and puts forward suggestions on functional development and management coordination based on foreign cases^[77]. Tong Yaxiong and Huang Liang summarized the utilization principles and design characteristics of different types of space by classifying the space under the bridge, so as to provide reference for practical operation^[78].

Domestic research mostly focuses on the induction of problems and countermeasures, emphasizing the improvement of safety, aesthetics and basic use functions. The research perspective is still based on the space under the bridge as a traffic subsidiary space or residual space, and its overall role and public value in the street space system are still insufficient.

2.6.2 Research status of space-related practice under viaduct

At the practical level, foreign cities have carried out the systematic transformation of the space under the viaduct earlier, and gradually formed a practical path of overall planning from

the urban level. For example, the Sky Rail project in Melbourne, Australia, transforms it into a continuous community public activity space by uniformly planning a 17-kilometer elevated railway bridge space. The EL-Space Plan proposed in New York attempts to integrate and reuse under-viaduct space within the city. In addition, projects such as Seoul's Terrace Square, Toronto's Underpass Park, Miami's The Underline, Toronto's The Bentway, and Bandung's Taman Film have transformed previously neglected under-bridge spaces into popular public spaces through functional replacement, activity introduction, and landscape optimization, which has significantly enhanced urban vitality.

In recent years, the practice of space reconstruction under bridges in China has gradually increased. The Renmin South Road Interchange in Chengdu transforms the space under the bridge into a public place with regional characteristics through artistic intervention and cultural expression. Inspired by industrial heritage elements, Shanghai "Suhe Super Pipe" project has created a public art space with strong recognition. The sports park under the Panhuo viaduct in Ningbo, the comprehensive public space under the Shanghai Central Bridge and the magic forest project, through the integration of sports, leisure and slow system, make the space under the bridge become an important part of the daily use of the community. The construction of the greenway under the bridge of Shenzhen Yanjiang Expressway further expands the function of the space under the bridge in the ecological and slow-moving system (Table 2-4).

Table 2-4 Practice cases of space reconstruction under viaduct (brief table, see appendix1 for details)

Practice of space reconstruction under viaduct	Object name	Feature
Overseas	The Bentway public space	The linear space under the bridge is transformed into a public art and activity place.
	Taman Film Park	Combining cultural and leisure functions, innovative use of gray space
Domestic	Suhe Super Pipe, Jiangsu North Road	The space under the bridge full of artistic atmosphere is also the second classroom to carry out children's aesthetic education.
	Inner ring (Siping Road-Zhengben Road) waterfront space under the bridge	Green slow walkway, children's play area, basketball court, fitness equipment, etc.

Source: Author

The renewal of spaces beneath elevated roads cannot be applied solely according to

functional types. It also needs to assess applicability in relation to sectional scale, bridge location, adjacent interfaces, and street operation patterns. Based on the basic characteristics of the research object in this thesis, the space beneath the elevated road along Renmin South Road does not provide conditions for large-scale open space. Instead, it is shaped by composite constraints of a narrow section, high density, and longitudinal overlap. Compared with large-scale under-bridge parks or continuous slow-mobility corridors, its renewal is more suited to approaches such as small-scale node activation, improved lighting and spatial legibility, pedestrian environment organization, and coordination with under-bridge interfaces. Large activity facilities or comprehensive park-oriented transformation models should therefore not be directly transplanted into this context (Table 2-5).

Table 2-5 Applicability Comparison of Practical Cases of Spaces Beneath Elevated Roads

Case Type	Spatial Conditions	Main Approaches	Implications for This Study
Large-scale urban underpass park	Spacious area with sufficient surrounding space	Introduce sports, leisure, and landscape facilities	It can be used as a reference for lighting and identification design as well as activity organization, but large-area facilities should not be directly applied
Linear slow-mobility continuous type	Continuous space beneath the bridge, linking parallel and non-motorized systems	Integrate pedestrian paths, cycling routes, greenways, and landscape systems	It can be used as a reference for improving the walking environment and guidance system, but it needs to fit the street's actual operating condition
Small-scale node activation type	Local fragmented space or negative space	Set up temporary seating, lighting, art installations, and small-scale activities	It has relatively strong applicability to the small spaces beneath Renmin South Road, and can be used as a priority reference
Commercial interface composite type	The space beneath the bridge is adjacent to commercial frontages or commercial streets	Improve the interface, organize slow traffic, and support temporary display	It can be used as a reference for coordinating under-bridge space with commercial interfaces along the street, but commercial overflow needs to be controlled

Source: Author

2.6.3 Summary

Foreign research and practice on the space under the viaduct have formed a relatively systematic framework of understanding. It is generally considered that the space under the

bridge is considered in the overall public space structure of the city, emphasizing its composite function and public value, and improving the quality of space through the use of surveys and gradual updates. Although the relevant research and practice in China have developed rapidly, it still stays at the level of experience summary and functional supplement, and the understanding of the role of the space under the bridge in the whole street space system is not sufficient.

With the change of urban renewal concept, the space under the viaduct is gradually changing from passive utilization to active shaping, and its importance in the vertical superposition structure of street space is becoming more and more obvious. It will also become a key issue to be responded to in subsequent research and design to consider the space under the bridge and the ground street space together and improve the overall street space quality in a phased and adjustable way.

2.7 Summary of this chapter

This chapter focuses on the theme of street space transformation and reviews the relevant theoretical foundations from two aspects: spatial structure and methodological system. Through the review of the concept of street space and the evolution of related studies, it can be seen that street space has gradually shifted from being understood mainly as a single traffic corridor to being recognized as a composite spatial system that supports public life and social activities.

At the methodological level, this thesis reviews the theoretical discussions and experimental methods of tactical urbanism. The review shows that tactical urbanism provides a more flexible and practice-oriented approach for street environments characterized by overlapping elements, heavy traffic pressure, and complex spatial conditions. It emphasizes low-cost, short-term, and reversible interventions, aiming to respond more quickly to spatial problems through small-scale experiments and to make continuous adjustments based on actual feedback.

In terms of specific spatial components, this chapter examines the important elements of street space from two dimensions: horizontal interfaces and vertical superposition. As a typical interface-based street form, the arcade street demonstrates through its conservation and renewal practices that there has long been a strong connection among interface continuity, commercial vitality, and public interaction. Spaces beneath elevated roads, meanwhile, reflect how ancillary spaces created by the introduction of modern transport infrastructure into streets can be reused through functional adjustment and the creation of publicness. Although arcade interfaces and spaces beneath elevated roads differ in their formation mechanisms and patterns of use, they

jointly constitute a composite structure of horizontal and vertical superposition within the same street system and continue to influence the overall quality of the street. Tactical urbanism therefore offers valuable reference for promoting gradual improvements to street space under conditions where large-scale changes to the existing transport system are difficult.

Chapter 3 Application of Tactical Urbanism in Street Space Reconstruction

This chapter examines the application of tactical urbanism in street space transformation. Based on the theoretical review in Chapter 2, it analyzes practical pathways under different spatial conditions, implementation actors, and organizational models through cases such as Times Square in New York, No Longer Empty, Ikebukuro in Tokyo, Qianhai Bay in Xiwan, Shenzhen, and the Guangzhou Spring Festival Flower Market.

After the case analysis, the chapter returns to the renewal of composite street spaces and discusses the applicability of tactical urbanism in addressing traffic operation, public activities, spatial activation, and multi-actor collaboration. It further summarizes its implementation mechanism, moving from problem identification and experimental intervention to feedback adjustment and long-term transformation. Through the above analysis, this chapter provides practical references for the subsequent assessment of the current conditions of Renmin South Road, the construction of renewal strategies, and the development of design proposals.

3.1 Case study on the practice of Tactical Urbanism in street space reconstruction

3.1.1 Traffic transformation experiment in Times Square, New York

3.1.1.1 Project introduction

Times Square is located at the intersection of Broadway Avenue and Seventh Avenue in the middle of Manhattan. It is one of the most representative urban spaces in New York. For a long time, this area has become a very prominent area of traffic contradictions because of the high density of people and the great pressure of traffic flow. By the beginning of the 21st century, the average daily number of pedestrians in Times Square has exceeded 350,000, but the pedestrian space only accounts for about 11% of the total area of the street. Most of the road resources are still occupied by motor vehicles, resulting in frequent traffic accidents, noisy environment and decreased business experience. As a highly concentrated public place for tourism and business, the street space of Times Square has been in a high-risk and high-conflict operation for a long time, which has also become an important reason for the New York City government to rethink the distribution of street functions.

Against this backdrop, the New York City government launched the “Green Light for Midtown” program in 2009, which aims to improve the accessibility and livability of urban centers by adjusting the transportation system, expanding pedestrian space, and improving the public environment. The project, jointly promoted by then-Mayor Michael Bloomberg and

Transportation Secretary Janette Sadik-Khan, employs an experimental approach of Tactical Urbanism to intervene in space in a low-cost, temporary and reversible manner (Figure 3-1). The core objective of the project is to test the feasibility of pedestrian priority streets through short-term actions and to provide empirical evidence for subsequent long-term planning.



Figure 3-1 New York Times Square Experiment

Source: Reference^[10]

3.1.1.2 Project development process

The development process of the Times Square project can be divided into three stages: pilot experiment, social feedback and permanent construction. It presents a gradual evolution path from tactical action to institutionalized space, which fully embodies the core logic of “short-term action to long-term change” of tactical urbanism.

The transition phase focuses on assessment and social feedback (2009-2011). After the completion of the pilot, the municipal government evaluated through traffic flow monitoring, public satisfaction survey and business data analysis. The results show that after the implementation of the project, the number of traffic casualties involving pedestrians in the Times Square area decreased by about 35%, while the overall number of traffic accidents decreased more significantly, reaching about 63%. At the same time, despite the closure of some motor vehicle traffic functions on Broadway, the expected deterioration of regional traffic operation has not occurred, and the motor vehicle traffic time on some surrounding roads has been shortened, indicating that the redistribution of street functions has not weakened the efficiency of the overall traffic system, but has improved the efficiency of regional traffic, and business income has increased by more than 70%^[79]. These results have driven the government to decide to retain the pedestrian plaza and include it in the subsequent formal design. This stage actually played a transitional role between the temporary experiment and the formal policy.

In the long-term phase, permanent construction (2012-2017) is considered. In 2012, the architectural firm Snøhetta was commissioned to carry out a permanent renovation design of the area. The design scheme continues the openness and flexibility of the pilot phase, while achieving structural optimization in materials and landscapes to form a sustainable public space

system. In 2017, the pedestrian square of Times Square was officially completed and put into use, marking the successful transformation of the project from a tactical pilot to an institutionalized spatial renewal achievement.

3.1.1.3 Project impact

The successful experience of Times Square pedestrian square provides more inspiration for global cities. The significance of this project is not only reflected in the improvement of the street space itself, but also in the fact that it shows an urban renewal model that promotes institutional adjustment through practical action. In the past, many urban renewals often relied on long-term planning and high investment, and the flexibility was relatively insufficient in the face of complex sites. The transformation of Times Square first tests the feasibility of space adjustment through temporary intervention, and then determines the follow-up promotion mode according to the actual effect. This path enables the update process to be continuously corrected in real use, and also allows subsequent decisions to have a clearer realistic basis.

This project also shows a clear progressive space optimization logic. Times Square did not complete the permanent construction in one step, but experienced the process of pilot, evaluation and long-term transformation. This practice shows that tactical urbanism emphasizes continuous testing, adjustment and improvement in the course of time, which can reduce the rigid problems caused by one-time construction and make public space continuously improve in continuous use. In the process of project promotion, there are many interactions among the government, design institutions and the public. Public opinions and actual use data will affect the final decision. This mechanism also reflects the participation and collaboration emphasized by tactical urbanism, and provides a new way of organizing public space governance.

The tactical intervention in Times Square eventually did not stop at the level of short-term activities, but gradually developed into a long-term public space transformation tool for New York City. It promotes a wider range of spatial and institutional adjustments through small-scale intervention, and gradually transforms temporary actions into long-term institutional results. The Times Square project shows that tactical urbanism is not only a temporary space experiment, but also a realistic path to continuously promote urban renewal. This model has a strong reference significance for the renewal of complex environments such as high-density cities, historical blocks and spaces under viaducts.

3.1.2 Art activation experiment of No Longer Empty in New York

3.1.2.1 Project introduction

No Longer Empty (NLE) is a non-profit cultural initiative in New York centered on

temporary artistic intervention and community collaboration. The project emerged in the aftermath of the 2008 global financial crisis and launched its first exhibition in New York in 2009^[80].

Its emergence was rooted in the practical context of economic recession, which had produced a large number of vacant storefronts and underused urban spaces. Against this backdrop, NLE regarded vacant space as an urban resource with the potential for reactivation, and sought to transform previously neglected sites into temporarily open venues for cultural activities through temporary exhibitions, public education, and community partnerships (Figure 3-2).

Unlike traditional museums or gallery systems, NLE does not rely on a fixed exhibition venue. Instead, it uses overlooked urban spaces as curatorial sites. Its projects are usually located in neighborhood commercial streets, abandoned shopping centers, or temporarily unused public buildings. Through collaboration with artists, curators, educators, and community organizations, NLE carries out exhibitions, public education programs, and community engagement activities within a specific period of time.



Figure 3-2 A project by NLE

Source: References^[80]

3.1.2.2 Project development process

The first stage was an experimental phase of practice. The project originated in the large number of vacant storefronts that appeared on the streets of New York after the financial crisis. Against this backdrop, its founder, Manon Slome, proposed an exhibition centered on the theme of “emptiness” and soon realized the first project, No Longer Empty^[80], by making use of a vacant storefront near the Chelsea Hotel. The characteristics of this stage are to verify the possibility of art intervention in vacant space by means of lower cost, faster organization and temporary curation. The first exhibition relies more on the original store relics to create. Many works will directly respond to the original physical, historical and symbolic characteristics of the site, and also lay the foundation for the sustainable development of the " site response " after the project.

The second stage was community oriented. As the practice developed, NLE no longer treated vacant spaces simply as containers for exhibitions, but began to incorporate community history, demographic structure, current issues, and local narratives into its preliminary research. Before each exhibition, the project team would usually investigate the history of the building, the condition of the surrounding community, the distribution of cultural organizations, transport accessibility, and the needs of youth activities. Feedback was also collected through open days, community meetings, and communication with local organizations, allowing residents and related groups to take part in discussions of exhibition themes and the formation of content. At this stage, commissioned new works gradually became an important feature of the project. Artists no longer relied only on existing works, but developed new creative practices based on site research and public engagement. In this way, NLE's working method gradually shifted from holding exhibitions in vacant spaces to generating exhibitions around specific sites and communities, and it progressively formed a relatively complete methodological chain of site research, community communication, curatorial development, and public participation.

The third stage is the expansion and turning stage from 2017 to 2020. At this stage, No Longer Empty has gradually established partnerships with local governments, public institutions and the education system, and the content of the project has expanded from a single exhibition to workshops, youth art programs and public courses. The use of vacant space is more diverse, and some projects have begun to have indirect links with urban renewal issues and public policy discussions, reflecting the transformation trend from artistic action to urban cultural practice.

3.1.2.3 Project impact

The direct impact of NLE on urban space is mainly reflected in the use of idle space and the change of community perception. The project enters vacant stores and other low-use spaces at a lower cost and in a shorter period. Through exhibitions, public events and educational projects, the originally closed or neglected spaces are reopened to the public, and the original negative image of these spaces is changed in a short time. At the same time, by responding to the history of the site and the reality of the community, the project has established a link between artistic activities and experience of residents, promoted the transformation of the art space from a mere viewing place to a public place with more communication and participation characteristics, and enhanced the interaction and public discussion in the community to a certain extent.

Another impact of NLE is reflected in the diffusion of its methods and operation paths.

The project is not just to complete a single exhibition, but to summarize the implementation experience through cases, courses, agreements and process tables, so that the working method of “borrowing idle space-rapid intervention-introduction of public participation-phased withdrawal” gradually forms a clearer operational framework. From the perspective of tactical urbanism, this approach makes temporary artistic intervention no longer just a single cultural event, but gradually become a practical way to respond to vacant space problems, organize public participation and influence subsequent space reuse.

3.1.3 Community participation experiment in the Ikebukuro social experimental street: IKEBUKURO LIVING LOOP

3.1.3.1 Project introduction

Tokyo Ikebukuro Social Experimental Street is a representative case of Japanese social experiment in recent years to promote the reconstruction of street space. It is mainly implemented by the Toyoshima District Government in conjunction with civil institutions, community organizations and street merchants (Figure 3-3). When reviewing and reflecting on public space policy, Izumiyama Rui also compared tactical urbanist planning with traditional planning and pointed out that tactical urbanism is more flexible and experimental. He further argued that social experimentation is an important form of hypothesis testing in tactical urbanist practice. [22]. Among these, IKEBUKURO LIVING LOOP is a particularly representative project. Its experimental area is mainly located in the zone from the east exit of Ikebukuro Station to Minami Ikebukuro Park, including Green Boulevard and the surrounding street spaces.



Figure 3-3 Each experimental stage of Tokyo Ikebukuro social experimental street

Source: Reference^[81]

The proposal of this project was related to a reflection on Ikebukuro’s long-standing traffic oriented urban structure. As an important rail transit hub in Tokyo, the area around Ikebukuro

Station had long placed greater emphasis on motor vehicle efficiency and commercial concentration. Street space mainly served a circulation function, with insufficient space for pedestrian stay and relatively weak public life. In response to problems such as limited pedestrian friendliness and the low level of public space use, the local government introduced a social experiment mechanism. The aim was to test street functions and patterns of use through short term and reversible spatial interventions without relying on permanent engineering reconstruction.

The project was carried out in stages. Its main components included the temporary installation of street furniture, the reorganization of pedestrian space, the introduction of public activities, and experiments in street management and operation. Through continuous observation of pedestrian behavior, spatial use, and public feedback, the project provided an empirical basis for the subsequent normalization of street improvement and policy making.

3.1.3.2 Project development process

The Ikebukuro social experimental street in Tokyo was not a one-time street reconstruction project. Rather, it was a process advanced gradually over a relatively long period through multiple rounds of social experimentation. Its development can generally be divided into two stages, namely the pilot experiment stage and the expansion and deepening stage. These stages show a progressive relationship in both objectives and implementation measures.

The pilot experiment stage began around 2015. Its main focus was to intervene in selected local spaces and to test the possibility of transforming the street from a circulation space into a place where people could stay. In 2015, a one-week social experiment was carried out on Green Boulevard near the east exit of Ikebukuro Station in Tokyo, featuring a food market and an open café. Green Boulevard was an ideal experimental site, with a width of about 50 meters and sidewalks of about 10 meters, providing sufficient space for lingering activities. The implementing body was the Knit Green executive committee, which placed movable leisure installations between the sidewalk and the carriageway to create temporary spaces for dining and rest. In order to maintain adequate pedestrian clearance on the sidewalk, the dining and seating installations were arranged in a single row to save space. Standing dining areas were also introduced to provide additional capacity. In addition, on these installed micro parks, the red letters BLVD became a distinctive sign in a way similar to TED. BLVD is the abbreviation of boulevard, and it may have implied the creation of a tree lined and stay oriented atmosphere along the avenue. As a social experiment, the project also required data collection and analysis. In addition to recording the number of visitors, the organizers gathered data through

questionnaires and behavioral observation in order to evaluate the effects of the experiment at a later stage. Although the experiment lasted only a short time, it was recognized as a National Strategic Road Occupation Project. Together with the renewal of Minami Ikebukuro Park, it also promoted the involvement of a new operating body in subsequent phases, showing that the short-term experiment had already begun to influence long term change.

The expansion and deepening stage began roughly after 2018. After the pilot experiment achieved initial results, the Ikebukuro social experimental street gradually developed from point-based intervention into a networked system of continuous public spaces centered on IKEBUKURO LIVING LOOP. At this stage, the project was no longer limited to a single experiment. Instead, street space configurations and activity programs were continuously adjusted through multiple rounds of recurring events. The scope of experimentation expanded from individual street sections to the Green Boulevard corridor and its surrounding areas, while the connection between the street and Minami Ikebukuro Park was also strengthened. In terms of implementation, the types and arrangements of street furniture became more diverse, and the organization of street activities gradually developed into a relatively stable operational model. At the same time, the social experiments began to connect with urban policy and planning documents, and their outcomes were used to support revisions to street design guidelines and improvements in public space management systems. This indicates that the social experiment had gradually shifted from an initial temporary attempt into an important tool for promoting the long-term transformation of the street.

3.1.3.3 Project impact

Compared with European and American countries, Japan faces more pronounced policy and institutional constraints in introducing tactical urbanism. After comparing the implementing actors and permit requirements for common forms of tactical urbanist action in Japan, Izumiyama Rui found that activities such as Parking Day, Street fairs, and Pop-up cafés usually require official approval. He argued that such practices are more difficult to advance in Japan because public facilities such as roads are publicly owned, and individuals or organizations seeking to use road space are often subject to relatively strict application procedures. In addition, urban management authorities may restrict such activities on the grounds of traffic safety. From this perspective, the significance of the Ikebukuro case lies in showing that tactical street experiments can still be carried out progressively through relatively well-structured forms of social experimentation, even in environments subject to strong institutional constraints.

The impact of the Ikebukuro project can be understood on three main levels: institutional, methodological, and spatial. First, at the institutional level, it demonstrates that social experimentation can serve as an important intermediary between planning and implementation. By relocating uncertainty to the experimental phase, planning authorities are able to obtain more realistic feedback on actual use before making formal decisions, thereby reducing the risks associated with long-term investment. Second, at the methodological level, the case shows that tactical urbanism is not a substitute for conventional planning, but rather a complementary tool that can play a role of probing, testing, and guiding in the early stages of urban renewal. Third, at the spatial level, the project demonstrates that streets need not serve traffic circulation alone; through the partial reallocation of space from motor vehicles and the introduction of functions for staying and social interaction, they can gradually be transformed into public places that accommodate everyday activities and social exchange.

3.1.4 Slow mobility reconstruction experiment in Xiwan and Qianhai Bay, Shenzhen

3.1.4.1 Project introduction

The Bay-to-Bay Underline Space in Shenzhen is located in the western part of the city and connects the Xiwan and Qianhai Bay areas. It is developed through the integrated use of the linear space formed among urban roads, elevated structures, and the coastal edge. It is an important linear node within the coastal blue corridor of the Mountain to Sea Link initiative and also serves as a major slow mobility public corridor linking Xiwan and Qianhai Bay^[82]. Based on the walkway, cycling track and running track, the project connects the space under the bridge, the coastal green space and the surrounding public space to form a continuous open interface, and promotes the space originally dominated by transportation and infrastructure to gradually turn to the public living space for daily use.

In terms of spatial typology, the project exhibits a clear tendency toward the adaptive reuse of residual spaces associated with infrastructure, particularly through the integration and public-oriented transformation of gray spaces beneath bridges and waterfront edge spaces. This strategy bears a certain affinity with tactical urbanism, which emphasizes identifying opportunities for intervention within existing urban spaces. Although the project was carried out as a government-led and systematic development initiative, its point of departure was not large-scale demolition and reconstruction. Rather, it sought to enhance publicness on the basis of existing spatial conditions by reorganizing space and introducing public functions, thereby reflecting, in its implementation logic, certain characteristics of tactical spatial intervention.

3.1.4.2 Project development process

Before the project was implemented, the area from Xiwan to Qianhai was mainly composed of the coastal edge, the road system, and the spaces beneath the bridge. Some of the under bridge and roadside spaces had long remained fragmented, underused, and passively occupied, with weak connections between them and limited capacity to support public activities. Spaces of this kind are often difficult to make use of systematically within traditional planning frameworks.

Against the backdrop of efforts to advance the construction of slow-mobility networks and the integration of waterfront spaces, the project connected what had previously been fragmented waterfront and under-bridge spaces into a continuous linear public corridor by linking pedestrian walkways, cycling paths, and running tracks^[83]. The focus of the project is not to reconstruct the urban form, but to integrate and superimpose functions on the basis of the existing spatial structure. As the slow-moving system is built and put into use, the space under the bridge gradually introduces functions such as leisure, sports and public activities, so that the space originally dominated by traffic and ancillary traffic functions gradually turns to a public activity space that can be stayed and used. This process of relying on existing space conditions and gradually enhancing public use is consistent with the idea of promoting space transformation through phased intervention in tactical urbanism.

3.1.4.3 Project impact

This project demonstrates the public potential of the edge space of infrastructure. Under-bridge space is often less regarded as an important carrier of public activities in traditional urban development, but through the introduction of slow-moving systems and the implantation of public functions, such space is reorganized and transformed into an important part of urban public life to a certain extent. This process has a strong commonality with the idea of tactical urbanism focusing on the reuse of neglected space. In addition, the project does not just rely on a one-time form transformation to complete the space update, but after the formation of the slow system, further enhance the carrying capacity of leisure, stay and public activities. The improvement of space value not only comes from the line connection itself, but also from the continuous superposition of subsequent public use. This process of promoting space transformation by space use is close to the logic of phased intervention in tactical urbanism to promote long-term change.

Most importantly, this project reflects the possibility of an institutionalized transformation of tactical spatial strategies in the Chinese context. Compared with the practice of tactical

urbanism in Europe and the United States, which relies more on community spontaneous action, the project is a government-led systematic construction, but its implementation still reflects the reuse of existing space, the intervention of lower conflicts and the gradual superposition of functions. Therefore, although it is not a typical tactical urbanism project, it can be understood as a spatial practice that absorbs tactical ideas within the institutional framework, that is, gradually transforming the originally scattered and difficult-to-use space into public resources through the planning system.

3.1.5 Festival occupation practice of the Guangzhou Spring Festival Flower Market

3.1.5.1 Project introduction

The Guangzhou Spring Festival Flower Market is one of the most representative festive folk activities in the Lingnan region and also an important example of the phased transformation of street space during a special period. The flower market grew out of the tradition of flower and plant trading that dates back to the Ming dynasty, and by the late nineteenth century it had gradually become established as a Lunar New Year flower market held in the days before the Spring Festival. In 2007, the Guangzhou Spring Festival Flower Market was included in the municipal and provincial lists of intangible cultural heritage. In 2021, the folk custom of strolling through the flower market during the Spring Festival was included in the fifth batch of the national representative list of intangible cultural heritage. In December 2024, after the Spring Festival was inscribed on UNESCO's Representative List of the Intangible Cultural Heritage of Humanity, the cultural representativeness of the Guangzhou Flower Market was further strengthened^{[84]-[85]}.

From the perspective of spatial organization, the Guangzhou Spring Festival Flower Market is a temporary spatial arrangement developed on the basis of existing streets, squares, and commercial districts. Through the installation of temporary facilities, landscape decoration, and the introduction of festive activities, spaces that normally serve circulation and everyday consumption are transformed during the festival into festive spaces with strong public activity functions. This shows that existing urban spaces can, through short term adjustment, generate new modes of use and can also accommodate a higher level of public activity during specific periods. Although the Guangzhou Spring Festival Flower Market has its own festive character, its phased reorganization of street space can still be regarded as a practical local case for observing related spatial strategies in the context of Guangzhou.

3.1.5.2 Project development process

The Guangzhou Spring Festival Flower Market developed gradually through the long course of urban life. In its early stage, it mainly relied on the activity of flower growers entering the city to sell New Year flowers and fruits. It later became established as a New Year flower market held before the Spring Festival and gave rise to the custom of strolling through the flower street, which combines consumption, leisure walking, and participation in folk traditions. With the development of modern urban governance, the organizational form of the flower market became further institutionalized. It not only retained the traditional flower market space, but also gradually developed multiple forms, including branch venues, convenient sales points, floating flower markets, and combined online and offline formats^[84].

In recent years, the Guangzhou Flower Market has formed a relatively mature mechanism for the temporary coordination of urban space. Taking 2024 as an example, temporary traffic control was implemented on roads such as the Xihu Road, Jiaoyu Road, Liwan Road, and Binjiang West Road, where flower markets were held. During specific periods, parts of these streets were transformed from everyday traffic spaces into festive activity spaces. In Yuexiu District, activities were also organized in combination with the Xihu Flower Market, the Beijing Road New Year Goods Festival, and neighborhood convenience sales points. This shows that the development of the flower market is reflected not only in the enrichment of activity content, but also in the phased organization and adjustment of traffic, facilities, and public activities on the basis of existing urban space^[86].

3.1.5.3 Project impact

The Guangzhou Spring Festival Flower Market demonstrates the capacity of street space for flexible transformation during special periods. Streets that normally serve circulation and everyday consumption are converted into festive spaces with intensive public participation before and during the Spring Festival through temporary traffic organization, stall arrangements, landscape installations, and activity planning. This shows that street space in the city does not have to remain fixed in a single function, but can shift functions during specific periods in a way that creates relatively low conflict. In this respect, it shows a strong consistency with tactical urbanism, especially in relation to temporary occupation, spatial redistribution, and the activation of publicness.

At the same time, the significance of the Guangzhou Spring Festival Flower Market lies not only in commercial exchange itself, but also in its role in organizing local cultural display and urban public life. In recent years, the Xihu Flower Market has continued to introduce Cantonese intangible cultural heritage projects and has been linked with historic districts and

commercial areas, showing that the flower market has developed from a traditional trading space into a public activity platform that integrates cultural communication, festive consumption, and urban image building. For this study, the value of this case does not lie in offering a model that can be directly copied for Renmin South Road. Its value lies in showing that street space during specific periods can be temporarily reorganized, activated through events, and endowed with cultural meaning. This provides a local reference for the subsequent discussion of activity insertion, temporary facility arrangement, and phased spatial transformation in the micro renewal of street space of Renmin South Road^[87].

3.1.6 Case summary

Through a comparison of cases such as Times Square in New York, No Longer Empty, IKEBUKURO LIVING LOOP in Tokyo, the slow-mobility public space of Qianhai Bay in Xiwan, Shenzhen, and the Guangzhou Spring Festival Flower Market, it can be found that the significance of tactical urbanism in street renewal does not lie primarily in any fixed design form. Rather, it lies in taking existing spatial conditions as the basis and promoting the gradual adjustment of street space through experimental interventions.

These cases differ in their intervention contents, involving the redistribution of road rights, artistic activation, community participation, the reuse of marginal spaces around infrastructure, and the festive transformation of space. However, they all identify specific problems that can be addressed within the existing spatial framework, encourage new forms of public use through short-term actions, and continuously adjust and improve the interventions during subsequent operation. To further summarize the core tools, practical nodes, and phased transformation processes in these cases, this thesis organizes the relevant contents in Table 3-1.

Table 3-1 Application of Core Tactical Urbanism Tools in Typical Cases

Case	Core Tools	Practical Node	Temporal Process and Transformation Mode
Times Square, New York	Small-scale intervention; phased experimentation	Pedestrian plaza; temporary seating	Gradual transformation from temporary traffic experiments to stable pedestrian space improvement
No Longer Empty, New York	Community participation; reversible mechanism	Public art space	Reuse of idle space and community feedback were strengthened through short-term exhibitions and activities
IKEBUKURO LIVING LOOP, Tokyo	Small-scale intervention; phased experimentation; community participation	Market activity street	Street operation and community collaboration were promoted through continuous street activities and social experiments

Table 3-1 Application of Core Tactical Urbanism Tools in Typical Cases (Continued table)

Case	Core Tools	Practical Node	Temporal Process and Transformation Mode
Qianhai Bay, Xiwan, Shenzhen	Adjustable facilities; phased experimentation	Slow-mobility system	Combined with district construction, the process was gradually advanced, extending from local slow-mobility improvement to public space optimization
Guangzhou Spring Festival Flower Fair	Multi-stakeholder collaboration; phased experiment	Temporary activity layout	Relied on periodic festival-based traffic organization and activity layout to create special-time street public use experiences

Source: Author

The differences among these cases are mainly reflected in implementation actors, promotion pathways, and temporal processes. Times Square in New York was a street experiment gradually advanced by the public sector. The Ikebukuro project more clearly reflects collaboration among government, non-governmental institutions, community organizations, and local businesses. No Longer Empty shows a more evident bottom-up character, while the Shenzhen case reflects the absorption and transformation of tactical thinking under government leadership. Although the Guangzhou Spring Festival Flower Market is not a typical tactical urbanism project in the strict sense, it relies on existing street space and transforms the street into a public activity space within a short period through temporary traffic organization, festive facility construction, and activity insertion. This shares certain similarities with the temporary occupation and activation of publicness emphasized by tactical urbanism. It can therefore be seen that tactical urbanism does not depend on a fixed type of actor, nor is it limited to a single spatial intervention. Instead, it forms different practical pathways and phased transformation modes according to different institutional conditions, organizational methods, and spatial types.

From the perspective of spatial types, these cases include local nodes, linear spaces, street systems, and public activity spaces during special periods. This indicates that tactical strategies are not limited to small-scale nodes and also have the potential to extend toward larger-scale street spaces. For this thesis, the significance of these cases does not lie in providing design methods that can be directly copied. Rather, they show that under complex street conditions,

spatial renewal can be advanced through experimentation, observation, and gradual adjustment. Their temporality and phased nature are mainly reflected in the following process: temporary facilities, short-term activities, or local spatial adjustments are first used to establish experimental conditions; user feedback and operational observation are then used to assess feasibility; and the intervention eventually shifts toward more stable spatial organization and management mechanisms. This approach has more direct reference value for street spaces such as Renmin South Road, which are high-density, conflict-ridden, and difficult to comprehensively restructure in the short term.

3.2 Application of Tactical Urbanism in the transformation of compound street space

3.2.1 Renewal requirements of composite street space

In high density central urban areas, with the insertion of elevated roads and other multi-level transport infrastructure, some streets that accommodate multiple functions have gradually developed a compound structural character in which horizontal interfaces and vertical superimposition coexist. Such streets rely on building frontages and pedestrian space to sustain public life, while also remaining continuously affected by the overhead traffic structure in terms of scale, light conditions, and spatial proportion. As a result, their spatial organization is more complex than that of conventional at grade streets.

Under these structural conditions, street renewal involves more than the optimization of functional arrangement or spatial form. It also requires the coordination of relationships among different spatial systems. The renewal process needs to improve the environmental quality and user experience of the ground level space without disrupting the operation of the existing traffic system, and it also needs to minimize the impact of large scale and one-time interventions on traffic order and surrounding business activities. The renewal of this kind of compound street is therefore shaped by the dual constraints of structural coordination and implementation risk.

The renewal of such street space needs to be phased and adaptive. It should gradually restore the continuity of the street interface and the foundations of publicness, while also activating the ground level space through the rational organization of auxiliary spaces. During implementation, the basic stability of the traffic system also needs to be maintained. Under these conditions, a small scale, testable, and adjustable incremental approach is more suitable for this kind of street renewal.

3.2.2 Advantages of Tactical Urbanism in the transformation of compound street space

3.2.2.1 Advantages of low-cost intervention in adapting to stock street space

In the complex street space with the characteristics of traffic function superposition, the update decision often faces the pressure of high investment and high risk at the same time. Traditional renovation methods rely on one-time capital investment and structural construction, emphasizing morphological remodeling and facilities improvement. However, in high-density central urban areas, large-scale engineering renovation often means long-term traffic interference and greater financial pressure. Once the judgment is wrong, it is not only difficult to adjust, but also may further weaken the public attributes of the street. The low-cost intervention emphasized by tactical urbanism is not simply to save money, but to reduce the implementation threshold and decision-making risk through small scale, light structure and phased advancement^[10]. Its core is to adjust the space non-destructively by means of simple paving, movable facilities, temporary signs and light greening, and to test the direction of space optimization on the premise of maintaining the basic stability of the existing traffic system.

In street space transformation, such low-cost strategies are typically implemented through temporary markings, movable barriers, modular furniture, and locally sourced materials. For example, the cases summarized in the *Open Streets Guide* show that the reallocation of road space and the expansion of pedestrian space can be achieved through painted pavement, temporary greening, and simple constructed elements^[88]. In street space transformation, such low-cost strategies are typically implemented through temporary markings, movable barriers, modular furniture, and locally sourced materials. For example, the cases summarized in the *Open Streets Guide* show that the reallocation of road space and the expansion of pedestrian space can be achieved through painted pavement, temporary greening, and simple constructed elements^[89]. The Go Human project in Long Beach used approximately \$1,000 worth of materials to construct a mini-roundabout demonstration and to test its effects on traffic and public space through temporary installations^[90]. Practice on Donghu South Road in Wuhan likewise shows that the installation of bollards and temporary slow-mobility corridors can significantly improve pedestrian safety and spatial continuity^[91]. In tactical interventions carried out in several Italian cities, temporary street furniture and activity facilities were used to activate marginal and leftover street spaces. Although their cost was far lower than that of conventional redevelopment, they still produced a lasting impact at the level of public perception^[92](Figure 3-4). These cases show that low-cost strategies can unleash the potential of street space without touching the core structure.



Figure 3-4 Minniti Square Intervention in Milan

Source: Reference^[92]

For the streets with vertical superimposed structures such as viaducts, low-cost intervention is more practical. The space under the bridge is often vague in function and is not suitable for large-scale reconstruction that affects the safety of the bridge. Low-cost intervention can tentatively optimize the interface and ancillary space without touching the main structure, so that the update process can be gradually promoted from one-time decision-making to phased action. This method not only reduces financial pressure, but also improves the adaptability of street renewal, so that space adjustment can be continuously optimized according to feedback.

3.2.2.2 Advantages of short-period experiments in response to street dynamic problems

The structure of compound street space is more complex, so its problems often show obvious stage and situational characteristics. The traffic pressure during peak hours, the idleness of nighttime space and the negative use of gray space under the bridge do not necessarily need to rely on long-term planning to identify and correct. The short-cycle experiment emphasized by tactical urbanism is a rapid response mechanism formed in this context. Its focus is not just temporary, but in a relatively short period of time through real space practice to quickly obtain the use of data, and constantly adjust in the process of practice^[10]. Unlike traditional planning, which relies more on pre-prediction, short-period experiments emphasize observing behavior changes in actual operation, thereby shortening the time difference between problem identification and decision feedback.

Such experiments typically observe behavioral change through time-limited spatial interventions. For example, “Parking Day” and the subsequent “Parklet” program began as short-term occupation experiments, but through the observation of pedestrian flows and staying behavior, they were gradually transformed into long-term institutional arrangements^[10]. In the *Ciclovía* practice in Bogotá, the regular weekly opening of streets gradually enabled residents

to develop new patterns of use and promoted a shift in transport concepts^[93]. These cases show that short-period experiments can provide more direct decision-making basis for complex street space by obtaining feedback quickly.

In the street environment of composite structure, the short-period mechanism has strong practical significance. The problems of the horizontal interface system are often manifested in the lack of walking experience and the weakening of interface vitality. Through walking on weekends, opening streets within a limited time or temporary market activities, it can be quickly observed whether public life has recovered. The vertical overlay system can be implanted through seasonal activities, temporary cultural displays or shared functions in the space under the bridge to test the carrying capacity of the space. Tactical update therefore has a strong flexibility of time and space, to be able to test many times in different venues, and constantly adjust the strategy according to the feedback, so as to improve the adaptability of space^[94].

3.2.2.3 Risk control advantages of reversible intervention in high traffic pressure streets

In urban streets that undertake important transportation functions, spatial structure adjustment is often accompanied by high system risks. The traditional transformation method mostly changes the road section and facility layout through permanent construction. Once implemented, it is difficult to restore the original state. If the actual effect is not ideal, it will not only bring great economic losses, but also may have a long-term impact on the stability of the transportation system. Tactical urbanism emphasizes reversible design, so that interventions can be dismantled and recoverable, thus forming a certain risk buffer mechanism in the process of transformation^[95]. This strategy usually achieves spatial adjustment through modular components, temporary paving and movable facilities, and completes local optimization without changing the basic traffic structure.

Bråten (2024) points out that reversible interventions can avoid the lock in effect of spatial decision making and leave room for later adjustment. In practices in Italian and Nordic cities, street transformation is often carried out with temporary markings and lightweight street furniture, and permanent construction is introduced only after public feedback has become relatively stable^[96]. The early transformation of Madison Square in New York also used movable facilities to test the effects of expanding pedestrian space, with structural upgrading taking place only after traffic operation was confirmed to remain acceptable^[97]. The Go Human project in Long Beach, meanwhile, used plastic bollards, temporary signage, and borrowed landscape planting to complete demonstration traffic design, and these materials could be removed at any time. This mechanism is especially important for streets under high traffic

pressure, because the continuity and safety of the traffic system place high demands on intervention, and any irreversible change may trigger a chain of effects.

The transformation of the space under the bridge in the compound street space often involves multiple restrictions such as traffic management, property rights definition and fire safety. By testing the public demand through temporary activity implantation and detachable facility layout, the space potential can be gradually explored under the premise of ensuring traffic safety. When the experimental results do not meet expectations, the space can also be restored quickly, thereby reducing institutional and financial risks. Reversibility thus becomes an important mechanism for connecting experimental and safety, and also makes the renewal process of composite structure streets more controllable.

3.2.2.4 The activation advantage of tactical intervention on inefficient street space

In compound-structured street spaces, inefficient spaces are not merely simple vacant areas; rather, they are zones of weakened use produced through the combined effects of the horizontal interface system and the vertical layering system. When elevated transportation infrastructure such as viaducts is inserted into the existing street network, some spaces may remain physically open, yet gradually lose their capacity to accommodate public activities because of insufficient lighting, weakened interface interaction, a lack of staying facilities, or overly monotonous path organization. Such spaces are typically characterized by an excess of circulation but a lack of opportunities for staying, thus becoming gray areas through which pedestrians pass quickly but are unwilling to linger. As Trancik (1986) points out in *Finding Lost Space*, the insertion of modern infrastructure often generates neglected and negative spaces, whose problem lies not in their size, but in an imbalance in the logic of use^[98].

The advantage of tactical urbanism in such spaces lies in its ability to reintegrate inefficient spaces into the public street system through functional re-embedding and behavioral reorganization. For example, the space beneath the elevated railway in Brooklyn, New York (in the DUMBO area), was long regarded as a shadow space dominated by transport infrastructure. However, through temporary markets, street art exhibitions, and the arrangement of movable furniture, it gradually began to attract gatherings of people, eventually leading to the long-term development of the public space known as *Under the Archway*. Similarly, the *Bentway* project in Toronto initially tested the potential of under-bridge space through seasonal skating trails and temporary activities. Without altering the primary bridge structure, it transformed what had originally been ancillary transport space into a year-round public venue for activity. The *Ciclovía* practice in Bogotá transforms roads primarily designed for motor-vehicle circulation

into pedestrian and cycling spaces at specific times, thereby reorganizing the social attributes of the road through periodic use and turning efficient circulation space into a temporally defined space of public life. A similar logic is also evident in *Open Streets* initiatives.

In compound-structured street spaces, the value of tactical urbanism lies not only in the reuse of space, but also in its capacity to identify and activate structurally inefficient spatial units. Through embedded functional adjustment and behavioral organization, it re-establishes connections among different levels of the street, thereby restoring the collaborative relationship between the horizontal interface and the vertical spatial system. This mode of activation does not depend on structural reconstruction; rather, it releases spatial potential under existing conditions and provides a foundation for more systematic optimization in subsequent stages.

3.3 Implementation mechanism of Tactical Urbanism in the transformation of compound street space

3.3.1 Street space diagnosis method based on problem identification

Tactical urbanism emphasizes identifying spatial problems in real-world settings rather than relying solely on drawings and preliminary projections. Lydon argues that urban space should be understood as a field of practice in which ideas can be continuously tested and refined through small-scale actions; design judgment should not remain at the level of speculation alone, but must be supported by evidence generated through implementation^[10]. Gunnar Grander and Martin Berger also point out that the process of practice can reveal the relationship between patterns of spatial use and institutional structures, thereby providing a foundation for subsequent planning decisions^[99].

In street environments where the horizontal interface system and the vertical layering system coexist, the problem often lies not in the absence of a particular facility, but in the gradual weakening of publicness caused by imbalanced spatial relationships. When the horizontal interface lacks continuity and interactivity, pedestrians find it difficult to develop stable patterns of staying and social exchange. When vertically layered infrastructure alters the lighting, scale, and environmental quality of the ground-level space, it can likewise diminish the attractiveness of the interface and gradually render spatial use more monotonous.

Accordingly, diagnosis should focus on spatial structure. By observing changes in pedestrian flow, the distribution of staying points, the frequency of interface activities, and the patterns of use beneath elevated structures, it becomes possible to assess whether street space still retains the conditions necessary to support public life. In this way, site investigation can provide an empirical basis for tactical intervention, rather than remaining at the level of

superficial analysis.

3.3.2 Updating organization mode under multi-agent collaboration

The renewal of street space with composite structure involves traffic management, commercial operation and public space governance. It is often difficult to take into account the relationship between different systems in the transformation led by a single department. In the study of the transformation of Madison Square, Zhang Kan pointed out that the temporary street transformation has established a communication platform between the government and the citizens, so that the spatial effect can be verified in practice and a consensus can be formed in the continuous adjustment^[97]. Silva also believes that small-scale action can establish a link between the institutional system and grassroots practice, providing a realistic basis for long-term policy adjustment^[13].

For such streets, the merchants and community residents along the street in the horizontal interface system are important maintainers of interface vitality. The traffic management departments and municipal institutions in the vertical superposition system are mainly responsible for order and safety. Without a clear organizational structure, interface repair and under-bridge space reuse are often difficult to advance due to unclear powers and responsibilities. Through small-scale implementation, tactical practice enables different subjects to jointly observe the intervention effect in the same space environment, and gradually form a consultative relationship on this basis. Multi-agent collaboration is not a formal participation, but a responsibility sharing mechanism based on space practice.

3.3.3 Progressive test and feedback evaluation method

Small-scale street improvement can be observed and recorded in real time after implementation, making the street a place for continuous learning^[93]. Gunnar Grandel & Martin Berger also pointed out that the behavioral data and social feedback obtained in the experimental stage are an important basis for promoting long-term spatial policy adjustment^[99]. This shows that the experiment in tactical urbanism is not just a temporary action, but a process of constant testing and correction.

In the street space of composite structure, the evaluation should be carried out around the change of structural relationship, for example, after the horizontal interface strengthening, whether the stay behavior has increased, and whether the interface interaction has become more frequent. After the vertical superposition of space environment improvement, the use path of the crowd has not changed. By continuously recording the flow density, length of stay and spatial distribution of people in different time periods, it can be judged whether the intervention

has really improved the spatial structure, rather than only bringing short-term aggregation. At the same time, the ability to undertake at the operational management level also needs to be included in the evaluation scope to ensure that the space transformation can continue to operate after implementation. When the progressive test provides an opportunity for repeated corrections to the design, the relationship between the horizontal interface system and the vertical superposition system can be gradually optimized in practice.

3.3.4 Transformation mechanism from tactical intervention to long-term strategy

The long-term significance of tactical urbanism lies in whether its practical results can move further into the institutional level and develop into relatively stable strategies. When street experiments generate sustained patterns of use and social support in practice, they may be incorporated into formal planning frameworks^[95]. As Silva argues, tactical actions can create conditions for the transformation of urban structure by providing real-world evidence and public recognition^[13].

The key to long-term transformation lies in whether transferable structural experience can be developed. If measures to strengthen the horizontal interface can continuously improve staying behavior and interface interaction, then subsequent design should preserve these effects through more stable spatial organization and material systems. If the adaptive reuse of vertically layered spaces can steadily enhance environmental quality and efficiency of use, then regularized support must also be established through management systems and operational mechanisms.

The long-term institutionalization of tactical intervention does not simply mean turning temporary construction into permanent construction; rather, it means further translating spatial relationships that have already been validated in practice into planning principles, so that the coordination between the horizontal interface system and the vertical layering system can gradually become stabilized.

3.4 Summary of this chapter

This chapter examines the application of tactical urbanism in street space transformation. Through case studies of Times Square in New York, No Longer Empty, IKEBUKURO LIVING LOOP in Tokyo, the Bay-to-Bay Underline Space in Shenzhen, and the Guangzhou Spring Festival Flower Market, it reviews the practical characteristics and operational pathways of tactical urbanism in complex street environments. On the basis of case comparison, the chapter further considers the renewal requirements of compound street space and summarizes the

advantages of tactical urbanism in this context, including low-cost intervention, short term experimentation, reversible adjustment, and the activation of underused space. It also outlines key implementation mechanisms such as problem identification, multi actor collaboration, incremental testing, feedback-based evaluation, and long-term transformation. Although these cases differ in implementing actors, institutional settings, and spatial scale, they share a common feature in that they rely on small scale experimentation in real settings to gradually adjust spatial relationships of use and to accumulate experience for the sustained advancement of later renewal.

Compound street spaces are often shaped by the combined effects of traffic operation, interface organization, public activity, and vertically layered infrastructure. Their spatial contradictions are therefore highly complex and difficult to resolve through one time reconstruction. The small-scale intervention, phased testing, and adjustable implementation emphasized by tactical urbanism show a high degree of compatibility with the renewal conditions of this type of street. This approach can provide a practical path for activating underused space, and it can also build a more concrete basis for long term renewal through continuous testing and feedback. It also provides a methodological foundation for the subsequent analysis of existing conditions, the identification of problems, and the development of design strategies for Renmin South Road.

Chapter 4 Existing Conditions Analysis of Street Space on Renmin South Road

This chapter turns to the analysis of the current site conditions of Renmin South Road. The research examines the site from the aspects of locational structure, policy background, street spatial form, commercial operation mechanisms, behavioral activities, and spatial perception. It focuses on identifying the practical contradictions among the arcade interface, spaces beneath the elevated road, wholesale logistics activities, and public use along Renmin South Road. The findings of this chapter will serve as the direct basis for the strategy formulation in Chapter 5 and the design proposal in Chapter 6.

4.1 Renmin South Road overview

4.1.1 Location and urban spatial role

Located in the eastern part of Liwan District of Guangzhou City, the Renmin South Road Street is connected to Zhongshan Seven Road in the north and the west road along the Yangtze River in the south. It runs through the core area of the old city in a north-south direction as a whole. It is an important urban channel connecting the traditional commercial area of Xiguan and the waterfront space of the Pearl River. Its location is adjacent to Shangxiajiu Pedestrian Street, Shisanhang Commercial Area and Shamian Historical Buildings. It has long been one of the most intensive areas of traditional commercial activities in Guangzhou (Figure 4-1). From the perspective of the overall structure of the city, Renmin South Road is not only an important trunk axis in the texture of the old city, but also a key channel to connect the historical commercial space with the waterfront open space.

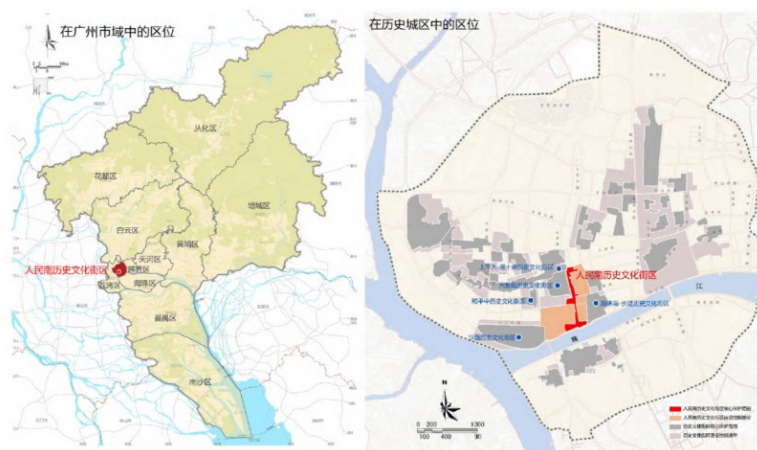


Figure 4-1 Renmin South Road Street Location drawings

Source: Reference^[100]

Within the arcade street system of Guangzhou, Renmin South Road Arcade Street occupies

a distinctly significant structural position (Figure 4-2). There are 36 existing arcade streets in the urban area of Guangzhou, with a total length of about 20 kilometers, mainly concentrated in the old urban area of about 10 square kilometers. In this system, Renmin South Road and Jiefang Road together constitute the two north-south arcade spindles throughout the city, forming the skeleton structure of the arcade street space network^[101]. Its geographical location is located on the site of the original western city wall, and it plays an important role in urban space expansion and function transformation in the process of historical evolution. From the perspective of spatial organization, the street not only connects the urban areas of different historical stages, but also plays a continuous role in climate adaptation, pedestrian continuity and commercial display. From the perspective of urban development history, the formation of Renmin South Road is closely related to the commercial pattern after the opening of Guangzhou in modern times. As an important gateway for modern foreign trade, Shamian gradually extended its economic influence to the surrounding areas, and Renmin South Road accordingly became an important component of the first modern central business district^[101]. The continuous arcade interface forms a semi-open corridor system with distinct Lingnan regional characteristics, enabling the street, in physical terms, to accommodate both movement and staying. Over the course of long-term commercial activity, this system has also generated a stable spatial order. This spatial structure, shaped by the dynamics of commerce and trade, has allowed Renmin South Road to maintain a central position within the urban commercial system of Guangzhou over a long period.

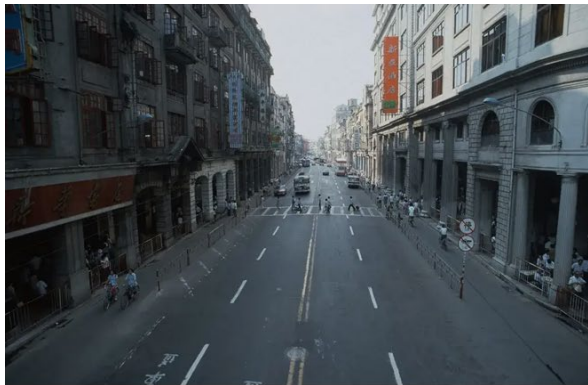


Figure 4-2 Renmin South Road historical space status

Source: Reference^[100]

After entering the stage of modern urban development, the spatial role of Renmin South Road has further changed (Figure 4-3). As the first urban viaduct in Guangzhou, the Renmin Road Viaduct built in 1970s has symbolic significance in the history of urban traffic

development. Its completion means that Guangzhou has begun to enter the stage of three-dimensional traffic organization, and it has also alleviated the traffic pressure in the north-south direction of the old city to a certain extent. As an early urban rapid transportation facility, the Renmin Road viaduct not only has the infrastructure function, but also carries a part of the historical memory in the process of the urban modernization of Guangzhou. Until today, this viaduct still bears the important traffic organization function of the north-south direction of the old city. It has both the necessity of real traffic and certain retention value, and does not have the conditions for demolition in the short term. The existence of the viaduct makes the Renmin South Road superimpose a layer of longitudinal traffic structure on the original arcade horizontal interface system. The entrance of the bridge changes the scale and spatial proportion of the street section. A continuous shelter area is formed under the bridge, which is separated by the fence system, and only the openings are set at the crosswalk. In this way, the street space forms a new way of organization between the continuity of the horizontal interface and the hierarchical relationship of the vertical structure. The pedestrian commercial corridor formed by the traditional arcade interface coexists with the motor vehicle traffic system strengthened by the viaduct in the same section, which also makes Renmin South Road gradually show more complex multi-level spatial characteristics.



Renmin South Road in 1985
(Image source: Guangzhou Yearbook 1985)



Renmin South Road in 2026
(Photo: taken by the author)

Figure 4-3 Comparison of Renmin South Road before and after the construction of the Viaduct

Source: Author

4.1.2 Policy background of industrial migration and upgrading

According to the functional orientation explicitly defined in the *Conservation Plan for the Renmin South Historic and Cultural District of Guangzhou (2021–2035)*, the Renmin South Historic and Cultural District is intended to be “primarily oriented toward commerce and cultural industries, while incorporating a mix of functions such as leisure and entertainment, specialty dining, and cultural display.”^[100] The provisions on functional adjustment further state

that the district should “gradually reduce the spot wholesale trading and warehousing-logistics functions of traditional wholesale markets, explore pathways for functional transformation, increase functions such as business offices and commercial culture, and accelerate the upgrading of traditional wholesale commerce toward innovation, creativity, and brand-display functions.”^[100]. This means that the wholesale and logistics distribution functions of clothing and footwear industry formed by Renmin South Road for a long time are not the dominant formats encouraged by future planning, but the objects of clear guidance and transformation at the policy level.

From the perspective of urban development stage, the commercial wholesale system in Renmin South District was formed in the early stage of reform and opening up, which is an important carrier of foreign trade and private economy of Guangzhou. Wholesale market and warehousing logistics often rely on arcade streets to form a high-intensity use structure in spatial organization. However, in the context of current urban renewal, the problems of high-frequency freight, road occupation, logistics stacking and interface closure brought about by this way of use have already had a relatively obvious conflict with the protection goal of historical and cultural blocks and the goal of improving the quality of public space. The planning document also puts forward relatively strict control requirements regarding the historic urban character, the continuity of the arcade streets, the scale of the street and alley network, landscape view corridors, and the slow-mobility system^[100], which has also, objectively, imposed spatial constraints on the traditional high-density wholesale and logistics model (Figure 4-4).

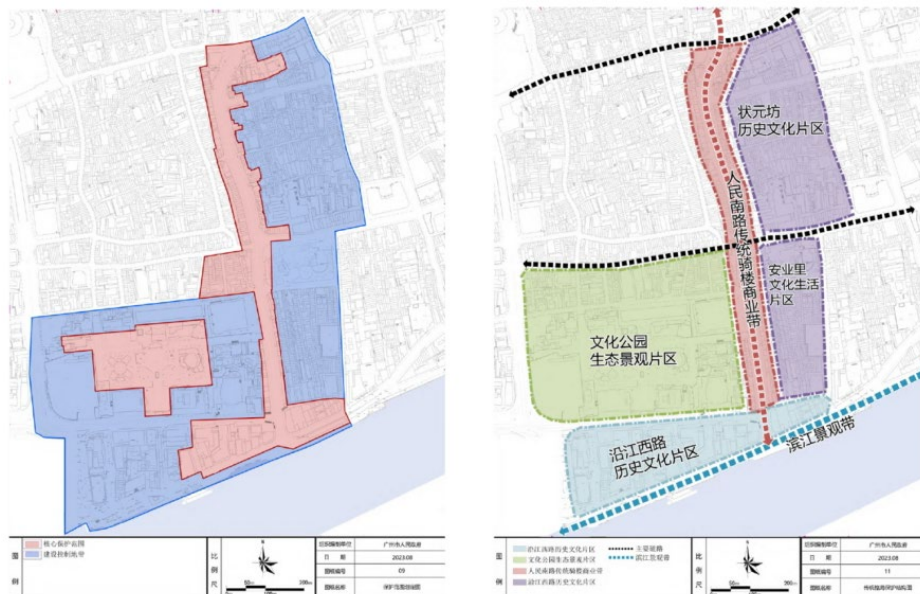


Figure 4-4 Protection scope red line and traditional pattern protection structure drawings

Source: Reference^[100]

The plan does not adopt a uniform approach of industrial clearance. Instead, it places greater emphasis on gradual decongestion and the exploration of functional transformation paths. This leaves a certain degree of flexibility for the district during the transitional stage. Wholesale functions will continue to exist for a period of time, while policy has already defined a future direction of upgrading oriented toward cultural display, business office use, and distinctive commercial activities. This framework of relocation, transition, and transformation itself provides the practical precondition for tactical intervention. Before wholesale functions have fully withdrawn, the district will pass through a transitional stage in which the functional structure remains unstable and different modes of spatial use overlap with one another. This stage contains clear structural contradictions and also preserves the possibility of further spatial adjustment.

4.1.3 Space adjustment needs in the transition phase

Under the background that the government has clearly put forward the gradual easing of traditional wholesale functions and the orientation of industrial upgrading, Renmin South Street has not immediately entered a more mature stage of renewal and implementation, but is still in the transition period of coexistence of old and new functions. The wholesale system of clothing and footwear industry continues to operate, and a large number of spot transactions, warehousing and short barge logistics activities are still attached to the arcade street, forming frequent freight access and road loading and unloading behavior. The use of road rights on municipal roads is also relatively mixed. Temporary parking of trucks, mixed non-motor vehicles and pedestrians crossing the road are common, which makes the street traffic order unstable. In terms of commercial interface, many pavements are still dominated by storage or closed display. Although the arcade corridor is generally retained in the overall form, it is more manifested in the actual use level as closed interface and introverted activities. The stacking of goods also further occupies the slow space, so that the walking conditions under the arcade continue to be compressed. The spatial form still retains a certain historical pattern, but the logic of space use has been obviously biased towards logistics orientation, and the public attributes of streets are also weakening (Figure 4-5).

The protection planning of historical and cultural blocks puts forward strict control requirements on building height, elevation continuity, street scale and style integrity. The new construction and expansion within the core protection scope are limited, and the arcade interface cannot be destroyed at will. In addition, the viaduct does not have the conditions for demolition in the short term, which shows that Renmin South Road does not have the realistic basis for

quickly solving problems through large-scale demolition or complete reconstruction of the transportation system. Therefore, the current renewal logic of Renmin South Road is not to directly shape a certain final form, but more of a phased adjustment. This adjustment, in essence, is to reduce the intensity of conflict within the existing structural framework, re-sort the traffic order, improve the vitality of the interface, and reserve a certain elastic space for future industrial upgrading.



The pedestrian and cycle network has been encroached upon



Discontinuity in the continuity of the arcaded street



Roads involve complex rights



A blend of street scenes

Figure 4-5 The complex current conditions of Renmin South Road

Source: Author

4.2 Street space form and structure characteristic analysis

4.2.1 Street section and scale structure

According to the field surveying and mapping and section arrangement, the typical section of Renmin South Road can be divided into two types of section types: one is the section of unilateral arcade enclosure combined with superimposed viaduct structure (RMN-A), and the other is the section of bilateral arcade enclosure combined with superimposed viaduct structure (RMN-B). Both types of sections show a composite spatial structure superimposed by motor vehicle traffic, slow-moving system and arcade interface, but there are differences in enclosure relationship and scale ratio (Figure 4-6).

In the RMN-A section, one side is defined by a continuous arcade-building interface, while

the other side consists of an open street space. On the arcade side, the sidewalk is approximately 3 to 4 meters wide, the bicycle lane is about 1.5 meters wide, and the motor-vehicle lanes are 7 and 8 meters wide, respectively. The viaduct deck is approximately 11 meters wide, and the clear height beneath the viaduct ranges from about 5.8 to 8.7 meters. The buildings are about 16 meters in height. Owing to the presence of the viaduct, the visible extent of the buildings is compressed, resulting in an overall H/W ratio of approximately 4:1. In this section, the sense of street enclosure is dominated by a single-sided interface: the spatial experience is controlled primarily by the arcade-side frontage, while the open interface on the opposite side provides only a weak definition of the spatial boundary.

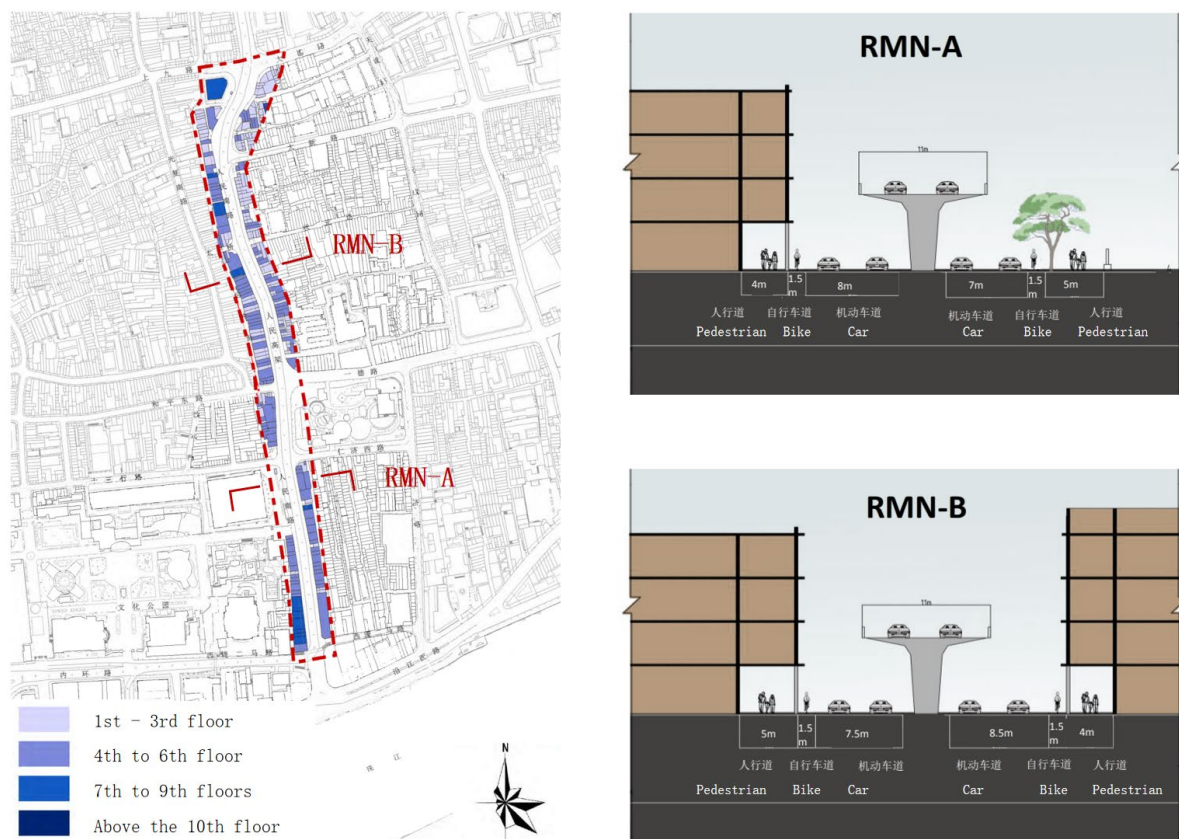


Figure 4-6 Renmin South Road building height and section drawings

Source: Reference^[100]

In the RMN-B section, the street is enclosed by arcade buildings on both sides, with building heights on either side being broadly consistent, thereby forming a relatively complete sense of street enclosure. The bicycle lane is approximately 1.5 meters wide, while the motor-vehicle lanes are 7.5 meters and 8.5 meters wide, respectively. This bilateral enclosure creates a relatively stable spatial definition in the horizontal dimension; however, the viaduct structure alters the original proportional relationship in the vertical dimension, causing the section to

exhibit a layered spatial form above and below.

The sectional structure of Renmin South Road presents a three-layered superimposition consisting of ground-level traffic, the arcade interface, and the elevated viaduct structure. The ground level accommodates mixed slow-mobility and motor-vehicle traffic, while the arcade interface provides continuous horizontal spatial definition. Superimposed above this, the viaduct functions as a vertical traffic layer, giving the street section a multilayered character in both scale and visual perception.

4.2.2 Horizontal interface continuity and openness

The arcade interface of Renmin South Road constitutes the core structure of the horizontal spatial organization of the street. Arcade buildings extend continuously along the street, forming a pedestrian corridor system that provides shelter from sun and rain and serves as the basic physical carrier of horizontal public activity.



Figure 4-7 Renmin South Road horizontal interface continuity

Source: Author

According to on-site surveying and mapping, the existing continuous arcade interface accounts for approximately 70% of the total street length, with the majority of segments

remaining largely intact and uninterrupted. In terms of the overall distribution pattern, the arcade interface is predominantly continuous, although certain local sections are interrupted by non-arcade segments. Based on the length of interruption, these breaks can be divided into short interrupted segments of less than 50 meters and long interrupted segments of more than 50 meters. There are approximately eight short interrupted segments and four long interrupted segments. While the short interruptions have a relatively limited impact on overall continuity, the long-interrupted segments create a much more evident sense of discontinuity in spatial experience (Figure 4-7).

In terms of historical value and the pattern of conservation, a number of protected historic buildings and heritage assets of different categories are distributed along the street. These include one protected cultural relic unit and six historic buildings, namely the arcade buildings at No. 140 Renmin South Road, No. 185 Renmin South Road, No. 33 Renmin South Road, No. 35 Renmin South Road, No. 37 Renmin South Road, and No. 7 Renmin South Road. In addition, the street also contains 13 traditional-style buildings and other buildings considered to possess conservation value (Figure 4-8).

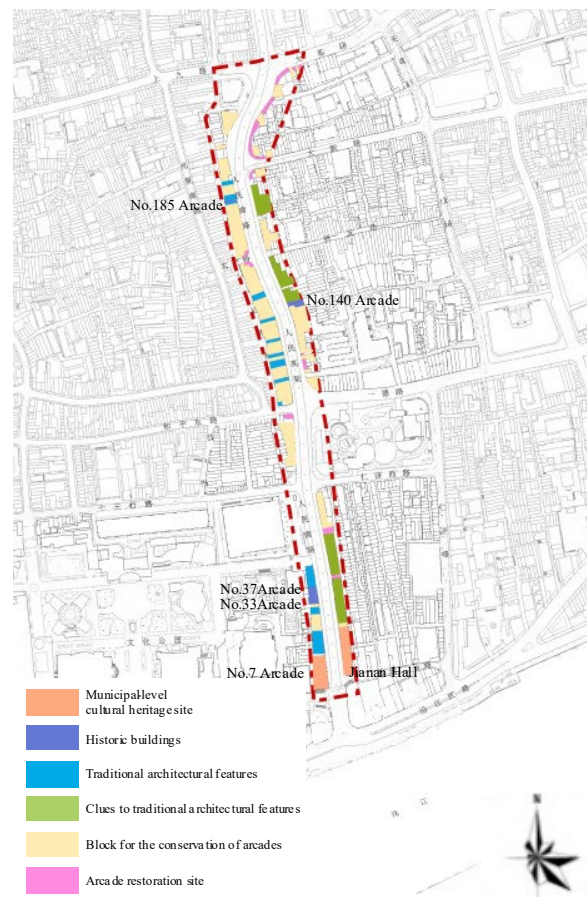


Figure 4-8 Renmin South Road protection object

Source: Author

The protected objects are continuously developed along the arcade interface in space, and are superimposed with the arcade corridor system. This protection pattern strengthens the stability of the horizontal spatial boundary to a certain extent, so that the street can maintain the continuous continuation of the historical features in the overall form.

At the interface use level, according to the difference in the proportion of openings and the way of use, the pavement along the street can be divided into three categories: fully open, semi-open and closed. This study is based on the proportion of the width of the interface opening to the total width of the facade and the degree of visual penetration, and combined with the actual state of the business period for statistics. The proportion of fully open interface openings is usually more than 70%. There is no obvious physical partition between the internal space and the arcade corridor. People can enter and leave freely, and the commodity display is directly facing the street. The proportion of semi-open interface openings is about 30% to 70%. The interface is mostly in the form of glass doors or local rolling curtains, and the internal space is visible but the degree of interaction is limited. The proportion of closed interface openings is less than 30%, or presented in the form of rolling doors, iron doors or solid walls, and there is a lack of continuous visual connection between the internal space and the street. According to statistics, the fully open interface accounts for about 32%, the semi-open interface accounts for about 18%, and the closed interface accounts for about 50%. From the perspective of spatial distribution, the open interface is mainly concentrated in the northern and southern regions, and the proportion of the closed interface in the middle section is significantly increased, which is highly coincident with the distribution of wholesale, warehousing and logistics formats (Figure 4-9).

The width of the arcade corridor is approximately 3 to 4 meters, with a clear height ranging from about 3.8 to 6.6 meters, thereby forming a continuous pedestrian circulation system in morphological terms. Although the arcade interface as a whole still maintains a relatively high degree of continuity, variations in the openness of the interface across different sections result in clear differences in the level of spatial activity within the horizontal space. In sections where the proportion of closed interfaces is relatively high, the connection between the arcade corridor and the interior space is comparatively weak, and the interface tends to exhibit a more inward-oriented pattern of use. By contrast, sections with a greater concentration of open interfaces are more likely to support activities of staying and social interaction.

Evidently, the physical continuity of the arcade interface does not necessarily correspond to the continuity of interface vitality. Differences in the degree of interface openness directly affect both the organization of public activities along the street and the quality of spatial

experience. This also suggests that the problem of arcade-street space lies not only in whether its form remains continuous, but also in whether the interface can truly engage with street life.



Figure 4-9 Renmin South Road horizontal interface openness

Source: Author

4.2.3 Longitudinal superimposed structure and spatial form under bridge

Since its completion in the 1970s, the Renmin Road Viaduct has undertaken an important north–south traffic function in the old urban area of Guangzhou. The bridge deck is approximately 11 meters wide; the minimum clear height beneath the viaduct is about 5.8 meters, and the maximum is about 8.7 meters. The spacing of the bridge-column grid ranges from approximately 23 meters to 27 meters. Aligned with the centerline of the street, the viaduct forms a continuous longitudinal traffic structure, superimposing a vertical spatial layer onto the original horizontal interface system of the arcade street and thereby creating a stacked spatial

relationship between the upper and lower levels.

The entry of the viaduct has changed the original spatial proportion of the street. The bridge body visually forms an upper shielding interface, so that the street section presents a more obvious layered state in the vertical direction. From the point of view of color and material, the whole bridge is mainly gray, and the facade is mainly bare concrete pouring structure. There are basically no other decorative components except for the fence and basic lighting lamps under the bridge. Under the condition of continuous shielding, the large area of gray concrete surface further strengthens the sense of compression of space, and also makes the area under the bridge form a relatively heavy and cold environment atmosphere in perception.

The space under the bridge is separated by a protective fence, and only a passage opening is set at the crosswalk. The length of the fence accounts for about 90% of the total length of the space under the bridge. From the point of view of the current use, the space under the bridge mainly undertakes the traffic auxiliary function, some sections are used for non-motor vehicle parking, temporary cargo stacking and loading and unloading transition, and a small number of sections are vacant. It can be seen that although the space under the bridge is structurally continuous, there is no stable public activity bearing function at the actual use level (Figure 4-10).

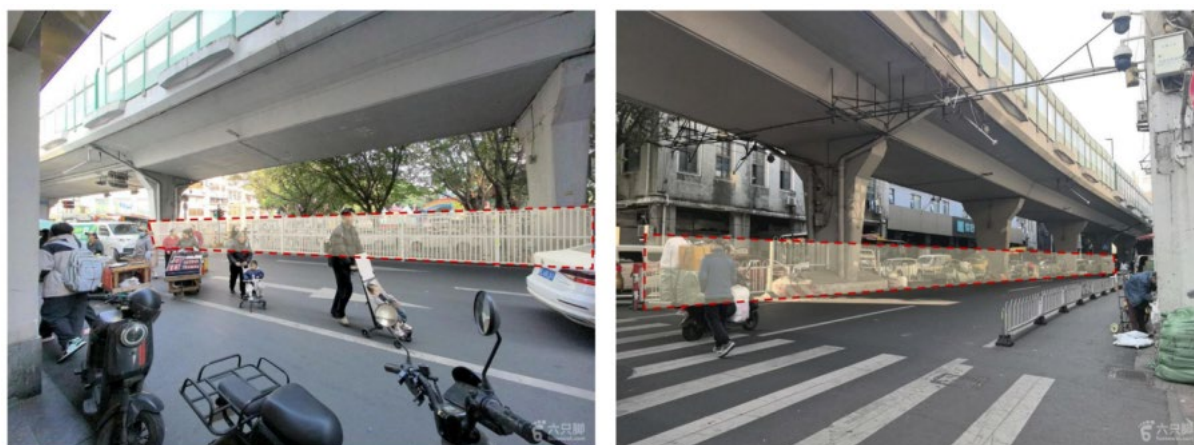


Figure 4-10 The use of the fence under the Renmin South Road Viaduct

Source: Author

4.3 Space utilization mechanism in freight-oriented business

4.3.1 Wholesale logistics interface characteristics

The street-facing shops along Renmin South Road are mainly engaged in clothing and footwear wholesale, with business operations primarily centered on spot trading and concentrated distribution. According to the field survey, wholesale-related businesses account for about 52% of all street-facing shops, including both pure wholesale and wholesale-retail

types. Retail and service businesses account for about 28% and are mainly concentrated in the northern section and the southern riverside area. Catering, office and other service types accounted for about 20%. From the perspective of spatial distribution, the wholesale business in the middle section is the most concentrated, forming a more continuous storage and distribution interface belt, and the street use is more obvious in serving wholesale transactions and goods circulation. The southern and northern sections show a relatively diverse functional structure. In addition to wholesale operations, retail, service, hotel and some office functions are superimposed, which makes these sections different from the middle section in terms of spatial temperament and rhythm of use in Figure 4-11. The distribution of business forms also shows that the South Renmin Road is not a wholesale street with completely single function, but under the overall wholesale attribute, different sections show different interface status and activity intensity, among which the middle section is more inclined to high-intensity transaction and logistics organization, while the north and south ends relatively retain certain mixed-use characteristics.



Figure 4-11 Function distribution of Renmin South Road

Source: Author

In terms of the spatial organization of shopfronts, some shops use rolling shutters or facade forms that can be fully opened in order to meet the needs of goods access and rapid loading and unloading. The depth of the shopfronts is generally between 8 and 18 meters, and some large wholesale shopfronts may exceed 20 meters. In addition to the front display area, the interior space is often arranged with high-density shelves and storage areas, while the rear space more often serves an inventory storage function. This organizational form of front display and rear storage means that the shopfront is not only a place where transactions take place, but also simultaneously undertakes warehousing and turnover functions. During peak business hours, the interface openings are usually fully opened, allowing goods, people, and handling tools to move quickly and directly between the street and the shops. During non-business hours, however, most shopfronts are completely closed with rolling shutters, and the street interface quickly shifts from a relatively open transactional state to a closed state. This opening-and-closing change of the interface affects not only the visual continuity of the street, but also directly influences perceptual experience and willingness of pedestrians to stay. During daytime business hours, the street interface presents a strong operational and transactional character, whereas after closing at night, it easily forms a continuous closed frontage, making some sections appear relatively monotonous and lacking in attraction.

Due to the mass and centralized characteristics of wholesale transactions, street pavements pay more attention to the efficiency of cargo traffic in spatial organization, rather than the experience of walking and staying. Frequent cargo flow paths are formed between the interface and the pedestrian space, and the front area is often used as a short-term stacking and loading and unloading transition (Figure 4-12).



Figure 4-12 Use of the arcades on Renmin South Road

Source: Author

Field measurements show that the width of temporary stacking is mostly concentrated between 0.5 and 1.5 meters, and during certain peak periods it may extend to about 2 meters, thereby further compressing the effective passage width of the arcade corridor. Evidently, although this wholesale-logistics interface still maintains the continuous structural form of the

arcade in morphological terms, its actual logic of use has already clearly shifted toward the functions of goods turnover and storage. This interface characteristic, oriented toward logistics efficiency, constitutes an important foundation for the spatial operation of the street and also provides a practical basis for the subsequent analysis of traffic conflict and spatial imbalance.

4.3.2 Effect of loading and unloading behavior on spatial organization of ground traffic

Renmin South Road as a whole extends in a north–south direction, intersecting with a number of east–west roads, including Shisanhang Road, Xidi 2nd Road, Zhuangyuanfang Road and Daxin Road. These transverse roads undertake functions of internal circulation and traffic distribution within the area, and together with Renmin South Road form a grid-like traffic structure (Figure 4-13). At the ground level, the longitudinal main axis and the transverse channel are superimposed on each other at multiple nodes, especially in the intersection section of the thirteen-row road and the second road of the west embankment. The traffic flow lines will converge and disperse here, forming a high-interference area superimposed by loading and unloading vehicles, slow traffic and pedestrian flow.

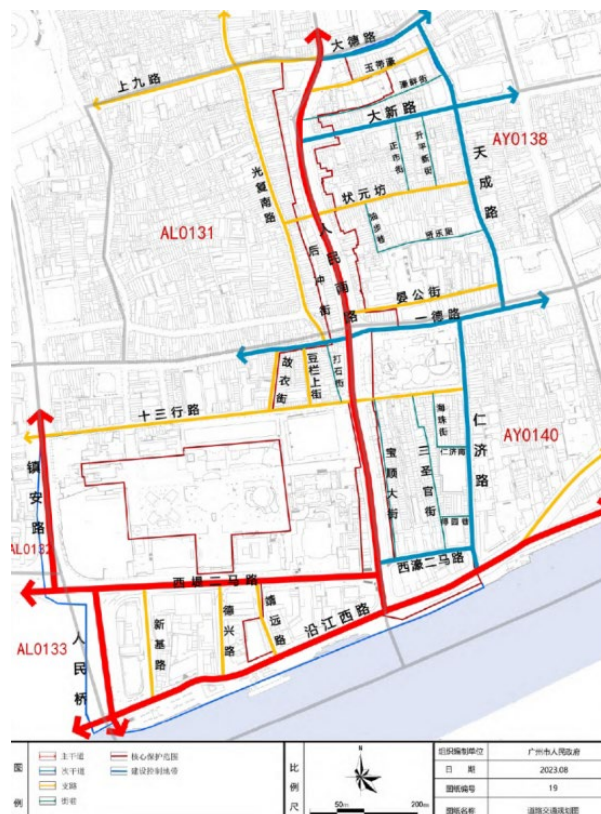


Figure 4-13 Renmin South Road Road traffic planning drawing

Source: Reference^[100]

On the basis of this structure, the area in which Renmin South Road is located has long been dominated by the wholesale trade of clothing and footwear, forming a pattern of

commodity transactions characterized by high intensity and rapid turnover. Wholesale business is highly dependent on immediate transportation and short-distance loading and unloading; accordingly, loading and unloading activities have gradually become an important component of the daily operation of the street and have exhibited a marked pattern of temporal concentration. According to observations of traffic conditions at different times of day, during the period from 8:00 to 10:00 a.m., traffic on the roads as a whole was mainly in a state of smooth flow and slow movement, and neither the main street nor the transverse side roads had yet shown continuous congestion, with the street mainly undertaking a general circulation function. After 10:30 a.m., however, as market transactions fully unfolded, freight vehicles, tricycles, and handcarts rapidly gathered on the main street and the various transverse side roads. A number of roads shifted from slow movement to a state of continuous congestion, forming the first peak between 11:00 a.m. and 12:30 p.m. Goods moved laterally from the motor-vehicle lanes into the arcade corridor and were then transported to the street-front shops, gradually forming relatively stable transverse transport routes. In some sections, these spaces also simultaneously undertook temporary stacking, sorting, and waiting functions, causing the originally continuous pedestrian arcade space to be transformed, at certain times, into a logistics buffer space.

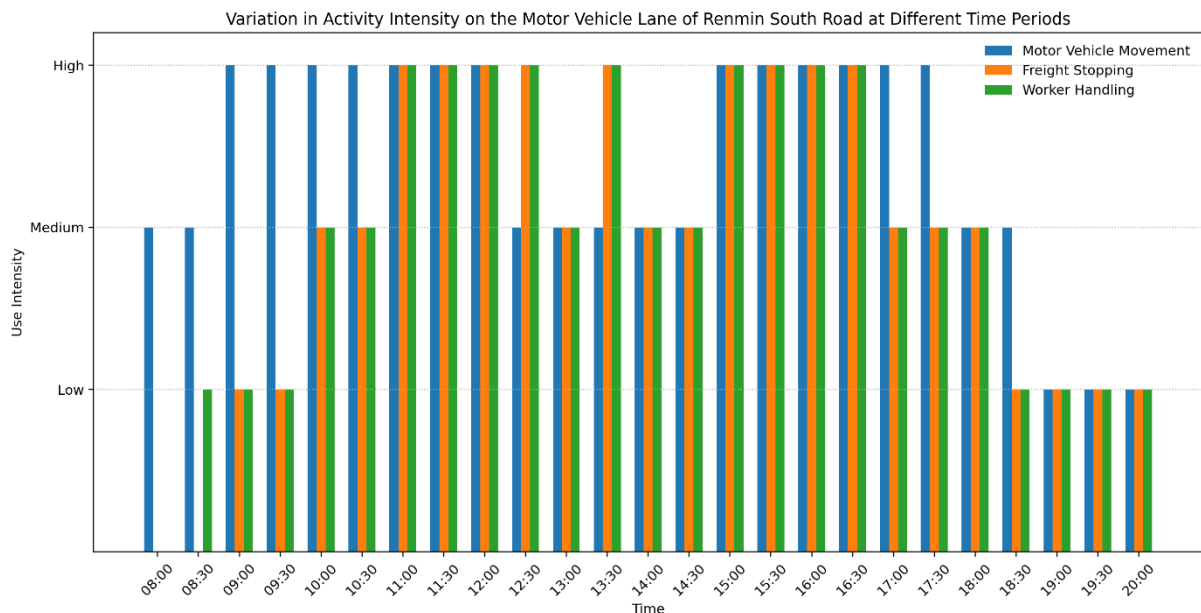


Figure 4-14 Renmin South Road motorway activity use intensity change drawing in different periods

Source: Author

overlapped, causing the range of road congestion to expand again and forming the second intensified period of the day between 3:00 and 5:30 p.m. Traffic pressure also spilled over from the main road to the surrounding side streets, and street space continued to be occupied by

parking and handling activities. It was not until after 7:00 p.m., when the market closed, that transport demand rapidly declined, the number of congested road sections was markedly reduced, and the road function gradually returned to a state primarily oriented toward circulation. As shown in Figure 4-14, the fluctuations in the traffic conditions of Renmin South Road do not conform to the conventional tidal pattern of commuting traffic, but are instead highly synchronized with the rhythm of wholesale transactions. Loading and unloading activities continuously reshape the daily operational order of the street in a high-frequency and cyclical manner, exhibiting a marked concentration in both time and space (see Appendix 2, for details).

Under the influence of the long-term wholesale operation mechanism, the ground space of Renmin South Road has gradually formed a state of coexistence of various behaviors such as passage, docking and handling. The temporary parking of vehicles will continue to occupy the road section, and the horizontal handling activities will continue to break the original linear traffic order. Pedestrians and slow traffic need to repeatedly adjust the path between the transportation streamlines, so that the street space presents a dynamic state that changes with the rhythm of the transaction. The logistics demand is embedded in the daily environment of the street in a more normalized way, so that the originally traffic-based roads gradually assume the transaction support function, and the traffic attributes and market attributes are superimposed in the same space, thus forming an imbalance in space use driven by industrial operation. This structural dislocation is not just a simple traffic pressure problem, but the result of the continuous occupation and reorganization of street resources by commercial activities. It also constitutes a problem that needs to be responded to in the subsequent street space adjustment and traffic organization optimization.

4.4 Behavior and spatial perception from the perspective of tactical observation

4.4.1 Activity subject characteristics

The users of Renmin South Road are not homogeneous. Rather, they include shop operators, purchasing agents, freight workers, nearby residents, general passersby, and a small number of visitors. These different groups vary significantly in the times at which they appear on the street, their patterns of stay, and their spatial needs, which is also an important reason why the street space of Renmin South Road presents a compound pattern of use. A physical reading of space alone is not sufficient to fully explain the logic of street operation. A more comprehensive understanding also requires consideration of the population background of the

area and the actual composition of street users.

The population structure of the surrounding area provides supporting information for understanding the background of street use on Renmin South Road. With the intersection of Renmin South Road, Yide Road, and Heping East Road taken as the center, a study area with a radius of 0.5 km was defined, and big data analysis of the population within this area was conducted, as shown in Figure 4-15.



Figure 4-15 Scope of use of population analysis

Source: Drawing by author based on Shunwei Map

Statistical data show that the Renmin South area has a permanent resident population of approximately 58,700, with a population density of 74,400 persons per square kilometer, which is higher than the average level of Guangzhou. Of this total, the resident population is approximately 47,800, while the working population is about 13,100. This structure indicates that, although the district possesses a certain permanent residential base, its employment scale has not developed into the kind of concentration associated with large office complexes or industrial parks; rather, it is dominated by small- and medium-scale commerce and individual business operations. The alternating presence of permanent residents, the working population, and incoming trading groups across different times of day causes the street space to exhibit shifts in its dominant logic at different stages.

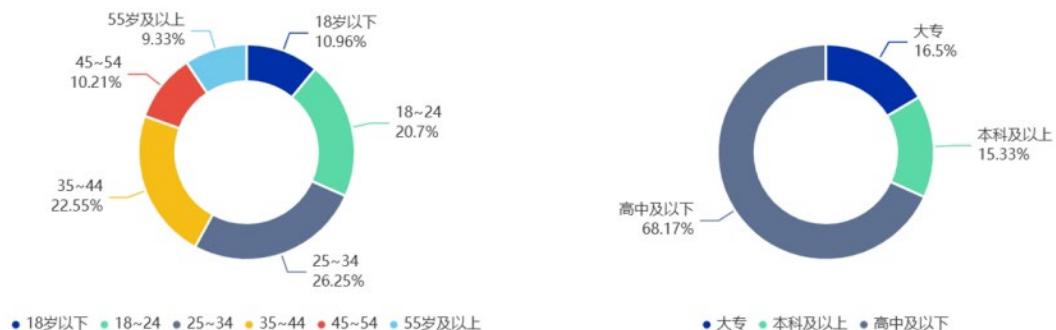


Figure 4-16 Analysis of population age and education structure

Source: Drawing by author based on Shunwei Map

The age and educational structure further reinforce this interpretation. As shown in Figure

4-16, the population aged 25 to 44 accounts for nearly half of the total and constitutes the core workforce engaged in business operation, purchasing, and logistics activities. The 18 to 24 age group also makes up a relatively high proportion, forming an overall labor-oriented age structure dominated by young and middle-aged adults. By contrast, the proportions of minors and elderly people are relatively low, which suggests that public life on the street is not centered on family based or community-based activities. In terms of educational structure, people with a high school education or below account for about 68.17%, while those with a junior college education, a bachelor's degree, or above make up about 31.83% in total. This indicates that the local economy still relies mainly on traditional wholesale trade and small to medium scale commercial activities. Spatial demand therefore places greater emphasis on transport efficiency, convenience of transaction, and short-term turnover, rather than on the experience of staying or cultural consumption.

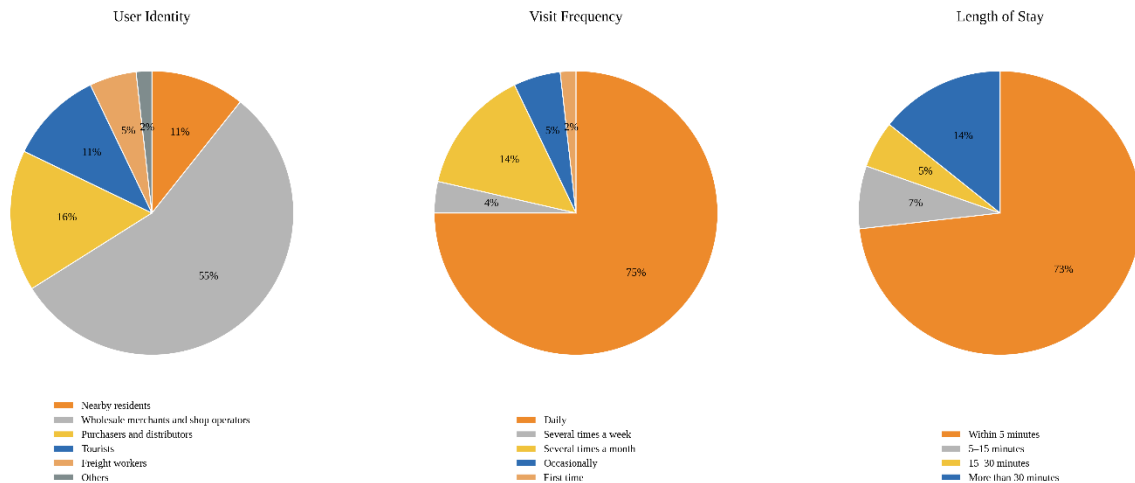


Figure 4-17 Statistics on User Identity, Visit Frequency, and Length of Stay on Renmin South Road

Source: Author

However, the data above mainly reflects the population base of the surrounding area and cannot be directly equated with the actual users of Renmin South Road. In order to further identify the real composition of street users, this study supplements the analysis with questionnaire results on respondents' identities, visiting frequency, and length of stay (Figure 4-17). A total of 65 questionnaires were distributed on site, and 56 valid responses were collected, including 6 from nearby residents, 31 from wholesale merchants and shop operators, 9 from purchasers and distributors, 6 from visitors, 3 from freight workers, and 1 from other types of users. In terms of sample composition, the everyday users of Renmin South Road are not dominated by a single group of residents or visitors. Instead, they are mainly composed of people engaged in business operation, purchasing, transport, and passage, with a certain

proportion of nearby residents also involved. The combined proportion of respondents who visited every day or several times a week was about 78%, indicating a high degree of repetition in street use. In terms of length of stay, short stays of less than 5 minutes accounted for about 73%, while stays of more than 30 minutes accounted for about 14%. This suggests that the use of Renmin South Road has a strong functional character. Many users come here not for long periods of stay, but for short term, high frequency, and clearly purpose oriented activities such as trading, purchasing, freight handling, and passing through.

Under the background of this population and social attribute structure, the users of Renmin South Road Street can be further divided into several types, including wholesale merchants and store operators, buyers and distributors, freight practitioners and logistics drivers, surrounding residents and daily passers-by, as well as occasional tourists or non-target consumers. Different subjects have obvious differences in activity location, use period and space demand, which will have different effects on street interface state, pedestrian streamline organization and space order. In order to more clearly present the behavioral characteristics and spatial effects of various subjects, this paper sorts them out as Table 4-1.

Table 4-1 The main types of people and their spatial behavior characteristics in Renmin South Road Street

User Group Type	Main Characteristics	Main Activity Location	Main Activity Characteristics	Impact on Street Space
Wholesale merchants and shop operators	A relatively stable core group on the street	Inside shops; the front edge of the arcade interface	Operating, displaying, and organizing goods	Directly affects the openness of the interface, methods of display, and the spatial condition along the street
Purchasers and distributors	A trading group mainly characterized by short-term stays	Arcade corridors, shopfront edges, and street pedestrian passageways	Inquiring about prices, purchasing, short-term staying, and back-and-forth movement	Places relatively high demands on the continuity of pedestrian flow lines and affects the daytime rhythm of street use
Freight workers and logistics drivers	A working group closely related to loading, unloading, and transport	Motor-vehicle lanes, the front edge of the arcade, and the interior of shops	Loading and unloading, handling, short-term parking, and turnover transport	Forms evident transverse handling trajectories and produces periodic occupation of the arcade pedestrian space

Table 4-1 The main types of people and their spatial behavior characteristics
in Renmin South Road Street (Continued table)

User Group Type	Main Characteristics	Main Activity Location	Main Activity Characteristics	Impact on Street Space
Nearby residents and daily passers-by	Users mainly engaged in daily travel and passage	Street passageways, arcade corridors, and street-alley intersections	Passing through, waiting, and short-term staying	Relatively sensitive to spatial safety, circulation comfort, and environmental order
Occasional tourists or non-target consumers	External users with a relatively low proportion	Historic interfaces and relatively open sections	Viewing, taking photographs, and short-term staying	Pay more attention to the image of the street interface and spatial experience, and play a supplementary role in enhancing vitality

Source: Author

This kind of crowd structure with commercial activities as the core makes the public attributes of streets more susceptible to the rhythm of transactions and more difficult to form a continuous accumulation of life-oriented public activities. The tactical space adjustment needs to be based on the real needs of the existing users, further optimize the streamline organization, alleviate the overlapping relationship between different functions, and improve the interface interaction. Only by gradually improving these specific issues without changing the macro structure can the publicity of the street be reactivated and expressed.

4.4.2 Activity time characteristics

Based on the observation of the daily operation status of Renmin South Road, in order to further identify the time distribution characteristics of different activity subjects in a day, the fixed-point period observation method was used to record the personnel type, behavior frequency and space occupation status of typical periods in the working day, and the activity intensity of various subjects was summarized and graded. The classification is not based on a single flow statistic, but on the frequency of activity occurrence, behavioral persistence and its impact on spatial operation within a unit time. The activity is divided into three levels: highly active, moderately active and lowly active.

From Table 4-2, it can be seen that the spatial dominant subject of Renmin South Road shows obvious stage transformation characteristics in the day. The pre-noon and post-noon periods are centered on operators, procurement personnel and logistics practitioners, and the trading and transportation behaviors are highly superimposed. The street space mainly

undertakes the functions of commodity turnover and loading and unloading services. The intensity of activities during the morning and evening periods decreased significantly, while the proportion of daily passage and routine walking increased, and the space once again presented itself as a street form dominated by circulation. This time difference driven by the rhythm of the industry makes the streets continuously transform between “transaction support space” and “traffic space” under the same physical structure, reflecting a strong time elasticity. It also provides the possibility to improve the spatial order through time-sharing organization and progressive adjustment.

Table 4-2 Activity subject activity degree analysis

agent time	Wholesale Merchants and Shop Operators	Purchasers and Distributors	Freight Workers and Logistics Drivers	Nearby Residents and Daily Passers-by	Occasional Tourists or Non-target Consumers
Morning (8:00–10:00)	Moderately active	Low activity	Low to moderate activity	Moderately active	Low activity
Late morning to midday (10:30– 12:30)	Highly active	Highly active	Highly active	Low activity	Low activity
Afternoon (14:30– 17:30)	Highly active	Moderate to high activity	Highly active	Low activity	Low activity
Evening (after 19:00)	Low activity	Low activity	Low activity	Moderately active	Moderately active

Note: Highly active refers to the concentrated occurrence of such subjects in this period and their continuous impact on spatial operation; moderately active means that there is a certain scale of activity but no dominant; low activity refers to the scattered and limited impact on space.

Source: Author

4.4.3 Activity types and spatial distribution characteristics

Based on on-site behavior records and spatial plotting, this paper conducted fixed-point observations at different times of a typical working day. By manually recording the type, duration and spatial location of the stay in a continuous period of time, and superimposing the relevant information on the street plane for spatial expression, the actual use hotspots in the street space and the interface location where the behavior occurs more concentrated are identified.

Daytime non-commercial street events



Non-commercial street activities in the evening

Figure 4-18 Non-trading street activities

Source: Author

From the perspective of activity types, the street behavior of Renmin South Road is still dominated by transactional activities, mainly including cargo handling, loading and unloading waiting, inquiry staying, temporary stacking and short-term communication related to operation. This kind of activity is closely related to the wholesale pavement and logistics operation along the street, which is the most concentrated in the daytime peak period and constitutes the main content of street space use. However, in addition to transactional activities, a certain number of non-transactional street activities were also observed on the site, including short stays, conversations, waiting, rest, photographing, and small-scale leisure activities at night (Figure 4-18). Compared with transactional behavior, such activities are not dominant in the overall number, but can reflect the public use basis that still exists in the street space.

The questionnaire results also support this conclusion to some extent. Among the 56 valid responses, 96% of respondents selected passing through, 68% selected vending or business operation, and 32% selected short stays, while only 2% and 11% selected conversation and other activities, respectively. This indicates that street activities on Renmin South Road are still mainly dominated by movement, business operation, and transaction-related use. Although

staying and social interaction do exist, they have not yet become the dominant forms of street use (Figure 4-19).

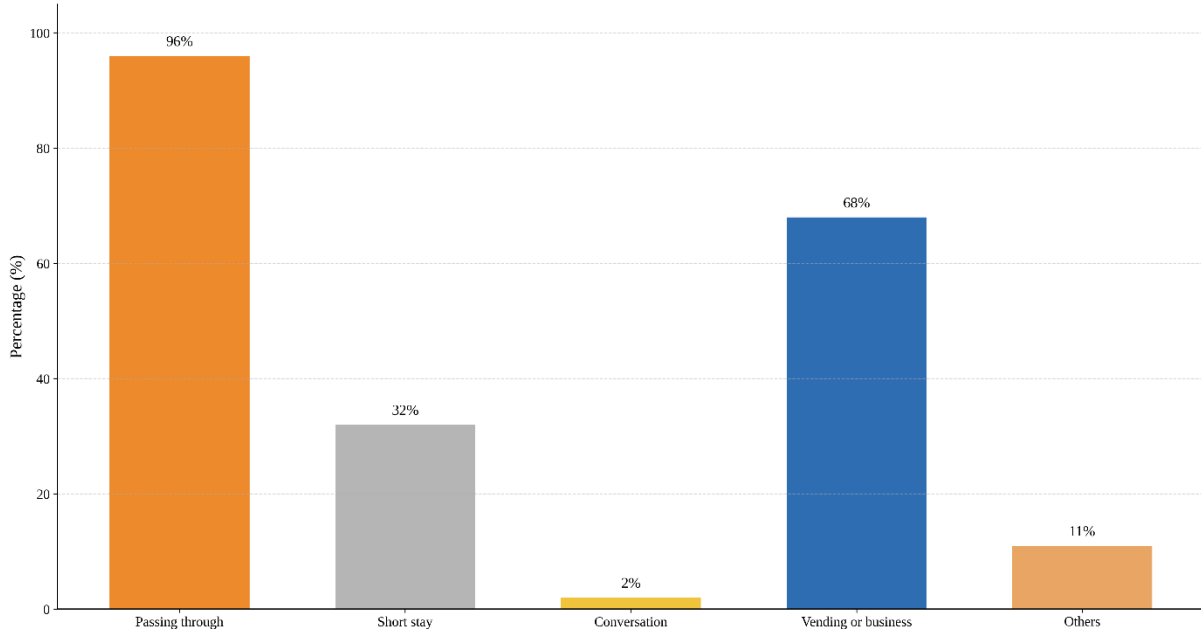


Figure 4-19 Questionnaire statistics on Street Activity Types on Renmin South Road

Source: Author

From Figure 4-20, the distribution of various types of stay activities along the street is not balanced, and the space shows obvious zonal agglomeration and node strengthening characteristics. Temporary stacking and loading and unloading waiting behavior are mainly concentrated in the continuous distribution section of the wholesale pavement along the street, especially in the middle part of the wholesale format is more intensive area, forming a high frequency of linear agglomeration. Short-term stay and conversation behavior are more likely to occur at the corner of the arcade, the intersection of the street and the local open position, which is manifested as a dotted distribution attached to the traffic conversion node.

Although there are some differences in the spatial location of different types of behaviors, they are closely related to the interface opening, transaction occurrence and deceleration of people flow. This shows that there is a strong relationship between the stay behavior in Renmin South Road and the state of the business interface and the conditions of the parking space, and it also shows a high dependence on trading activities and street interfaces.



Figure 4-20 Activity behavior points distribution map

Source: Author

Figure 4-21, which is formed by the unified density analysis of various active stay behaviors, further shows that there are several stable high-frequency stay sections in the street. The high-intensity area is mainly distributed in the middle and south section of Renmin South Road and the connection with the main horizontal road. This area is not only the most concentrated area of wholesale transactions, but also the space where logistics loading and unloading, inquiry stay and short-term exchange overlap. The medium-intensity area is a continuous transition along the street, which is mainly manifested as an activity zone that is closely related to the business interface and is dominated by a short stay. The northern section

is close to the Yide Road section. Due to the small number of wholesale service stores and strong trafficability, it is in a low-intensity state.



Figure 4-21 Activity stay intensity heat drawing

Source: Author

The hot spots of Renmin South Road are not randomly formed, but are closely related to the density of business status, the openness of the interface and the relationship between traffic intersections. In essence, the stay behavior is the externalization result of the wholesale trading system at the spatial level. The demand for goods turnover promotes the continuous occupation of the streets, and the shelter and interface continuity provided by the arcades strengthen the repeated selection of people in these locations, thus forming a more stable behavior agglomeration point.

The activity space structure of Renmin South Road is more of a quasi-public space with a

stay function gradually formed in the process of commercial operation, rather than relying on the traditional sense of public nodes to organize. Although these spaces lack special design, they have formed a relatively clear agglomeration law in long-term use, and also provide a more direct spatial basis for subsequent order guidance and functional transformation through tactical intervention.

4.4.4 Spatial perception and environmental experience characteristics

Based on the previous analysis of behavioral distribution and use rhythms, this study further summarizes the overall perceptual characteristics of street space on Renmin South Road through field investigation, behavioral observation, environmental measurement, and questionnaire surveys. Unlike traditional commercial streets mainly oriented towards leisure and consumption, Renmin South Road shows a more pronounced function-oriented character at the experiential level. Its environmental perception is shaped largely by wholesale transactions, logistics activities, and the spatial conditions created by the elevated road structure (Figure 4-22).



Figure 4-22 Existing conditions along the arcade street

Source: Author

From the perspective of interface perception, the questionnaire results provide a relatively direct reflection of the actual use conditions of the arcade interfaces on Renmin South Road. The survey shows that about 86% of respondents considered the street-facing shopfront interfaces to be “highly continuous” or “basically continuous” in form, indicating that the overall interface structure of the arcade street still maintains a relatively high degree of visual continuity. However, this continuity has not translated into sustained street attraction. In the evaluation of interface display and attractiveness, about 61% of respondents considered the shopfront displays to have “weak” appeal, while about 13% believed they had “almost no appeal.” In the evaluation of the suitability of the arcade space for staying, about 86% of respondents considered it “rather unsuitable” or “unsuitable” for staying. This suggests that

although the arcade interfaces on Renmin South Road still retain spatial continuity in formal terms, their business mode is mainly oriented towards inward-facing wholesale and storage functions. Many shops place greater emphasis on the movement of goods and internal turnover, resulting in relatively weak display value and interaction. As a result, there is relatively little content capable of encouraging pedestrians to stop, observe, or interact. The arcade space therefore serves mainly as a space for shelter and passage, and finds it difficult to consistently support staying activities (Figure 4-23).

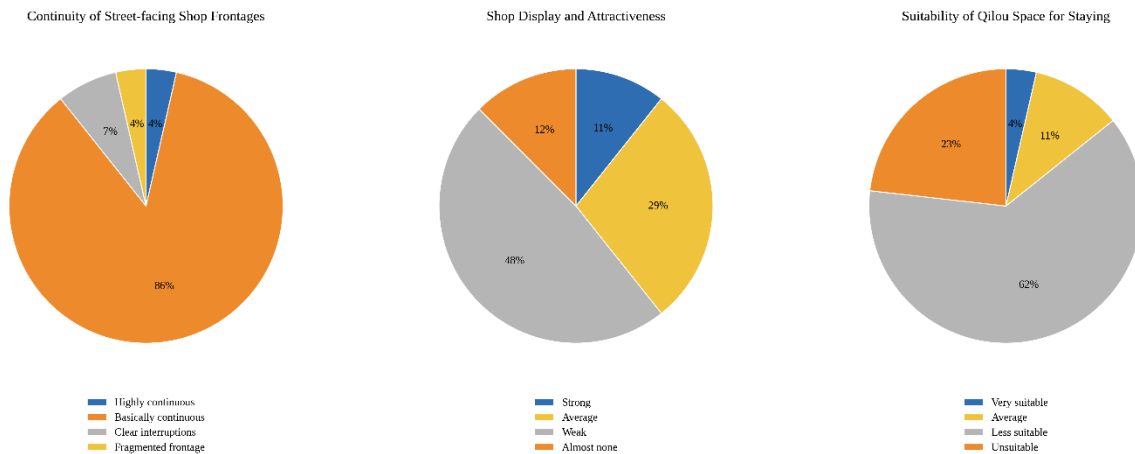


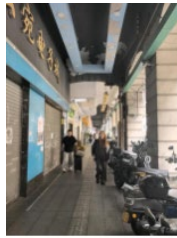
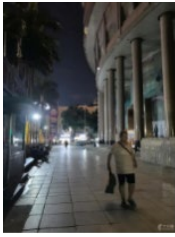
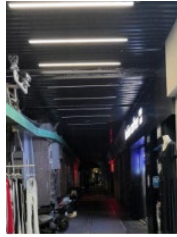
Figure 4-23 Chart of questionnaire results on the experience of street interfaces and arcade space
Source: Author

In addition, the elevated road structure has also produced a continuous and complex influence on the perception of street space. In the vertical dimension, the bridge forms a strong overhead boundary that reduces light levels beneath it and lowers the visual center of the space, making pedestrians more likely to experience a sense of spatial compression while passing through. The extensive grey concrete structure, fence divisions, and relatively monotonous interface conditions beneath the bridge further reinforce an environmental impression that feels somewhat oppressive and enclosed. Traffic noise is reflected and amplified under the bridge, giving some sections a strong traffic-oriented character. In these areas, pedestrians are more likely to perceive speed and passage, and less likely to develop a relaxed state suitable for staying.

At the same time, the continuous shaded space beneath the bridge provides relatively stable sun protection. This can ease some of the discomfort of walking in Guangzhou's hot and rainy summer climate, and gives the under-bridge space a certain climatic advantage. The coexistence of oppression, noise, and dimness, together with the basic walking comfort brought by shade and continuous cover, forms one of the most distinctive characteristics of the spatial experience beneath the bridge on Renmin South Road.

According to the results of the field survey and measurements (Table 4-3), there are clear differences in the nighttime lighting environment among different types of space on Renmin South Road.

Table 4-3 Illumination and noise of Renmin South Road

	Illumination condition	Space under bridge	Square	Front of open shops along the arcade street	Front of closed shops along the arcade street
Day	The daylight environment is obviously affected by lighting conditions and operating conditions. The square and business interface are bright, and the space under the bridge is relatively weak.	3000 lux or more 	above 30,000 lux 	approximately 3,320–4,860 lux 	Approximately 168-185 lux 
	Noise situation				
	The operating section is more than 80dB, and the non-operating section is about 75dB.				
Night	The illumination of different spaces is obviously different. The front of the business store is the brightest, followed by the bridge and the square. The illumination of the non-business arcade area is the lowest, and the overall night environment is unevenly distributed.	Approximately 17-21 lux 	Approximately 5-12 lux 	Approximately 300 - 1020 lux 	Approximately 0.5-2.5 lux 
	Noise situation				
	The road surface is about 75dB when there is a car, and about 60dB when there is no car.				

Source: Author

The highest illuminance levels are found in front of operating shops along the arcade street, ranging from about 300 to 1020 lux. This is mainly due to light spilling out from interior shop lighting and illuminated signs, making these areas the brightest in visual terms and more likely to support nighttime activity and short stays. The lowest illuminance is found in front of closed shops along the arcade street, at only about 0.5 to 2.5 lux. Because these areas lack both shop

lighting and supplementary public lighting, they show clear dark-zone characteristics, which weakens the walking experience and, to some extent, reduces the possibility of nighttime staying and activity. By comparison, the illuminance levels in the under-bridge space and the square are lower than those in front of operating shops, with about 17 to 21 lux under the bridge and about 5 to 12 lux in the square. Even so, they are sufficient for basic movement, and their overall brightness remains relatively stable. Overall, the nighttime lighting environment of the street shows clear differences among different spatial sections. Commercial lighting has a strong influence on the distribution of brightness and further affects pedestrians' perception of spatial safety and their willingness to stay.

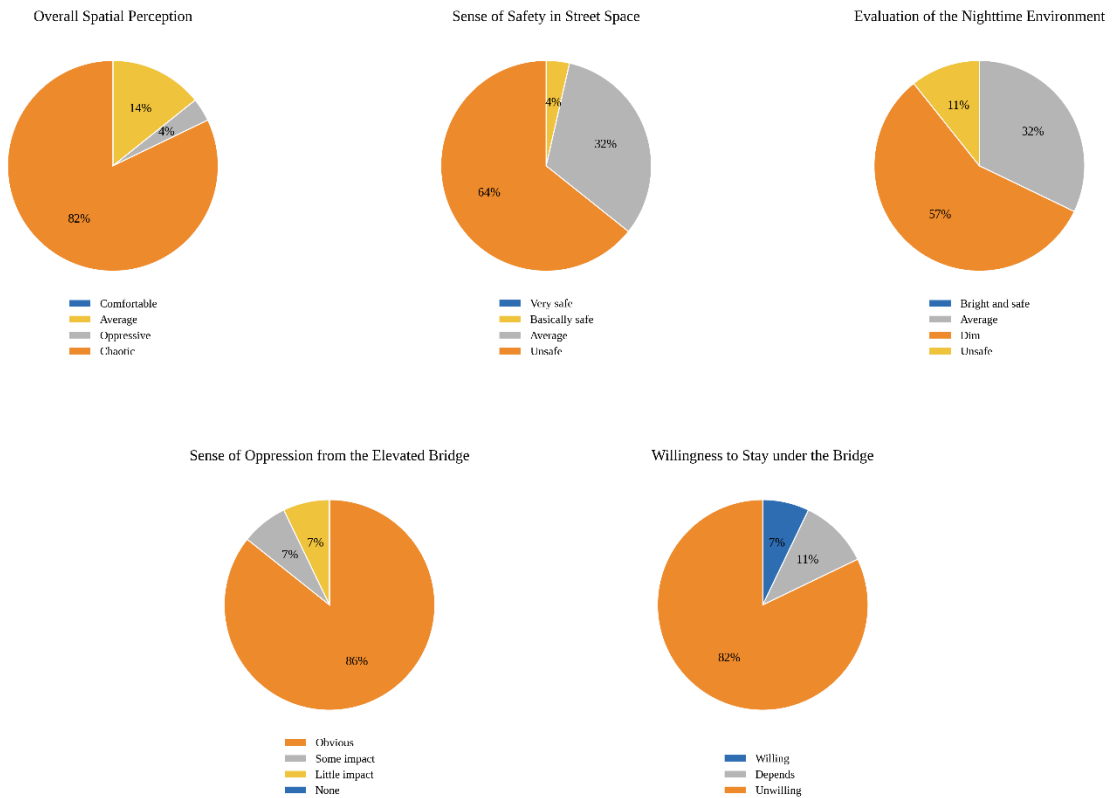


Figure 4-24 Chart of questionnaire results on Street Space Perception and the Impact of the Elevated Road on Renmin South Road

Source: Author

The questionnaire survey also shows that users generally gave a low evaluation of the overall street environment. About 82% of respondents considered the overall street space to feel “chaotic,” while about 64% considered it “unsafe,” and another 32% rated the sense of safety as “average.” This suggests that the overall evaluation of safety on Renmin South Road is not very positive. In the evaluation of the nighttime environment, about 57% of respondents considered the street to be “rather dark” at night, and about 11% regarded it as “unsafe,” while only about 32% rated the nighttime environment as “average.” These results indicate that

problems related to lighting and perceived safety are relatively prominent at night. In addition, in the survey on the spatial impact of the elevated road, respondents generally believed that the structure affected the perception of street space. About 86% of respondents considered the sense of oppression to be quite obvious, and about 82% stated that they were unwilling to stay in the space beneath the bridge (Figure 4-24).

According to the questionnaire feedback, respondents largely identified insufficient safety, inadequate lighting, and a lack of activity facilities as the main current problems of the under-bridge space. This suggests that the environmental weakness of the under-bridge space is relatively complex. Its problems are not limited to insufficient lighting, but also involve a weak sense of safety and inadequate conditions to support activity (Figure 4-25).

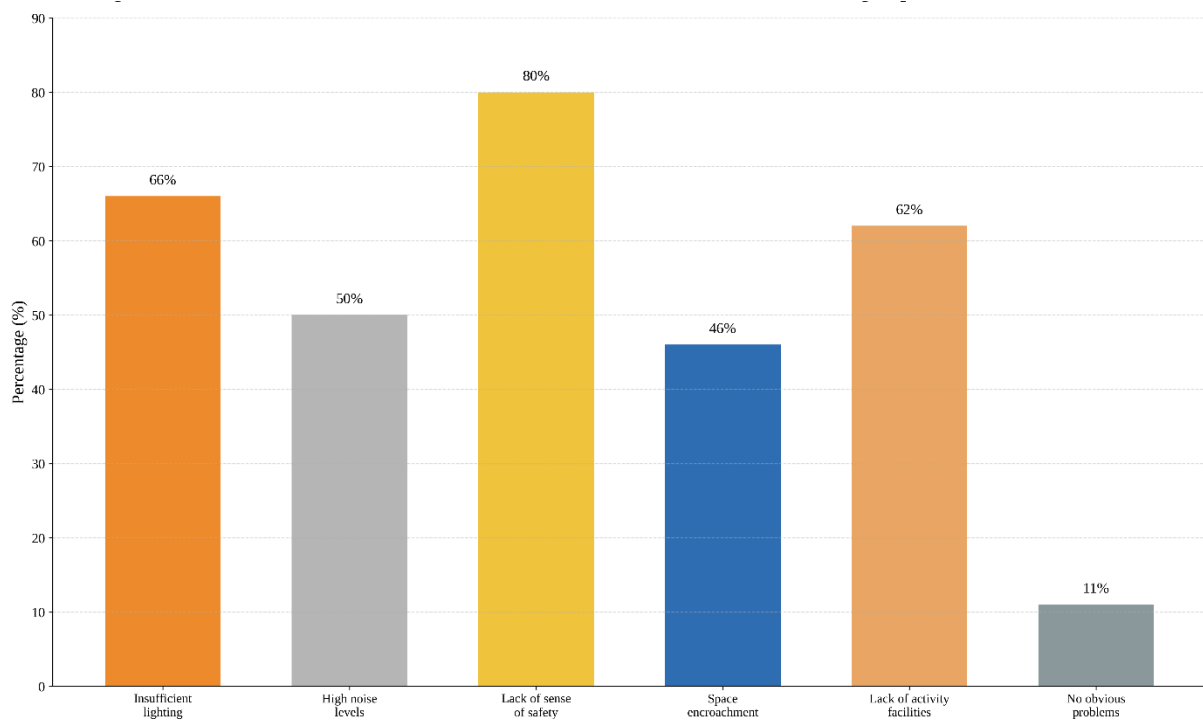


Figure 4-25 Questionnaire results on Street Space Perception and the Impact of the Elevated Road on Renmin South Road

Source: Author

Renmin South Road does not currently lack intensity of use. The high-frequency activities on the street are mainly supported by trading and logistics operations. However, this relatively high intensity of use has not been further transformed into positive spatial perception or sustained public attraction. The combined effects of the arcade interfaces and the under-bridge space in terms of form, use, and environmental perception further reinforce the street spatial character of Renmin South Road, where movement dominates and staying remains weak.

4.5 The main contradiction of street space from the perspective of tactical intervention

The current problems presented by the street space of Renmin South Road come from complex sources, which are gradually formed under the long-term superposition of historical commercial pattern, traffic organization mode and spatial form conditions. As the wholesale distribution area of traditional clothing and footwear industry in Guangzhou, Renmin South Road has long formed a space use mode dominated by wholesale transactions and logistics transportation. Streets not only bear the function of urban traffic, but also continue to bear the function of cargo turnover and commercial activities. Different use needs are constantly superimposed in the same space, making the street operation gradually appear more obvious conflicts and imbalances.

4.5.1 Explicit contradiction: Street traffic conflict under the guidance of logistics

The continuous occupation of street space by logistics transportation is the most intuitive type of dominant contradiction in Renmin South Road. The pavement along the street generally relies on high-frequency cargo handling and short-distance transportation. Logistics tools such as loading and unloading vehicles, tricycles and trolleys have been active in the street space for a long time, so that the road not only undertakes the traffic function, but also undertakes the logistics operation function. During the peak hours of wholesale transactions, a large number of freight vehicles will temporarily stop at the edge of the road, and cargo handling activities continue to cross the motorway and the arcade corridor, so the street space also shows a more obvious mixed state.

This situation is directly related to the high dependence of the wholesale format on instant transportation and rapid turnover. A large number of stores operate directly on the street, and goods need to enter the arcade corridor from the motorway horizontally, and then be transported to the interior of the pavement. Over time, a relatively stable horizontal transportation path has been formed. Cargo sorting, temporary stacking and loading and unloading waiting will further occupy the arcade space, so that the original continuous pedestrian passage is compressed during peak hours. Pedestrian and slow traffic need to constantly adjust the path between transportation activities, and the overall traffic order of the street will also be significantly affected.

Under the influence of the long-term commercial operation mechanism, the street space has gradually formed a use order with logistics efficiency as the priority, and the demand for public passage and stay continues to be squeezed. The limited street space needs to undertake

both logistics transportation and public passage at the same time. Conflicts are also recurring and gradually become a direct problem affecting the street experience and traffic order of Renmin South Road.

4.5.2 Latent contradiction: The interface continuity of arcade and the dislocation of street vitality

In addition to the dominant conflict formed by logistics occupation, there is also a more implicit contradiction between street interface structure and space vitality. The arcade interface of Renmin South Road maintains a high continuity as a whole, and the arcade corridor forms a relatively stable pedestrian space structure at the physical level. In the actual use process, a large number of pavements are mainly wholesale warehousing and closed display. Roller shutter doors and cargo stacking occupy the forefront of the interface, and the street interface gradually shows a strong inward characteristic.

This business model weakens the display and interactivity of the arcade space. Although the walking channel remains continuous in form, the interface attraction is relatively insufficient, and it is difficult to form a stable stay and communication behavior. In the section dominated by retail or catering business, due to the more open opening and stronger display, it is more likely to have a short stay and exchange activities, and the degree of spatial activity is also significantly higher than that of the section dominated by warehousing management. It can be seen that the physical continuity of the arcade interface does not naturally translate into the public vitality of the street. The dislocation between the interface structure and the way of use makes the street still show a state of insufficient vitality in the case of a more complete form. This phenomenon of continuous form and insufficient interaction has also become an important potential contradiction that restricts the release of street publicity and the improvement of space quality.

4.5.3 Structural contradictions: The suppression of elevated traffic structure on the quality of public space

The long-term existence of the Renmin South Road Viaduct makes the street space face deeper structural contradictions. The viaduct is arranged along the central line of the street, and the height of the bridge deck is close to the position not far above the eaves of the first floor of the arcade street. A relatively compact spatial relationship is formed between the bridge body and the arcade buildings on both sides. The bridge structure compresses the proportion of street section on the longitudinal scale, so that the space under the bridge shows obvious low and closed characteristics, and the overall spatial level of the street is also limited.

The viaduct structure also has a blocking effect on the street visual interface. The bridge is located above the central axis of the street and is close to the arcade building. When pedestrians observe inside the arcade corridor, it is often difficult to fully see the overall shape of the opposite side of the arcade facade, and the horizontal visual connection of the street will also be weakened. Even if you can see a layer of the interface of the building on the other side, it is often blocked by the traffic isolation railings in the middle of the road, which further reduces the visual continuity. The visual barrier formed by the superposition of the bridge structure and the traffic facilities makes it difficult to clearly perceive the original complete symmetrical interface relationship of arcade street.

At the level of environmental experience, the viaduct has also changed the way natural light enters the street during the day. The overall layout of Renmin South Road is north-south, and the incident direction of sunlight in different periods is constantly changing. The occlusion of the bridge body will make the arcade interface on both sides more prone to uneven illumination, and the display effect of the arcade facade will also be affected. In the night environment, the street light environment is mainly composed of commercial lighting and basic road lighting. The brightness of the area in front of the business store is higher, and the section where the non-business pavement is relatively dark. Because of the basic lighting facilities, the overall brightness of the space under the bridge is relatively stable, and some sections are even better than the environment in front of the unopened arcade. After the difference between the viaduct structure and the lighting conditions is superimposed, the street has also formed a more obvious environmental experience differentiation in different sections.

4.5.4 Renewal needs and willingness for public participation

The explicit, latent, and structural conflicts outlined above were identified mainly through spatial observation, behavioral analysis, and environmental perception. To further understand which issues users are most concerned about, this study supplements the analysis with questionnaire results, focusing on the priority directions for improvement in the street space of Renmin South Road and the public's willingness to participate.

In terms of the aspects that most urgently require improvement at present, as shown in Figure 4-26, the responses were relatively concentrated. "Traffic organization improvement" received the highest support, accounting for about 91%. "Widening or reorganizing pedestrian space" accounted for about 82%, "under-viaduct space renovation" about 68%, "optimization of street-facing shopfront interfaces" about 64%, "increasing public activity space" about 61%, and "improving night-time lighting" about 46%. These results show that the most prominent

renewal needs on Renmin South Road are still concentrated in traffic order, pedestrian space, the under-viaduct environment, and the street-facing interface, which is broadly consistent with the main conflicts identified earlier.

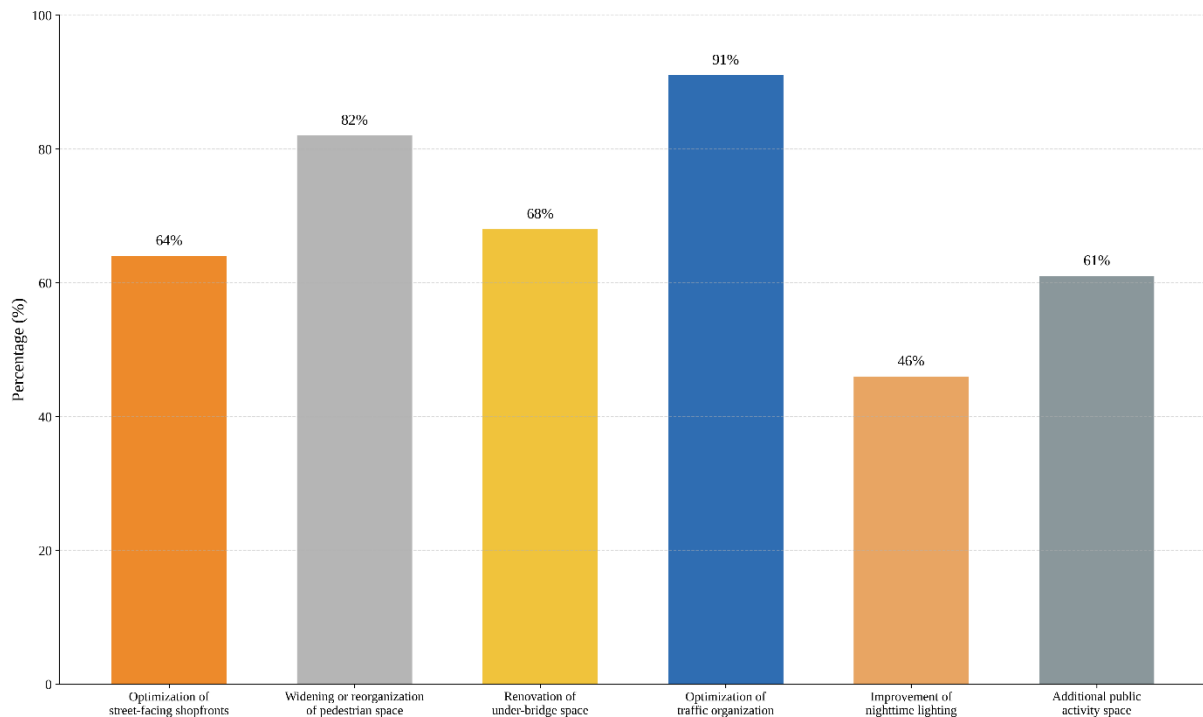


Figure 4-26 Questionnaire results on Priority Improvement Items for Renmin South Road

Source: Author

Looking at the differences among the various items, problems related to traffic organization and pedestrian space were the most directly perceived, which indicates that the continuing pressure of logistics activities on street circulation remains the most immediate challenge on Renmin South Road. At the same time, the relatively high support for “under-viaduct space renovation” and “optimization of street-facing shopfront interfaces” suggests that the environmental weakness of the under-viaduct space, together with the limited visibility and staying quality of the arcade interface, has already become a clear demand for improvement. By comparison, although the proportion selecting “improving night-time lighting” was lower than that of the previous items, it still accounted for nearly half of the responses, indicating that lighting is more often perceived as part of the broader experience of the under-viaduct space and the street environment at night.

The results on willingness to participate also suggest that Renmin South Road has a certain foundation for renewal. In response to the question, “If temporary markets, cultural exhibitions, or public events were introduced to the street, would you be willing to take part?” the combined proportion choosing “very willing” and “quite willing” was about 64%, while about 15%

selected “neutral” and about 8% clearly indicated that they were unwilling. This shows that users generally hold a positive attitude toward the introduction of public activities into the street, although some still remain cautious. In response to the question, “Would you be willing to take part in public consultation on street renovation?” the combined proportion choosing “very willing” and “quite willing” reached about 91%. This indicates that users do not simply accept street renovation passively, but instead show a strong willingness to express their views and a solid basis for participation (Figure 4-27).

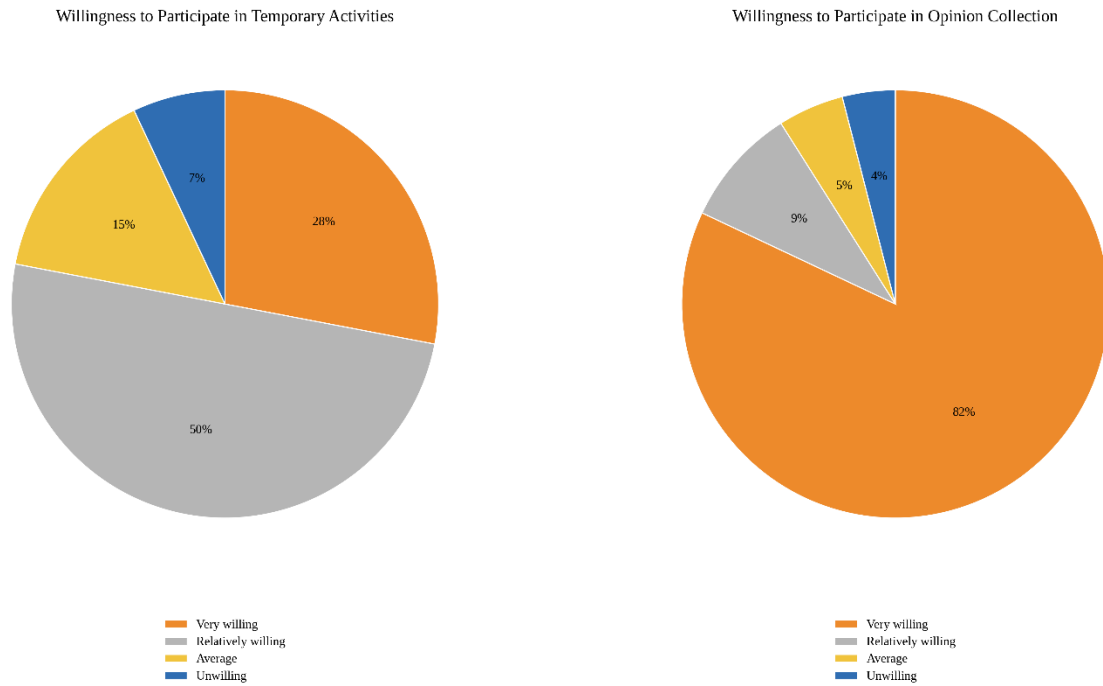


Figure 4-27 Questionnaire results on Willingness to Participate in the Renewal of Renmin South Road

Source: Author

According to the questionnaire feedback, the renewal needs of Renmin South Road are mainly concentrated on traffic, pedestrian movement, the under-viaduct space, and the condition of the street interface, while there is also a certain foundation for participation in activities and public feedback. These findings further support the earlier assessment of the main conflicts and also provide a basis for the subsequent proposal of micro-renewal strategies in areas such as traffic adjustment, interface optimization, under-viaduct space improvement, and the introduction of public activities.

4.6 Summary of this chapter

This chapter reviews the current conditions of Renmin South Road’s street space in relation to its locational role, policy background, and transitional-stage demands. Renmin South Road is not a traditional commercial street in the general sense. It is a composite street space

formed through the long-term overlap of the historic arcade street pattern, elevated transport infrastructure, wholesale logistics industries, and everyday use behaviors. Its problems do not arise from a single spatial defect, but are the combined result of the long-term interaction among historic conservation, traffic operation, industrial organization, and public activities.

In terms of current conditions, different sections along Renmin South Road vary in the state of arcade interfaces, organization of commercial activities, use of spaces beneath the elevated road, and potential for public activities. Different time periods also present different patterns of spatial use. During the daytime, the street is mainly affected by wholesale transactions, loading and unloading, goods handling, and circulation demands, resulting in the continuous compression of public pedestrian space. At night, after wholesale activities decrease, some sections have the potential to accommodate light public activities. However, due to factors such as closed interfaces, insufficient lighting, and weak spatial legibility beneath the elevated road, street vitality has not been fully released. At the same time, field observation shows that some sections also have a certain degree of streetscape identity and urban observation value, as the juxtaposition of arcade interfaces and the elevated road creates a distinctive street landscape.

Overall, although the arcade interface maintains a relatively high degree of continuity, its openness and participatory capacity are insufficient, making it difficult to effectively support public street activities. The vertical coverage of the elevated road weakens spatial perception and environmental quality, while the legibility and utilization efficiency of the space beneath it remain limited. The loading, handling, and short-distance transfer activities generated by wholesale industries continuously compress public circulation space and create a temporal imbalance between daytime congestion and low nighttime vitality. Therefore, the renewal of Renmin South Road is more suited to an approach based on its existing spatial structure and patterns of use. Through small-scale, incremental, and time-based interventions, the relationships among logistics, circulation, and public activities can be coordinated. On the premise of maintaining the existing operational foundation, the street environment can be gradually improved, providing a practical basis for the subsequent formulation of renewal strategies and the development of the design proposal.

Chapter 5 Micro-Renewal Design Strategies for the Street Space of Renmin South Road

Based on the current condition analysis in Chapter 4, this chapter further discusses the generation of micro-renewal strategies for the street space of Renmin South Road. It first identifies the practical conditions for implementing tactical micro-renewal on the site and, in relation to the time-based characteristics of street use, proposes renewal strategies for logistics order, arcade interfaces, and spaces beneath the elevated road. The chapter then translates these strategies into tactical tools for street space, public nodes, arcade interfaces, and under-bridge spaces, and further clarifies the selection of intervention nodes and the phased implementation mechanism, providing a basis for the specific design proposal in Chapter 6.

5.1 Implementation condition identification of tactical update

5.1.1 Street vitality structure and multi-subject foundation

The spatial operation of Renmin South Road shows obvious section differences. Relying on the middle area of the wholesale core nodes such as the New China Building, trading and logistics activities are highly concentrated, and the streets maintain a high-intensity operation during the day. In the section with weak connection with the core node, there is a phenomenon of pavement vacancy and insufficient stay behavior, and the space use intensity is relatively low. The whole street is in a state of local overload and local inefficiency. The high-intensity section needs to alleviate the conflict through order optimization and spatial reorganization, and the section with insufficient vitality is more suitable for low-risk test and function introduction.

Street operation is also maintained by multiple groups. Wholesale operators control the interface form and business mode, which is the key subject affecting the spatial state of arcades (Table 5-1). Purchasing personnel and distribution groups form a high-frequency flow network that directly shapes the daytime rhythm of the street. Logistics workers influence loading order and the allocation of road space, while nearby residents and potential consumers have practical demands for environmental improvement. In addition, leisure-oriented pedestrian flows from the adjacent Cultural Park and Children's Park provide a potential basis for introducing non-wholesale activities. These different groups coexist in the same space over time, forming a stable use network. Identifying their participation paths and capacities can support the later development of a tactical renewal mechanism based on negotiation, experimentation, and phased adjustment.

Table 5-1 Identification of multi-subject appeal and tactical participation path of Renmin South Road

subject type	core demand	The actual role of in the street	Formable coordination mode	Possible realistic conflicts	The main correlation
Wholesale operators	Ensure that the transaction is continuous, easy to load and unload, does not affect business efficiency.	Controlling the use of the front of the pavement is the most direct shaper of the arcade interface.	Coordinate with standard loading depth, adjust storefront displays after opening, and follow time-based loading arrangements.	Worry about limiting the swing and loading and unloading will affect the turnover efficiency	Riding corridor, pavement front
Purchasers / distributors	Smooth passage, quickly find the target store, reduce congestion and detour	As a high-frequency mobile user, it directly reflects the problem of walking and access.	Use feedback is formed for inconvenient sections, and experience verification is provided in experimental guidance and node arrangement.	Reluctant to increase detour or reduce procurement efficiency due to space arrangement.	Mid-level arcade, horizontal intersection, wholesale concentration section
Logistics practitioners	Temporary parking is convenient, the handling path is the shortest, and the handling order is clear.	It is an important shaper of street right occupation and time rhythm.	Cooperate with the loading and unloading time division, fixed temporary docking position, standardized handling path.	Contradictory compression of motor vehicle parking space or increase the handling distance	The edge of the motorway, the temporary parking area under the bridge, and the front of the paved door
Residents	Reduce noise and road occupation, improve night safety, and improve walking environment.	It is the most direct long-term experienter and feedback subject of street environmental problems.	Through community feedback, opinion collection and activity participation, environmental improvement demands are put forward.	Worried about the expansion of commercial activities to further encroach on the living space	Night arcade, dark area under the bridge, street intersection

Table 5-1 Identification of multi-subject appeal and tactical participation path of Renmin South Road
(Continued table)

subject type	core demand	The actual role of in the street	Formable coordination mode	Possible realistic conflicts	The main correlation
Tourists / Outside leisure crowd	Gain recognizable space to stay, cultural experience and a good walking environment	It is a potential incremental passenger flow, which has a magnifying effect on the restoration of street publicity	Verify the possibility of non-wholesale space use by participating in market, exhibition, and temporary activities	If the street environment is single and the stay conditions are insufficient, it is difficult to form a stable stay	Low vitality section, cultural park, children's park connection section, available area under the bridge
Potential retail / catering operators	Obtain stable passenger flow, displayable interface and better environmental quality	It is a potential subject to introduce new business forms and change the interface state of low-activity sections	Into the vacant or low-intensity section, the formation of a more open display interface and stay interface	When the passenger flow base is insufficient, the willingness to enter is low	Vacant pavement section, low strength arcade section
Government and street management	Alleviate traffic conflicts, maintain historical features, and improve the quality of public space	It has the ability of rulemaking, facility setting and resource coordination, and is the actual implementation on subject	Develop a time-division management system, adjust the right of way, improve lighting and facilities, and support temporary testing	The cost of law enforcement and coordination is high, and multi-agent coordination is difficult	At the whole street level, the focus is on the wholesale area under the bridge, the middle section and the intersection node

Source: Author

5.1.2 Sub-period adjustment basis of street space

The space occupation of Renmin South Road is not homogeneous throughout the day, but changes with the wholesale transaction and logistics loading and unloading rhythm. The

afternoon and afternoon are the most concentrated periods of operation, procurement and handling activities, and the streets are mainly responsible for trading and turnover functions. In the morning and evening, the logistics intensity decreases, and the streets are more restored to traffic and slow space.

This time difference provides a realistic basis for tactical update. High-intensity busy periods should be dominated by order adjustment, such as standardizing loading and unloading positions, limiting temporary parking areas, and optimizing handling paths. In the idle period when logistics activities are weakened, walking space can be restored, temporary stay facilities can be arranged, or small public activities can be introduced. This time structure is not an accidental fluctuation, but a stable law formed by long-term matching with the wholesale business model. Therefore, time-division adjustment is not to interrupt the existing order, but to optimize under the premise of respecting the logic of street operation. Compared with the overall transformation, this method has lower cost and less intervention, and is more in line with the realistic conditions that the Renmin South Road is still dominated by wholesale activities.

5.1.3 Reorganized space and material resource identification

Although Renmin South Road is constrained by the viaduct, logistics activities, and arcade interfaces, it still contains resources that can be reorganized within the existing street system. These resources are reflected not only in residual spatial margins, but also in movable objects and leftover materials generated through everyday commercial operations. For tactical renewal, available resources are therefore not limited to open space, but also include existing conditions embedded in the street's operating system, which can be redefined and transformed at relatively low cost.

From the spatial perspective, the reorganizable resources mainly include the continuous space beneath the viaduct, local nodes within the arcade corridor, street and lane intersections, and vacant storefront edges in less active sections. The space beneath the viaduct currently performs traffic-related auxiliary functions, yet its continuous shelter and structural interface provide the possibility of becoming temporary activity space, short-stay space, or circulation buffer space. Although the arcade corridor is generally squeezed by business activities and goods stacking, some sections with wider corners, larger column spacing, or more open interfaces already support brief stopping and informal communication, indicating their potential to form micro-nodes. Low-intensity sections weakly connected with the core wholesale area also retain the possibility of activation through temporary display, lightweight business formats,

or public activity insertion.

From the material perspective, the street also contains resources that can be directly reused, as shown in Table 5-2. Logistics and commercial items such as trolleys, simple shelves, idle tables and stools, and movable hangers are highly mobile, accessible, and reusable. After sorting and reorganization, they can serve as temporary display platforms, guiding carriers, activity boundaries, or small stay facilities. Leftover materials such as cartons, wooden boxes, packaging boards, clothing scraps, old signboard panels, and idle display components can be reused in short-term experiments for enclosure construction, display frames, installation skins, and activity backdrops. This can reduce dependence on newly produced facilities and better reflect the low-cost, reversible, and localized characteristics of tactical urbanism.

Table 5-2 Analysis of available materials in Renmin South Road

Category	Specific materials	Function translation	Application space	Feature
Mobile carrier	Trolleys, idle tables and chairs	Mobile display, temporary seats, activity isolation, guide carrier	The front of the arcade, the corner node, the space under the bridge	Strong mobility, easy access, suitable for short-term test
Display support	Simple shelves, movable hangers, idle display racks, old signboard floors, waste light box frames	Flash display, information release, temporary display, interface activation	Vacant pavement front, low vitality section, node area	It is closely related to the store interface and directly transformed.
Temporary construction	Pallet, wooden box, carton, foam board, packaging board, clothing scraps, packaging rope	Temporary platform, activity background, device skin, soft enclosure	Bridge space, temporary activity area, arcade interface frontier	Low cost, suitable for reversible intervention
Dependent structure	Fences, columns, and accessory elements along the road edge	Lighting, marking, device attachment structure	Space under the bridge, road edge	No need to build a new foundation, easy to intervene in the implementation of light.

Source: Author

5.1.4 The possibility of spatial adjustment in the context of gradual transformation

Renmin South Road currently does not have the conditions to complete the overall renewal through a one-time transformation, but this does not mean that the street can only maintain the current status. On the contrary, it is in a transitional stage where functional restructuring is gradually taking place. Traditional wholesale transactions are still in operation, and logistics demand has not disappeared, but the related organizational methods have begun to change. Nighttime consumption and leisure activities are entering the site. Although the current overall operation of Renmin South Road is still dominated by wholesale transactions and logistics activities, there has been a trend of complementary use for leisure consumption and foreign passenger flow during the nighttime period, mainly with cultural parks as the center of night tours. It is in this state of “old functions have not retreated and new functions have entered” that the Renmin South Road has the realistic possibility of gradual adjustment through tactical renewal.

On the one hand, there has been a trend from offline centralized turnover to online collaborative diversion within the wholesale system. According to public reports by the Guangzhou government, the New China Building is promoting the delivery of goods from factories and online logistics platforms, trying to separate bulk freight from business negotiations, and promoting the integration of physical wholesale and electronic logistics operations online and offline. The relevant person in charge said that about 60% of its cargo transportation is large goods. At present, 18% of large goods have been completed through online logistics, and the target has been raised to 60% to reduce the frequency of use of the four-wheeled trucks that most disturb the people and occupy the road. The report also pointed out that such exploration has improved the order of surrounding roads to a certain extent^[102]. This shows that the logistics conflict of Renmin South Road can't be solved only by physical expansion, and the industry itself is also providing a condition for “reduction operation”. For spatial renewal, this means that the street can gradually shift from absolute service logistics to the coexistence of logistics and publicity, creating possibilities for time-division road right adjustment, loading and unloading organization optimization and interface release.

On the other hand, new patterns of nighttime use are emerging around Renmin South Road. A public report issued by the Guangzhou Municipal Bureau of Commerce indicates that the Renmin South Historic and Cultural District has ranked among the top five most popular takeaway destinations in Guangzhou and has been explicitly identified as a “hotspot for night tours in the old city.” The same report also points out that the linkage between night tourism

and instant retail is maturing, and night tourism has led to the extension of consumption scenes around the scenic spot^[103] (Figure 5-1).

It means that the nighttime space of the Renmin South Road is no longer just a gap after the end of the wholesale business of the day, but has a realistic need to transform into leisure, consumption and staying space. Coupled with the continuous operation of surrounding nighttime activities such as cultural parks, the streets have the basis for undertaking foreign passenger flows and introducing non-wholesale activities. Compared with the use of trading and logistics in the daytime, the low logistics intensity and incremental leisure crowd at night provide a lower-risk test period for tactical interventions such as temporary fairs, cultural displays, light activities and interface lighting improvements.

It can be seen that the renewal opportunity of Renmin South Road does not come from the empty reconstruction after the complete withdrawal of the wholesale function, but from the structural gap formed when the transformation has not yet been completed. During the day, some public space can be released through logistics diversion and order optimization, and at night, new use content can be introduced with the help of the surrounding night travel passenger flow.



Figure 5-1 Night activities of Renmin South Road Cultural Park

Source: Author

5.2 Strategic framework of street space renewal of Renmin South Road based on time-sharing scene

The problems in the street space of Renmin South Road will not appear evenly throughout the day, but will show obvious time differences with the changes of operation, logistics and people flow. The street renewal strategy can not only stay in the static and unified space renovation, but also need to be based on the time-sharing intervention logic of keeping operation in busy time and releasing public in idle time. Around this point, the street space renewal strategy framework of Renmin South Road can be carried out from three aspects: alleviating the conflict between logistics and public traffic, activating the arcade interface and

street vitality, and promoting the transformation of the space environment under the bridge, and corresponding to the busy order adjustment and idle public activation. Two different types of intervention focus (Table 5-3).

Table 5-3 Main contradictions and transformation strategies of street space in Renmin South Road

principal contradiction	overall strategy	Sub-strategies
Explicit contradiction: the conflict between logistics transportation and public transportation	Reconstructing the order of street operation	1. Organizing the use of street space in different time periods 2. Redrawing the boundary between loading and unloading 3. Releasing pedestrian space
Potential contradiction: the interface continuity of arcade and the dislocation of street vitality	Activate the arcade interface and street publicity	1. Interface frontier reduction finishing 2. Low vitality section function import 3. Node stay and display enhancement
Structural contradiction: the suppression of public space quality by elevated traffic structure	Promote the transformation of space environment under the bridge	1. Space arrangement and zoning under the bridge 2. Night lighting and recognition improvement 3. Micro activity node implantation

Source: Author

5.2.1 Alleviate the conflict between logistics and public transit

The key to the logistics conflict of Renmin South Road is not the freight transportation activity itself, but the long-term borderless embedding of loading, unloading, docking and handling behavior into public space. Therefore, the focus of traffic update should be on the time, location and path of logistics activities.

From the time point of view, a time-division loading and unloading organization mechanism should be established. For the two logistics peaks in the afternoon and afternoon, the loading and unloading activities should be concentrated in the specified period as much as possible to reduce their disorderly occurrence throughout the day. In the period of low logistics intensity, the priority is to guarantee the walking and general traffic functions, so that the streets take on different leading tasks at different times. From the perspective of location, in the middle section with the most intensive wholesale activities, several edge positions that do not affect the main traffic can be selected as short-term parking and loading and unloading belts in combination with the existing pavement distribution and street section conditions, so as to reduce the random parking of vehicles and the direct stacking of goods to the front of the arcade. For the section without parking conditions, the motor vehicle should be limited to stop and unload. In terms of path, it is necessary to sort out the handling routes that directly cross the arcade from the motorway to the store, guide the cargo streamline to avoid the main pedestrian

nodes and intersections as much as possible, and reduce the cutting impact of lateral transportation on the flow of people. For high-frequency conflict sections, temporary path boundaries can also be formed by combining road markings, guides and simple isolation components.

The focus of this strategy is not to compress wholesale transactions, but to reintegrate the originally borderless expansion of logistics activities into a clearer spatial order without interrupting operations.

5.2.2 Activate the arcade interface and street vitality

The main problem of the arcade space of Renmin South Road is not that the arcade does not exist, but that its frontier has been stored and closed for a long time, resulting in the lack of conditions for display, stay and communication although the street has a continuous interface. Therefore, the interface update should not only stay at the level of style maintenance, but should directly respond to the current use of the interface.

A more basic step is to promote the reduction of pavement front finishing. For the sections with long-term external swing of goods, road occupation in front of shutter doors and serious interface closure, the front clearance control should be established to reduce the depth of goods occupying the arcade channel, and the basic walking width and interface visibility should be restored first. For the stores still dominated by wholesale, it is not required to completely change the mode of operation, but the direct encroachment on the arcade channel should be reduced. Further forward, it is necessary to improve the interface openness in the local section. Outside the middle section, the section with relatively weak connection with the core wholesale node but with street display conditions can be selected to give priority to the formation of a more open display interface, such as improving the visibility of the window, reducing the closed shutter door state throughout the day, and moderately optimizing the lighting and signboard interface. This approach does not require the whole street to change synchronously, but hopes to form a dynamic node that can be perceived locally first.

For the section with low business intensity and high vacancy rate, the functions of short-term exhibition, flash retail, small cultural activities or temporary light catering can also be considered. Compared with permanent investment, this kind of temporary use is more suitable for the current transition state of Renmin South Road, and also more in line with the characteristics of low cost and reversibility of tactical renewal. In addition, the update of the arcade interface also needs to be linked to the street activity itself. For the corner and column corridor nodes of the arcade with short-term stay behavior, simple display, guidance or small-

scale stay facilities can be configured to gradually turn the arcade space from the logistics buffer zone back to the street activity interface.

5.2.3 Promote the transformation of space environment under the bridge

The space under the bridge is the most typical and easily overlooked remaining space of Renmin South Road. The current problem is not that it can not be used under the bridge, but that it only undertakes the auxiliary function of traffic for a long time, and lacks the basic environmental arrangement and use organization. Therefore, the focus of the bridge renewal should not be on large-scale transformation, but should be through small-scale consolidation to enhance its basic availability.

Part of the work should start with environmental clean-up and basic zoning. The sub-bridge sections currently used for temporary stacking, disorderly parking and disorderly occupation are sorted out to determine which areas are used for traffic buffering, which areas can be used for short stays, and which areas need to be kept empty to ensure line of sight and safety. Through such basic zoning, the space under the bridge is first transformed from a gray space that is difficult to identify into a judgmental and accessible transition space. Night lighting conditions should also be improved simultaneously, but the focus is not only to increase the brightness, but to improve the uniformity, recognition and node sense of the space under the bridge. Basic lighting and guiding lighting can be preferentially arranged at intersections, under-bridge openings, stay nodes and vacant sections to reduce the sense of oppression and insecurity in night use.

On this basis, the space under the bridge also needs to gradually establish the possibility of stay and activity. The section under the bridge with good column grid conditions and strong connection with the direction of transverse streets or cultural parks can be selected, and simple seats, guides, display frames or small flashing activity interfaces can be arranged to make the space under the bridge no longer just cross the channel, but can bear the composite functions of short stay, identification guidance and activity transition. Here is not the pursuit of forming a complete square, but through a number of micro-nodes that can be gradually tested, slowly improve the publicity of the space under the bridge. The improvement under the bridge cannot be promoted in isolation. It also needs to be considered together with the arcades and street corner nodes on both sides. The accessibility and recognition should be improved at the openings under the bridge, the intersection of streets and lanes, and the turning points of sight, so that the space under the bridge can truly enter the overall use system of the street.

The renewal under the bridge should not be regarded as an isolated project, but as part of

the supplement of the public space of the whole street. Its value lies not in the formation of new large venues, but in providing a more stable foundation for walking, staying and night activities.

5.3 Tactical tool system construction

Based on the street renewal strategies proposed above, this section constructs a tactical tool system for the street space of Renmin South Road in order to further translate these strategies into operable design methods. Following the small-scale, low-cost, phased, and adjustable principles of tactical urbanism, tactical tools are intended to redistribute space, organize behavior, and improve the environment within the existing operational system, rather than completely changing the existing street structure.

In relation to the main current conflicts and spatial conditions of Renmin South Road, the tactical tools can be categorized into four types: street space tactics, public node activation tactics, arcade interface activation tactics, and under-bridge space utilization tactics. These four types correspond respectively to different levels, including street operation order, node-based activity organization, arcade interface activation, and under-bridge environmental improvement. Together, they form an implementation support system for the incremental renewal of Renmin South Road.

5.3.1 Street space tactics

The street space tactics are mainly aimed at the long-term superposition of the current logistics loading and unloading, temporary docking and public passage of Renmin South Road. The core is to reorganize the street section and road right distribution through low-cost and adjustable methods.

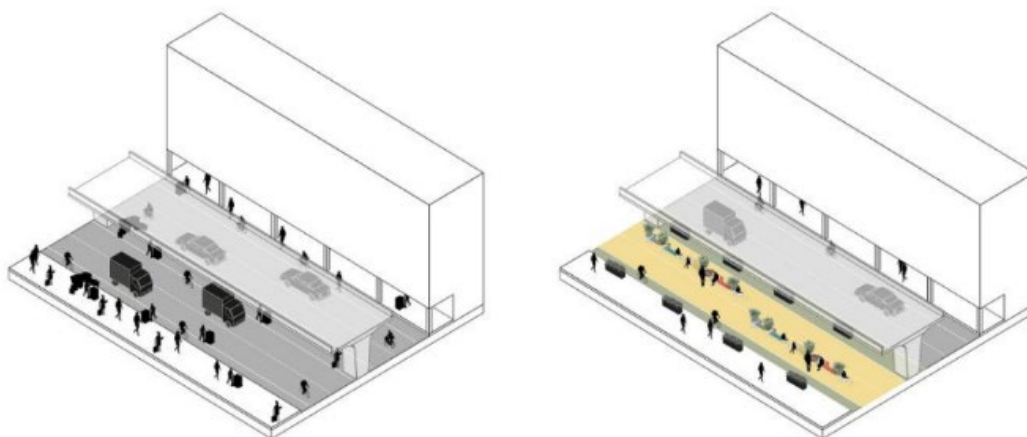


Figure 5-2 Comparison before and after the use of game street tactics

Source: Author

As a basic tactic, time-division management is based on the rhythmic characteristics of the

logistics activities of Renmin South Road in the afternoon and afternoon. The loading and unloading, parking and general slow-moving are staggered in time, so that the streets bear different dominant functions in different time periods (Figure 5-2).

All motor vehicle lanes are retained during the working day, and the two-way two-lane lanes are converted into two-way single lanes at night and non-working days, which not only retains the basic traffic function of motor vehicles, but also frees up public space for pedestrians. The specific practices are shown in Table 5-4. The aim is not to compress business activities, but to reduce the imbalance of order caused by all-weather borderless occupation.

Table 5-4 Game Street tactical description

Game Street Tactical	
Target	Improve the publicity of the street, restore the slow-moving experience, and expand the vitality of the street.
Recommended road section	The whole section of Renmin South Road
Concrete measure	Time-sharing use: time-sharing limit motor vehicle passable area function partition; with the pier as the boundary, one side is the game street, and the other side is the motor vehicle driving area.
Participant	Transportation departments, shop operators, freight personnel, surrounding residents, tourists

Source: Author

In addition, the boundary control of loading and unloading position and handling path can be carried out through temporary loading and unloading belt, ground identification and movable isolation facilities (Figure 5-3).

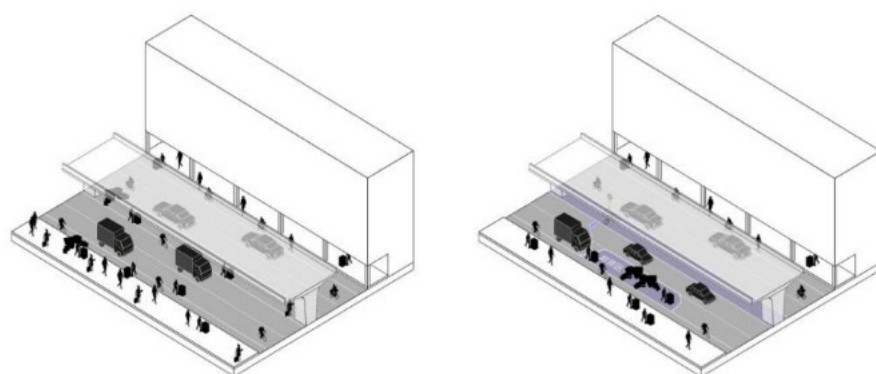


Figure 5-3 Comparison of informal parking lot tactics before and after use

Source: Author

For the high-frequency parking section, the reservation parking can be implemented according to the demand. At the same time, the scope of vehicle parking and temporary placement of goods should be clarified by means of ground framing and guiding signs, so as to avoid the direct expansion of loading and unloading behavior to the arcade corridor and the main pedestrian passage.

Table 5-5 Tactical description of informal parking lot

Informal parking tactics	
Target	Relieve the conflict between logistics and public traffic, restore the basic traffic order of the street.
Recommended road section	Middle section of Renmin South Road
Concrete measure	Time-sharing use: set the working day business time temporary parking area function partition; limited cargo vehicle parking area and unloading area Supplementary facilities: non-motorized parking spaces
Participant	Traffic departments, street offices, shop operators, freight personnel

Source: Author

For the section with frequent lateral transportation, the cutting strength of the walking streamline by logistics activities should be reduced through path arrangement and simple separation (Table 5-5).

In addition, street space tactics should also pay attention to the recovery of walking continuity. For the front edge of the arcade, which is repeatedly compressed by goods stacking, temporary parking and operation swing, the most basic principle of clearance control should be established to give priority to ensuring the width of pedestrian passage, which requires the street to cooperate with law enforcement control. Therefore, street space tactics are the most basic set of tools in the tactical update of Renmin South Road. The goal is to restore the basic order first, and then create conditions for subsequent node activation and interface update.

5.3.2 Common node activation tactics

The activation tactics of public nodes are mainly aimed at the potential stay conditions at the intersection of Renmin south road, the corner of the arcade, and the opening under the bridge, but there is a lack of clear organization. These locations have appeared in the status quo, such as short-term stay, waiting, communication and temporary transactions, indicating that they have certain node attributes. The focus of tactical update is to transform these existing behavioral agglomeration points into identifiable and usable small-scale public spaces.

Due to the limited overall scale of the node space of Renmin South Road, it is not suitable to set up a large number of fixed devices. A more appropriate approach is to supplement the street public facilities in a low-cost and retractable way, to improve the long-standing problems of insufficient stay conditions, cluttered environment and weak recognition in the node space, so that the nodes that originally only bear the traffic conversion function can be gradually transformed into micro-public space with the functions of stay, display, guidance and communication, as shown in Figure 5-4.

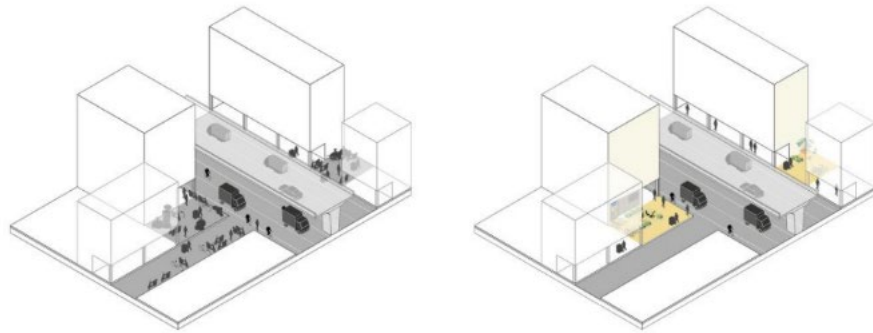


Figure 5-4 Comparison before and after the tactical use of temporary devices

Source: Author

Specifically, lightweight facilities such as movable seats, display walls, display frames, non-motor vehicle parking points and simple greening can be arranged at the intersection of Renmin South Road, the corner of the arcade and the corner under the bridge (Table 5-6).

Table 5-6 Tactical description of temporary device

Temporary device tactics	
Target	Activate micro-public space and supplement street public facilities
Recommended road section	Renmin South Road Street intersection, arcade corner and other micro public space
Concrete measure	Cultural display: set up a display wall to introduce community culture; optimize the environment: clear random debris and non-motor vehicles, add green plants, display frames, non-motor vehicle parking spots, seats, etc.
Participant	Street offices, residents, social workers, neighborhood committees

Source: Author

In addition, flash activities can also be imported in combination with the use characteristics of node space in different periods. In other small-scale open spaces in the block, small-scale exhibitions, temporary sales or information display facilities can also be arranged according to actual conditions, so that these nodes can undertake more public activities during low-intensity use, and gradually attract richer composite formats. Enter, paving the way for subsequent format transformation and space activation, as shown in Figure 5-5.

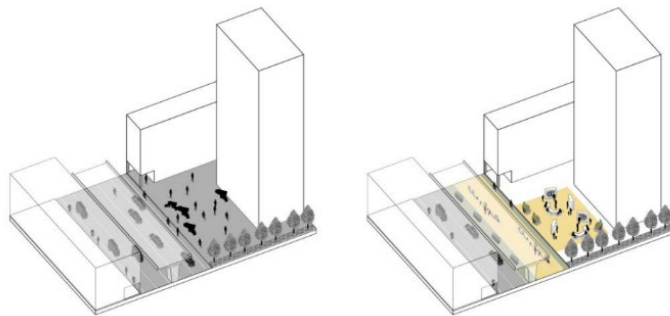


Figure 5-5 Comparison before and after the use of pop-up activity tactics

Source: Author

For the under-bridge space or square nodes that are mainly accessible during the day and relatively idle at night, flash activities related to the existing industries of the site can be appropriately implanted, such as old clothes renovation workshops, color dressing laboratories, mobile wardrobe flash buses and theme change parties, so that citizens can perceive the industrial characteristics of the site through participatory activities, and no longer only regard it as a functional place for service business, distribution and transportation.

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Table 5-7 Pop-up Activity tactical description

Pop-up activity tactics	
Target	Create communication topics, enhance regional image, attract consumer groups, and prepare for industrial transformation.
Recommended road section	Renmin South Road under the bridge space and part of the road, square
Concrete measure	Time-limited activities: completely become a walking area within a certain period of time; compound format: supplementing the cultural tourism format through mobile devices
Participant	Traffic departments, street offices, small vendors, citizens, shop operators

Source: Author

The public node activation tactic is an experimental incision for the public recovery of Renmin South Road. It does not need to rely on a large area of space to move, but in the existing high-frequency use environment, through the organization of micro-nodes gradually strengthens conditions for staying in the street space and increases activity density.

5.3.3 Arcade interface activation tactics

The activation tactics of the arcade interface mainly respond to the problem of continuous but insufficient vitality of the interface of the Renmin South Road. At present, a large number of pavements in the street are mainly front stacking, shutter door closure and warehouse management, so that although the arcade space remains continuous in form, it lacks display, interaction and stay attraction. The focus of the interface activation should be on the adjustment of the way of use. By sorting out the frontier space, enhancing the display content and improving the openness of the interface, the arcade should be re-established as the frontier space of street activities and weaken its long-term preference for the use of logistics buffers.

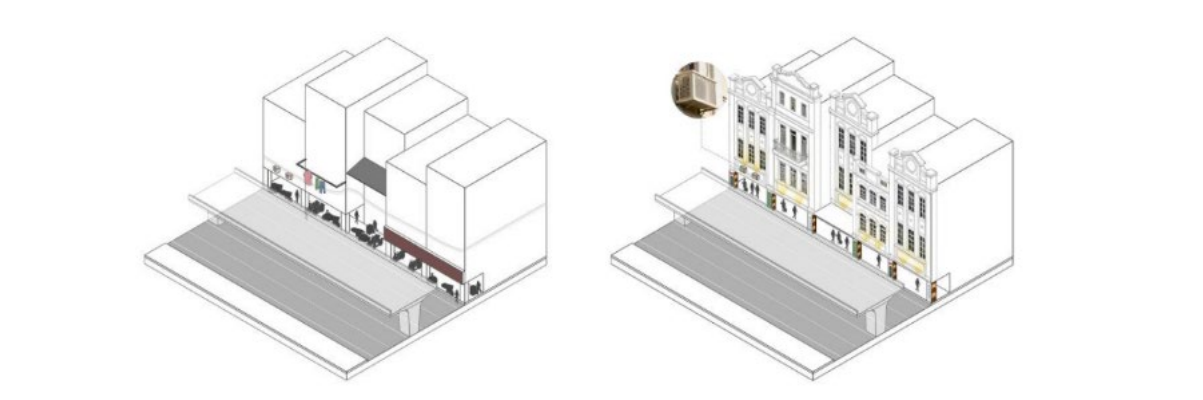


Figure 5-6 Comparison of the appearance of the arcade before and after the use of the transformation tactics

Source: Author

For the sections that are still dominated by wholesale operations, the tactical update does not require a fundamental change in their mode of operation in the short term. Instead, priority should be given to controlling the encroachment of front-end cargo stacking on the arcade corridors and interface visibility, and promoting the arcade corridors to restore the most basic openness, accessibility and recognition (Figure 5-6).

Problems such as illegal signboards, unauthorized clothes racks and metal extensions, and the disorderly external installation of air-conditioning units on arcade facades further intensify the visual clutter of the interface. Therefore, it is necessary to combine the frontier renovation with the facade cleaning, and gradually improve the overall perception of the arcade interface and the quality of the street environment by standardizing the setting of ancillary facilities, compressing disorderly additions and improving the facade order.

Table 5-8 Tactical description of the appearance transformation of the arcade

Arcade appearance transformation tactics	
Target	Reappear the historical style, spread the cultural value
Recommended road section	Exterior of the arcaded street
Concrete measure	Advertisement removal: remove illegal signs, use columns to add window display; arrange the facade: add the old air conditioning external machine to the original building element hood, arrange the external wiring and demolish the illegal additions; strengthen the identification: use the light to outline the outline of the arcade, and use the graffiti to show the historical fragments
Participant	Historical building protection departments, street offices, power supply bureaus, artists, shop operators

Source: Author

The activation of the arcade interface also needs to be promoted together with the street stay conditions. In the column corridor nodes with large corners and bays or sections with open interfaces, display, lighting and small-scale stay facilities can be configured synchronously, so that the arcade space can gradually shift from a simple passage corridor to a street front with

both display and communication functions (Table 5-8).

Tactics such as pop-up display, temporary retail and vacant pavement reuse can also be introduced for low-activity sections. Some sections of Renmin South Road have weak links with core wholesale nodes. The current pavement has a high vacancy rate or low use efficiency, and it is difficult to maintain continuous business vitality along the street interface. Under this condition, the practical significance of continuing to use high-strength wholesale interface logic is not strong, and these sections are more suitable as test areas for interface activation (Figure 5-7).

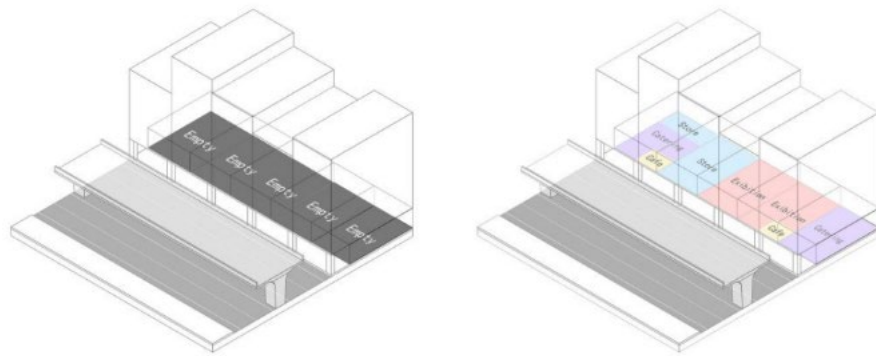


Figure 5-7 Comparison before and after the use of the activation tactics of the arcade street interface

Source: Author

Combined with the pavement conditions and the characteristics of street use, priority should be given to the introduction of short-term exhibition, cultural display, light catering or small retail, so that the originally closed and inefficient interface will first undergo local changes, and gradually form a perceptible display and stay space. After a period of use and feedback, we can judge which practices are suitable for retention, adjustment or expansion according to the actual results, so as to accumulate experience for subsequent more continuous interface updates (Table 5-9).

Table 5-9 Tactical description of arcade street interface activation

Arcade Street interface activation tactics	
Target	Enrich the business form, restore the openness, display and public attraction of the arcade interface.
Recommended road section	Vacant shops along the street
Concrete measure	Reuse of vacant pavement: put in new formats such as short-term exhibition, cultural display or light catering.
Participant	Entrepreneurs, shop operators, citizens, media

Source: Author

Therefore, the core of the arcade interface activation tactics is to adjust the existing

interface use mode with minimum intervention, and gradually improve the openness and participation of the street through local experiments.

5.3.4 Tactics of space utilization under bridge

The space utilization tactics under the bridge are mainly aimed at the problems of long-term use as a traffic auxiliary space under the viaduct, strong sense of environmental pressure, insufficient recognition and low use efficiency. The space under the bridge of Renmin South Road is not completely unusable in the current situation, but more because of the lack of basic collation and functional organization, so that the space potential has not been really brought into play. Therefore, the focus of the renewal under the bridge is not on large-scale remodeling, but through environmental improvement and lightweight temporary facilities implantation, gradually improving the entry convenience, spatial recognition and short-term stay conditions of the space under the bridge.

The use of space under the bridge needs to start with the improvement of the basic conditions. The existing disorderly stacking, disorderly parking and remaining occupied sections should be cleaned up, and the passage, stay and transition space should be more clearly divided, so that the space under the bridge can be gradually transformed from the gray space that is originally difficult to identify into a space unit that can be judged and entered. For Renmin South Road, this step is also the premise of the renewal under the bridge (Figure 5-8).

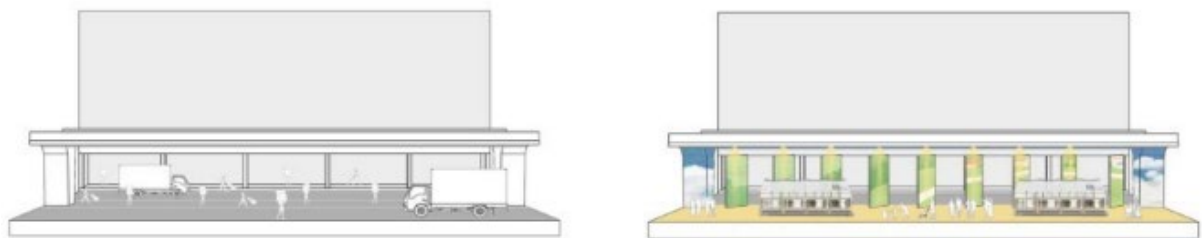


Figure 5-8 Comparison before and after the use of visual catalyst tactics

Source: Author

The subsequent improvement of the space under the bridge also needs to consider the combination of night lighting, recognition improvement and the relief of the sense of oppression of the bridge. Although the current bridge has basic lighting, the overall sense of node and direction is weak, and it is difficult to form a stay attraction (Table 5-10).

Table 5-10 Visual Catalyst tactical description

Visual Catalyst Tactics	
Target	Improve the accessibility of space under the bridge; identification and Basic Use Ability
Recommended road section	Renmin South Road under the bridge space
Concrete measure	Time-limited activities: completely become a walking area within a certain period of time; compound utilization: cleaning and remediation, functional zoning identification; strengthen security: basic lighting supplement, node lighting
Participant	Traffic departments, street offices, small vendors, citizens, shop operators, literary and artistic activists

Source: Author

The openings under the bridge, the contact points at the intersection and the potential stay positions can give priority to the supplement of basic lighting, guiding lighting and identification signs to enhance the readability and safety of the environment. In the section under the bridge with better conditions, temporary exhibition racks, leisure facilities and lightweight activity devices can also be implanted, and combined with the game street tactics mentioned above, the space under the bridge can gradually assume the functions of short-term stay, display and activity. The construction of the slow-moving system at night should also be promoted simultaneously, so that the space under the bridge gradually shifts from a single crossing channel to a supplementary part of the street public space system.

5.4 Tactical intervention node location

The tactical intervention of Renmin South Road should not adopt a fixed and single site selection method, but should determine different intervention scales according to the operating conditions of the street at different times. For Renmin South Road, the strength of wholesale transactions and logistics activities directly determines the degree of release of street space: under the idle conditions of night, holidays and Spring Festival, the overall interference of the street is small, and there is a possibility of temporary activation on a large scale ; when the daytime is busy, the streets are still dominated by wholesale operations and logistics traffic, which is only suitable for small-scale experiments at local nodes. Therefore, the node location of Renmin South Road should be established on the basis of “overall linkage in idle time and local selection in busy time,” so that the tactical update can match the actual operation state of the street.

5.4.1 Node screening principle

The selection of tactical intervention nodes in Renmin South Road should follow four principles.

Time period adaptation principle. The node location must be coordinated with the actual operation rhythm of the street. In leisure time, it is suitable to consider the whole space with strong continuity and can connect the surrounding night activity scenes. When busy, the scope of intervention should be controlled, and priority should be given to local nodes that do not affect the dominant function of the street.

Problem concentration principle. Nodes should give priority to the most prominent sections of contradictions, including high incidence of logistics conflicts, obvious interface inefficiency or strong suppression of the environment under the bridge. Only when the problem is concentrated enough, the effect of tactical intervention can be clearly targeted and identifiable.

Space operable principle. The selected nodes should have a basic adjustment margin, which can accommodate temporary facilities, path arrangement or activity implantation, and will not cause excessive disturbance to the overall operation of the street. For the section that is completely occupied by high-intensity logistics and lacks the most basic adjustment conditions, it should not be used as the first round of test objects.

Feedback and replication principles. The first round of intervention nodes should not only be representative, but also be easy to observe and summarize, so that the test results can provide reference for other similar sections of Renmin South Road, rather than staying at the level of one-time local activities.

5.4.2 Determination of key experimental sections

Based on the above principles, the key experimental sections of Renmin South Road can be divided into two categories.

The first category is the overall linkage section in idle time. During the rest period of the wholesale industry such as the night and the Spring Festival, with the significant weakening of wholesale operations and logistics activities, the South Renmin Road has the conditions to shift from a single trading channel to a continuous street space. At this time, Renmin South Road can be regarded as a street square connecting Shangxiajiu, Cultural Park and surrounding leisure consumption scenes. Some motor lanes can be temporarily released in the section where conditions permit, and night flashes, cultural displays, walking activities and interface linkage lighting can be introduced to form a phased activation of the whole section. The selection of this type of section is not focused on a single point, but on the overall continuity and the ability to connect with the surrounding night tour scene.

The second type is the local test node when busy. Under the condition that daytime wholesale and logistics activities are still dominant, Renmin South Road does not have the realistic conditions of occupying motor lanes as a whole and walking on a large scale, so it can only carry out refined experiments locally. According to the screening principle, these three types of nodes can be preferentially selected: one is the high conflict point in the wholesale intensive area of the middle section, which is used to test the time-sharing loading and unloading organization, docking boundary control and walking space release ; the second is the low vitality arcade section with weak connection with the core wholesale streamline, which is used to carry out interface finishing, temporary utilization of vacant pavement and display activation test. The third is the intersection node of the bridge opening and the street, which is used to test the effect of lighting improvement, guidance enhancement and micro-stay node implantation.

5.5 Phased implementation mechanism of micro-renewal

Table 5-11 phased implementation mechanism of micro-renewal on Renmin South Road

Phase	Key Focus	Main Content	Evaluation Criteria	Subsequent Direction
Initial testing	Introduce interventions in key sections through low-cost and reversible measures	During busy periods, trial measures include defining loading and unloading boundaries, reorganizing handling routes, and releasing pedestrian passages. During off-peak periods, movable displays, temporary lighting, simple seating, and landscape elements are introduced in low-vitality arcade frontages and under-viaduct nodes.	Whether circulation conflicts are reduced; whether logistics efficiency remains within an acceptable range; whether staying and activity increase during off-peak periods; whether spatial recognizability is improved	Retain the trial measures that receive positive feedback and move into the next phase for continued observation

Table 5-11 Phased implementation mechanism of micro-renewal on Renmin South Road

(Continued table)

Feedback adjustment	Screen and revise measures based on spatial feedback after implementation	Compare changes before and after implementation in pedestrian continuity, loading and unloading order, staying behavior, merchant acceptance, night-time activity, and environmental perception. Revise boundary settings and time-based organization according to busy-period operation, and adjust frontage, under-viaduct, and node interventions according to off-peak use feedback.	Whether the measures are effective; whether they are compatible with existing modes of operation; whether they are suitable for further extension	Expand the application of measures with clear effects, and promptly adjust or remove those that receive weaker feedback
Continuous optimization	Gradually improve street use and management methods on the basis of earlier trials	Continue the more effective loading and unloading boundaries and time-based organization methods, further advance arcade frontage improvement, under-viaduct lighting, and node facility optimization, and establish a periodic introduction mechanism for activities suitable for long-term retention	Whether the measures can steadily respond to the daily operational needs of the street; whether they have the basis for continued use	Continuously incorporate effective experience developed through the trials into subsequent street management, node optimization, and activity introduction

Source: Author

The renewal of the street space on Renmin South Road is not suitable for a one-time comprehensive transformation. The street still carries multiple functions, including wholesale

business, logistics transport, and urban circulation, and the main patterns of use vary clearly across different time periods. Micro-renewal is better suited to a phased approach, in which testing, selection, and optimization are carried out gradually within the course of actual operation. The “phases” referred to here do not mean time shifts within a single day, but rather the implementation process from initial testing, to feedback-based adjustment, and then to continued optimization. This phased implementation logic can be summarized as shown in Table 5-11.

5.6 Summary of this chapter

This chapter reviews the micro-renewal strategies and implementation mechanism for Renmin South Road during the transitional stage, based on earlier investigation, problem identification, and renewal objectives. Compared with a one-time comprehensive transformation, this chapter is more concerned with gradually easing the spatial conflicts of the street through low-cost, incremental, and adjustable measures, while preserving the existing business order and the basic functioning of the street.

The renewal issues of Renmin South Road involve environmental ageing, insufficient interface quality, and the continued pressure placed by the high-intensity operation of the wholesale district on public circulation and staying space. They also reflect the long-term limitations on environmental improvement. These issues do not remain the same throughout the day. Changes in business activity, logistics organization, and pedestrian flow create clear temporal differences. During the daytime, when wholesale and logistics activities are more concentrated, the street is more likely to experience problems such as loading and unloading occupying the roadway, congested circulation, and insufficient staying space. After business activity weakens at night, a certain degree of room for adjustment appears in the under-viaduct space, along the street edge, and at local nodes. The organization of the renewal strategies in this chapter is built on this temporal difference, which is summarized into two types of scenarios, namely “busy periods” and “idle periods.”

This chapter understands Renmin South Road as a street space whose operational state continuously changes across different time periods, and proposes corresponding forms of intervention in response to this shift. During busy periods, the main focus of renewal is order regulation, mainly through defining loading and unloading boundaries, optimizing circulation organization, and improving frontage conditions, so as to reduce conflicts in street operation. During idle periods, the main focus is on enhancing publicness, mainly by making use of the spatial surplus that appears at specific times in the under-viaduct space, along arcade interfaces,

and at local nodes, and by gradually improving the condition of street use through the addition of facilities, interface activation, and the introduction of public activities.

The street space tactics, public node activation tactics, arcade interface activation tactics, and under-viaduct space utilization tactics proposed in this chapter constitute the main tactical content of the micro-renewal of Renmin South Road. The chapter also outlines an implementation approach that moves from initial testing, to feedback adjustment, and then to continued optimization, allowing micro-renewal to advance gradually in actual operation through experimentation, observation, and revision.

Chapter 6 Tactical Micro-Renewal Design for the Street Space of Renmin South Road

Based on the strategic framework and tactical tool system established in Chapter 5, this chapter develops the micro-renewal design for the street space of Renmin South Road. Taking time-based patterns of use as the main clue, the design defines the state after the decline of nighttime wholesale activities as the off-peak scenario, with a focus on the linked activation of public activities, arcade interfaces, and spaces beneath the elevated road. It defines the daytime state, when wholesale operations, loading and unloading, goods handling, and circulation demands are concentrated, as the peak-time scenario, with a focus on coordinating logistics order, pedestrian circulation, and micro public spaces. Through the design of off-peak scenarios, peak-time scenarios, and long-term evolutionary pathways, the strategies discussed above are translated into specific spatial proposals.

6.1 Overall framework of the tactical experiment

6.1.1 Experimental objectives and design scope



Figure 6-1 Aerial view of Renmin South Road reconstruction design

Source: Author

This transformation design takes the street space of Renmin South Road as the object, and constructs two kinds of tactical experiment directions of “idle scene” and “busy scene” around the difference in the use of street space under different time conditions. The design does not adopt the way of overall unified transformation, but according to the different spatial states and

dominant problems presented by the streets in different periods, representative experimental objects are selected for targeted design (Figure 6-1).

The total plane of the tactical update experiment scheme is as follows (Figure 6-2). The idle scene mainly corresponds to the nighttime street space linkage experiment, and the design scope selects the west section of Renmin South Road. The scene focuses on the use margin released by the street space after the weakening of nighttime business activities, and explores the linkage between the street, the arcade, the space under the bridge and the square through the overall organization of different sections on the west side, forming a spatial structure that connects nighttime public activities and street experience.

The busy scene mainly corresponds to the daytime micro street space experiment. Different from the continuous street segment linkage method used in the night design, the daytime experiment is not carried out for the whole section of the west street, but combined with the actual spatial state of the Renmin south road during the day, three representative nodes are selected for design. The design is not cut into the most conflicted sections of the street, but those with relatively low use, low vitality, or already a certain tourist base, with public implantable node space. Through this node-based micro-experiment, the design hopes to adjust the interface state, stay conditions and spatial organization without interrupting the daily operation of the street, and gradually activate the local space.

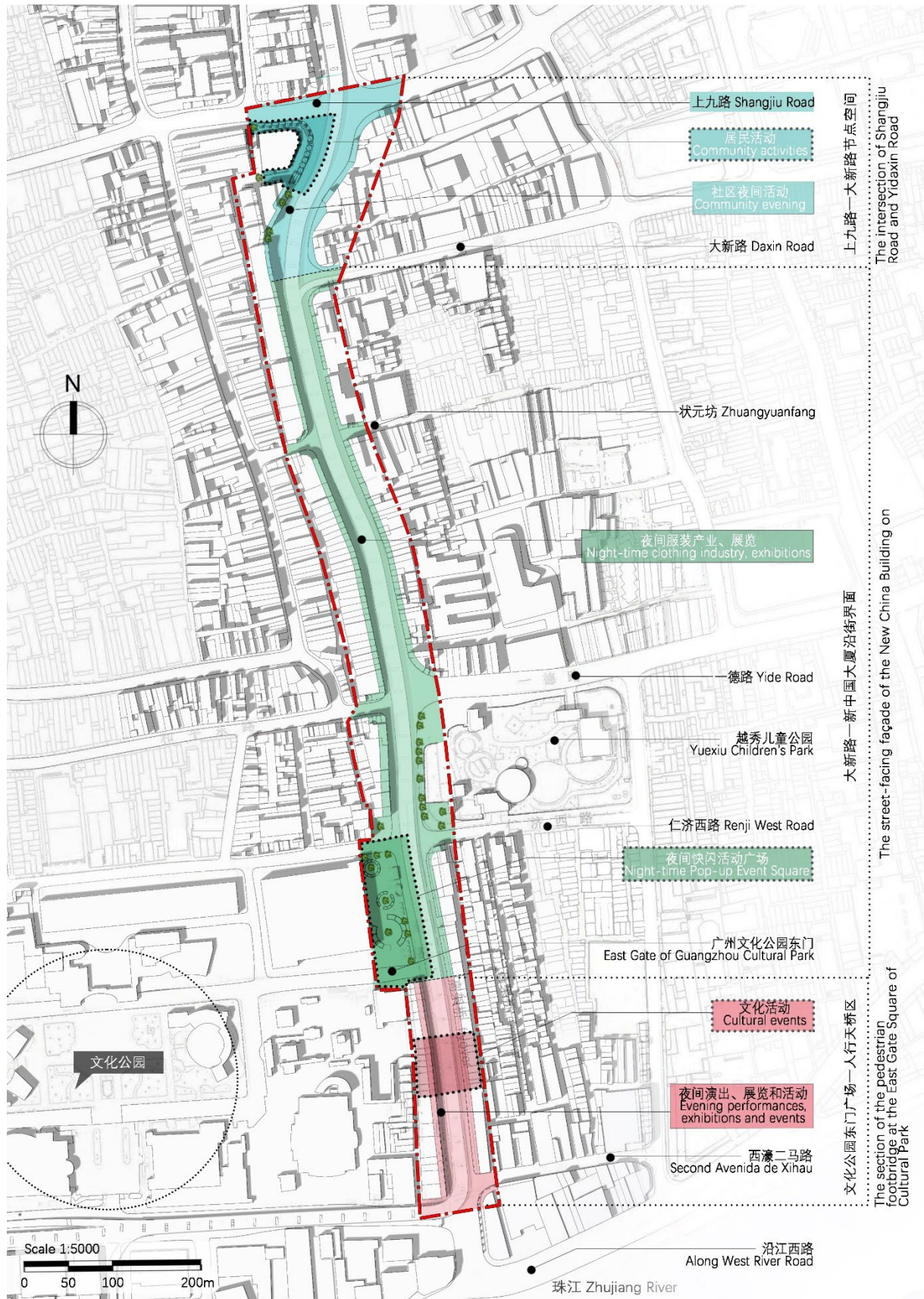


Figure 6-2 The general plan of Renmin South Road reconstruction design

Source: Author

6.1.2 Time-Based operational mechanism of street space

According to the survey results, the use of street space on Renmin South Road shows clear differences across time periods. To enable the pedestrian use of part of the carriageway at night, it is necessary to implement time-based road space management on Renmin South Road (Figure 6-3).

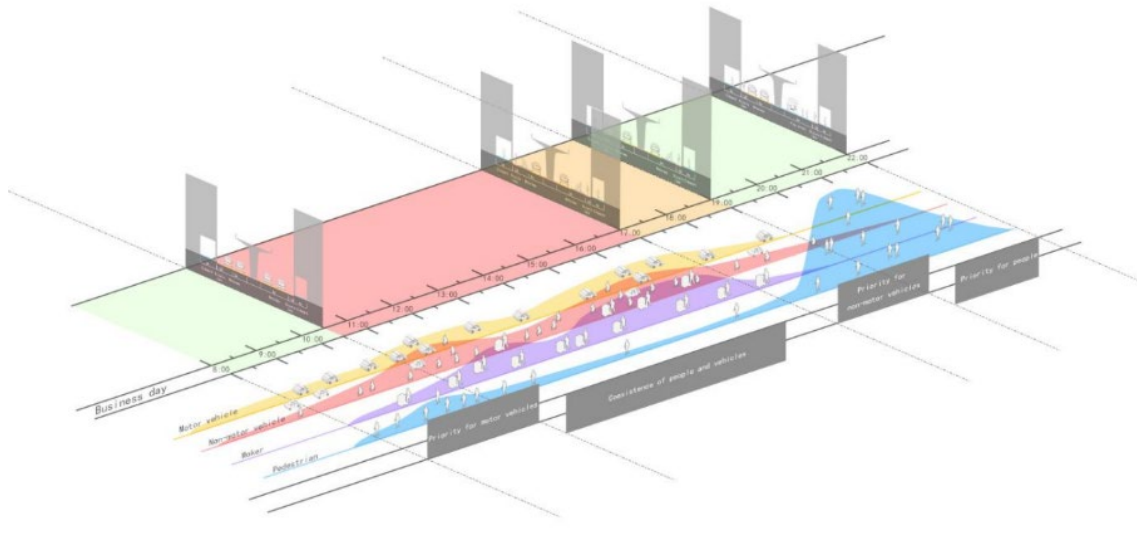


Figure 6-3 Time-based road space allocation scheme for Renmin South Road

Source: Author

Before 10:30, wholesale activities have not yet occupied the carriageway, but this period coincides with the morning commuting peak. The street should therefore remain primarily oriented toward motor vehicle movement, with priority given to ensuring basic traffic demand during the early daytime period (Figure 6-4).

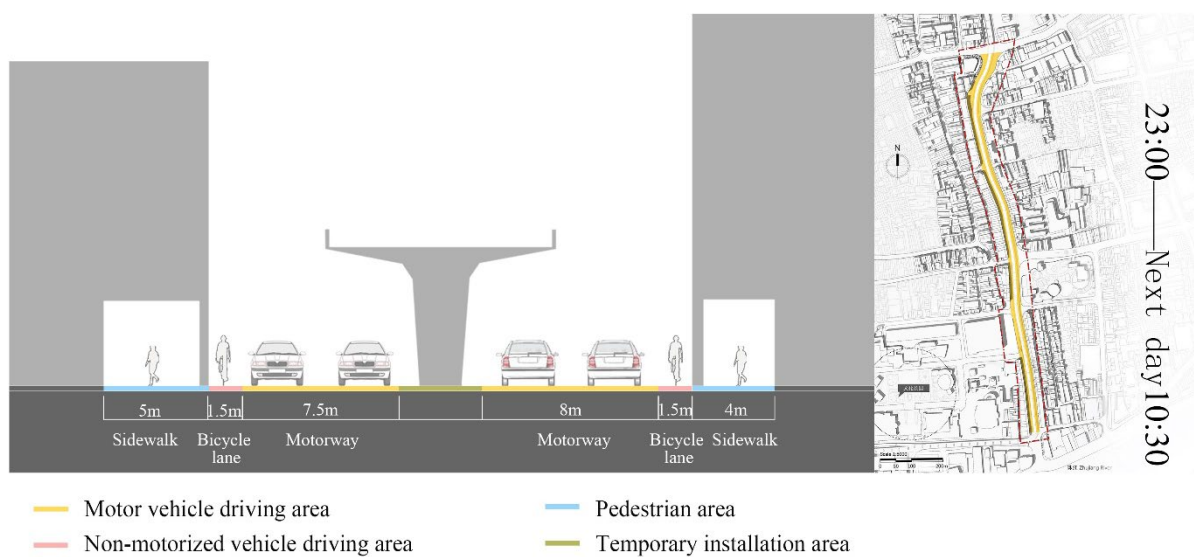


Figure 6-4 Street space use on Renmin South Road before 10:30

Source: Author

From 10:30 to 17:00, logistics loading and unloading reaches its peak. At present, the conditions are not yet in place for a fundamental change in its operating mode, so optimization can first focus on lane organization. One lane in the middle section of Renmin South Road can be designated as a temporary loading and unloading parking lane, while the other lane remains open for normal traffic. This arrangement can reduce the disruption caused by disorderly vehicle stopping and help ease traffic congestion resulting from irregular parking and loading activities (Figure 6-5).

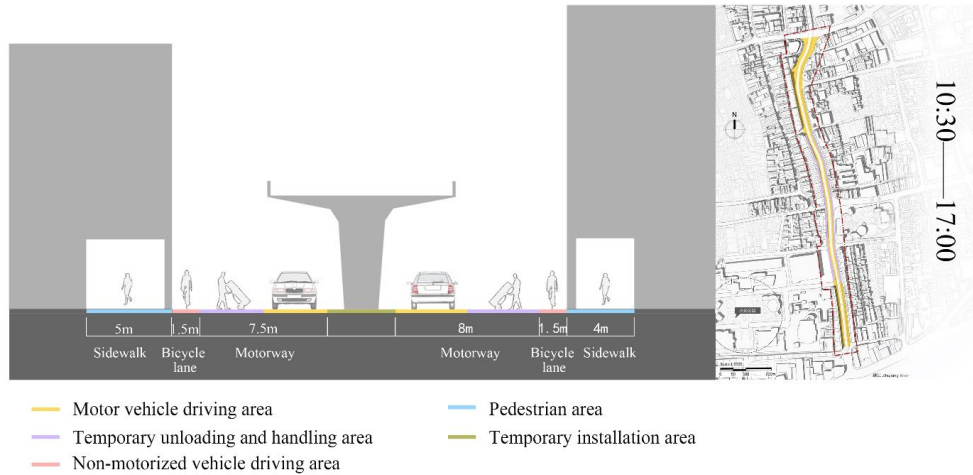


Figure 6-5 Street space use on Renmin South Road from 10:30 to 17:00

Source: Author

From 17:00 to 19:00, logistics activities enter the withdrawal stage. During this period, vehicle dispersal can be accelerated by restricting motor vehicle entry from the western side and allowing vehicles to exit in a single direction. At the same time, the eastern roadway can gradually shift from a two-lane one-way road to a single-lane two-way road, thereby creating the conditions for the subsequent transition to pedestrian use (Figure 6-6).

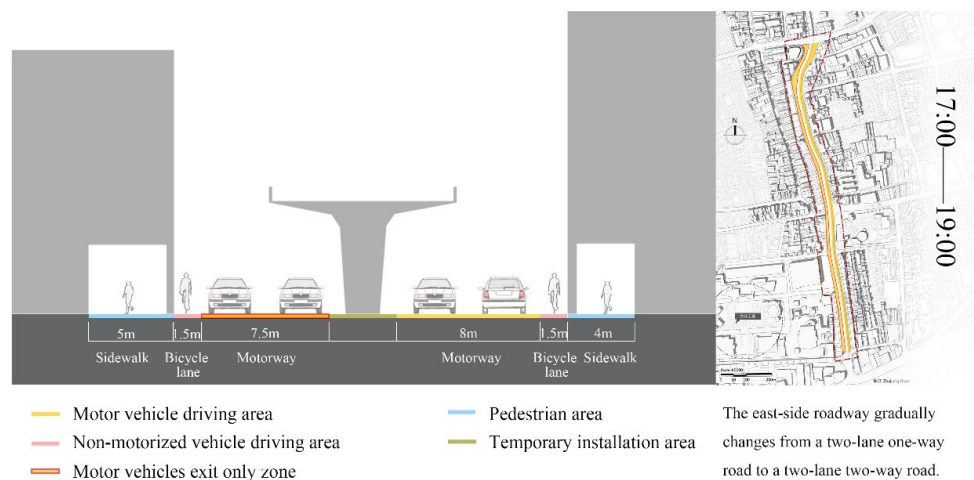


Figure 6-6 Street space use on Renmin South Road from 17:00 to 19:00

Source: Author

After 19:00, on the basis of cutting off incoming traffic from the western side of Renmin South Road, the original west-side carriageway can be converted into pedestrian activity space. The eastern roadway is then fully adjusted into a single-lane two-way road and continues to accommodate necessary night-time vehicle movement. This arrangement can meet basic night-time traffic demand while releasing the western side of the street to form a street plaza and a night-time public activity frontage oriented mainly toward pedestrian use (Figure 6-7).

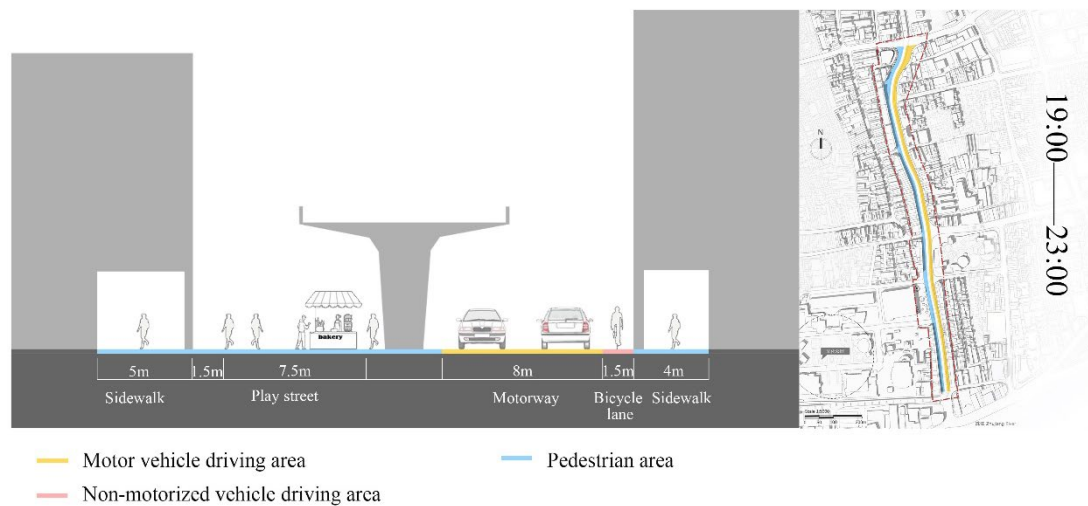


Figure 6-7 Street space use on Renmin South Road after 19:00

Source: Author

6.2 Idle scene: Nighttime Street space linkage experiment

6.2.1 Analysis of the current situation of the experimental section

For the night-time experiment, the western street section of Renmin South Road and its connected plaza are selected as the main site (Figure 6-8). In the night-time setting, the western side is treated as the primary pedestrian activity frontage, while the eastern roadway is retained to accommodate necessary night-time vehicle movement.

Although the west side has strong potential for night-time testing, there are clear differences between its sections. The north section, from Shangjiu Road to Daxin Road, is already outside the core wholesale area around the New China Building during the day. There are more vacant shops along this part of the street. Even the shops that are still open are mostly small service businesses, such as nail salons, and have only a weak link with the clothing wholesale trade. This means that the section already shows signs of commercial decline in the daytime, and at night it becomes even quieter and less active. The corner building in this section is not part of the protected arcade area, and there is relatively open space in front of it. This gives more flexibility for temporary facilities, public activities, and interface adjustment. There

are also more nearby residents in this area, so it has some basis for community use. More importantly, this section connects Shangxiajiu on one side and Renmin South Road on the other, so it sits at an important point between two different street spaces and has the potential to create a continuous walking experience.



Figure 6-8 Analysis of the current situation on the west side of Renmin South Road

Source: Author

The middle section, from Daxin Road to the New China Building, is still mainly occupied by clothing and shoe wholesale shops and keeps a strong market character. Most of these shops close at night, so the street frontage during this period becomes more closed and less active. In recent years, new businesses such as coffee shops and hotels have appeared here. This shows that the function of the area is starting to change and the business types are becoming more varied. This creates some support for activating the street frontage at night.

The south section extends from the plaza in front of the east gate of Cultural Park to the pedestrian overpass on Renmin South Road. Most street shops in this area also close at night, and the street itself has low activity. Even so, night-time activities inside Cultural Park are quite rich. Public cultural events such as lantern shows and Cantonese opera performances continue to attract people, and the area around the pedestrian overpass has long had visitors stopping and taking photos. Although the south section itself has limited commercial activity, it has the

conditions to receive people coming from nearby activities and to form a connection between the street and the plaza.

6.2.2 Design goals and strategies

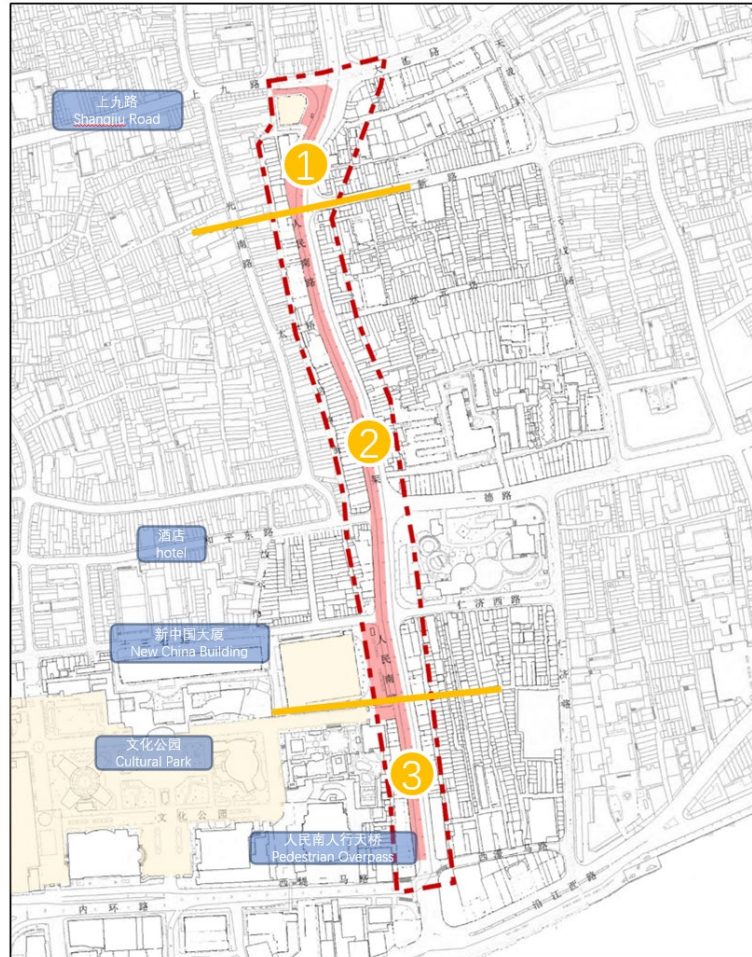


Figure 6-9 Subsection of street space reconstruction on the west side of Renmin South Road

Source: Author

Based on the business base, spatial conditions, and sources of pedestrian flow in different sections, the night-time experiment adopts a linked sectional design approach. While keeping the necessary night-time vehicle function on the east side, the west side is gradually transformed into a mixed interface that supports walking, staying, clear spatial identity, and night-time activities. As shown in Figure 6-9, the overall strategy gives priority to node improvement and community staying in the north section, business translation and frontage display in the middle section, and activity support and cultural spillover in the south section.

The three sections are not isolated from each other. Together, they form a connected night-time experimental route that links everyday community life, industry display, and cultural extension (Table 6-1).

Table 6-1 The goal and strategy of street space reconstruction on the west side of Renmin South Road

Experimental section	Design goal	Tactical strategy
North Section: from Shangjiu Road to Renmin South Road Node Space	Strengthen the role of street nodes and supplement the nighttime activity space for residents.	Arrange guidance devices, movable seats and temporary activity facilities to form community stay nodes.
Middle section: street interface from Daxin Road to New China Building	Relying on the basis of clothing wholesale industry to activate the street interface, enhance the night display and recognition	The temporary art display device is set up by using clothing, cloth and hanging props, and the night street interface with industry characteristics is shaped by combining AR fitting room and theme clothing pop-up party.
Southern section: from East Gate Square of Cultural Park to Pedestrian Bridge	Continuing the nighttime vitality of the cultural park and enriching the connotation of street cultural activities	Guide the cultural park activities to overflow to the square and the street, implant small performances, light displays and temporary gathering activities.

Source: Author

6.2.3 Northern section: Spatial transformation of the node between Shangjiu Road and Daxin Road

The north section focuses on the node space at the junction of Shangjiu Road and Renmin South Road as the main intervention area. This location lies at the transition between two different types of street space. Night-time activity here is relatively weak, while the needs of nearby residents are more stable, and the area also has the potential to form a stronger pedestrian link. The aim of the intervention is to strengthen the connecting role of this node, enrich the types of night-time activities available to nearby residents, provide more space for participation, and at the same time improve the pedestrian connection between Shangxiajiu and Renmin South Road (Figure 6-10).

Based on the existing site conditions, the scheme makes use of the relatively open space in front of the corner building. While keeping the original structure, it introduces light facilities under the viaduct and along the street edge, including wayfinding devices, movable seats, temporary outdoor setups, and pop-up shops. In this way, the node space gains three basic

functions: staying, display, and activity. The under-viaduct space, which was previously used mainly for passing through, is reorganized through colored façades, interface signs, and temporary commercial units. The street edge is also improved through continuous outdoor setups and temporary resting facilities, which helps enhance the walking experience and street vitality. The whole intervention is based on low-cost and reversible micro-scale measures. It provides a testing ground for the night-time use potential and carrying capacity of the node space, and also creates conditions for a more continuous public space connection between Shangxiajiu and Renmin South Road.



Figure 6-10 North section: Aerial view of node space reconstruction scheme of Shangjiu Road to Daxin Road

Source: Author

The spatial organization of the north section mainly focuses on the transitional space between the outer side of the residential buildings and the area under the elevated road. Its functions are divided into four parts: pop-up commerce, activity space, sports space, and under-viaduct display (Figure 6-11). The public space between the residential buildings and the urban road is organized as a mixed frontage for pop-up commerce and activities. This area is relatively wide, with an average width of about 6 to 8 m, which makes it suitable for forming a continuous staying zone and a temporary layout zone. The design places several pop-up commercial units along the outer edge of the building, together with activity stalls, temporary canopies, and resting facilities, so as to create a more daily and active frontage along the building edge. Because this space is closely connected to the existing buildings and its use is relatively stable, it is suitable for supporting longer night-time activities and temporary business uses.

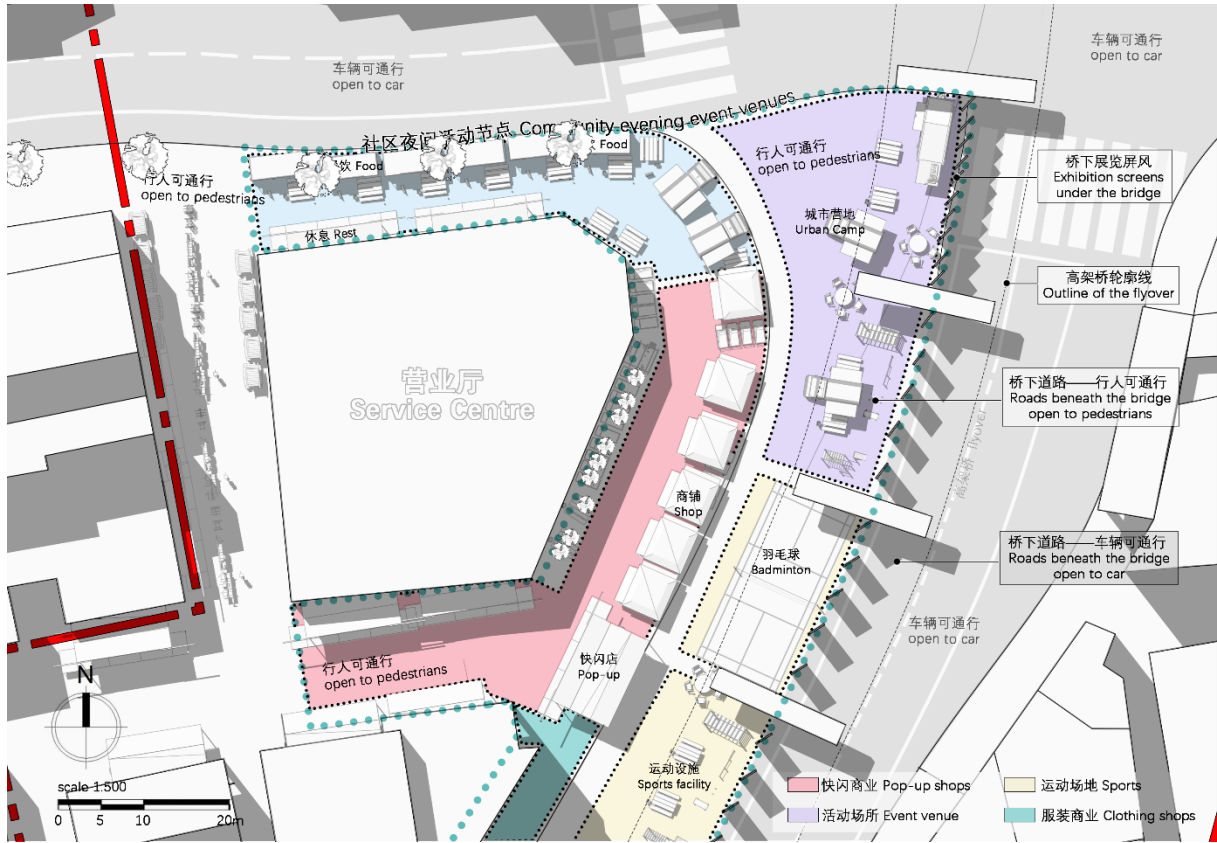


Figure 6-11 North section: Shangjiu Road to Daxin Road node space transformation plan

Source: Author

During the temporary traffic control period, the space under the viaduct and along one side of the road is organized as a sports area and an urban camping area. This area is converted by time from 19:00 to 23:00, while in the remaining hours it keeps its traffic function as a two-lane one-way road under the elevated structure. The spatial layout uses facilities that can be quickly set up and removed. The urban camping area provides a place for night-time staying and light social interaction. The sports area focuses on light activities such as badminton and responds to the daily needs of nearby residents and family users. Along the side close to the edge of the viaduct, an under-viaduct display frontage is arranged. Relying on the continuous interface under the bridge, exhibition content is organized through display screens, light structures, and walkable passages, allowing the space to shift from a single circulation frontage to an activity frontage that supports both viewing and staying. Continuous connections are maintained among the exhibition area, commercial stalls, and open ground, and people can move naturally between watching, staying, consuming, and taking part. In this way, the overall use efficiency of the site is improved (Figure 6-12).



Figure 6-12 North section: Shangjiu Road to Daxin Road node space transformation plan view

Source: Author

In terms of users, the north section mainly serves three groups: nearby residents, passers-by, and night-time visitors. Residents are more likely to use the activity space, resting facilities, and sports area. Passers-by and visitors are more easily attracted by the under-viaduct passage, display frontage, and open activity space, and may turn from moving users into staying users during their route. Handcarts that are still used by residents in the daytime can also be simply adapted at night into temporary vending units, for example by adding foldable tabletops, canopies, lighting, and signs for selling drinks, snacks, handicrafts, or seasonal small goods. This approach keeps the original mobile and light character of the site and also reduces the need for new fixed facilities. After the activities end, the carts can return to their original use, which makes it easier for the site to shift between different time periods. Because different functional areas are arranged next to each other, residents, visitors, and passers-by can share the same node space in overlapping ways, which helps improve the staying quality and vitality of the north section at night.

6.2.4 Middle section: Street interface from Daxin Road to the New China Building

The middle section takes the street frontage from Daxin Road to the New China Building as the main area of intervention. It mainly responds to the problems that appear after wholesale businesses close at night, including a closed street frontage, weak display effect, and low street identity. This section has long been centered on clothing wholesale. The design does not leave

this original business base and bring in completely unrelated activities. Instead, it turns “clothing” itself into the main medium for space activation. Using fabric, ready-made garments, hangers, mannequins, and display props, the scheme creates temporary art installations and themed shop windows. In this way, the original product display system for trade is changed into a street exhibition system open to the public. AR fitting points, themed pop-up photo spots, and short-term brand display areas are also added to improve public participation and street recognizability. Under the viaduct and along the open street frontage, small-scale runway shows, clothing pop-up releases, old-clothes remaking workshops, and public art activities using clothing collage are also organized. This allows wholesale goods, leftover fabric, and used clothing to shift from simple trade items into content for street culture display and public interaction (Figure 6-13).



Figure 6-13 Middle section: Aerial view of the street frontage renovation scheme from Daxin Road to the New China Building

Source: Author

In terms of spatial organization, the west side near the department store takes on the main functions of clothing display and public staying (Figure 6-14).

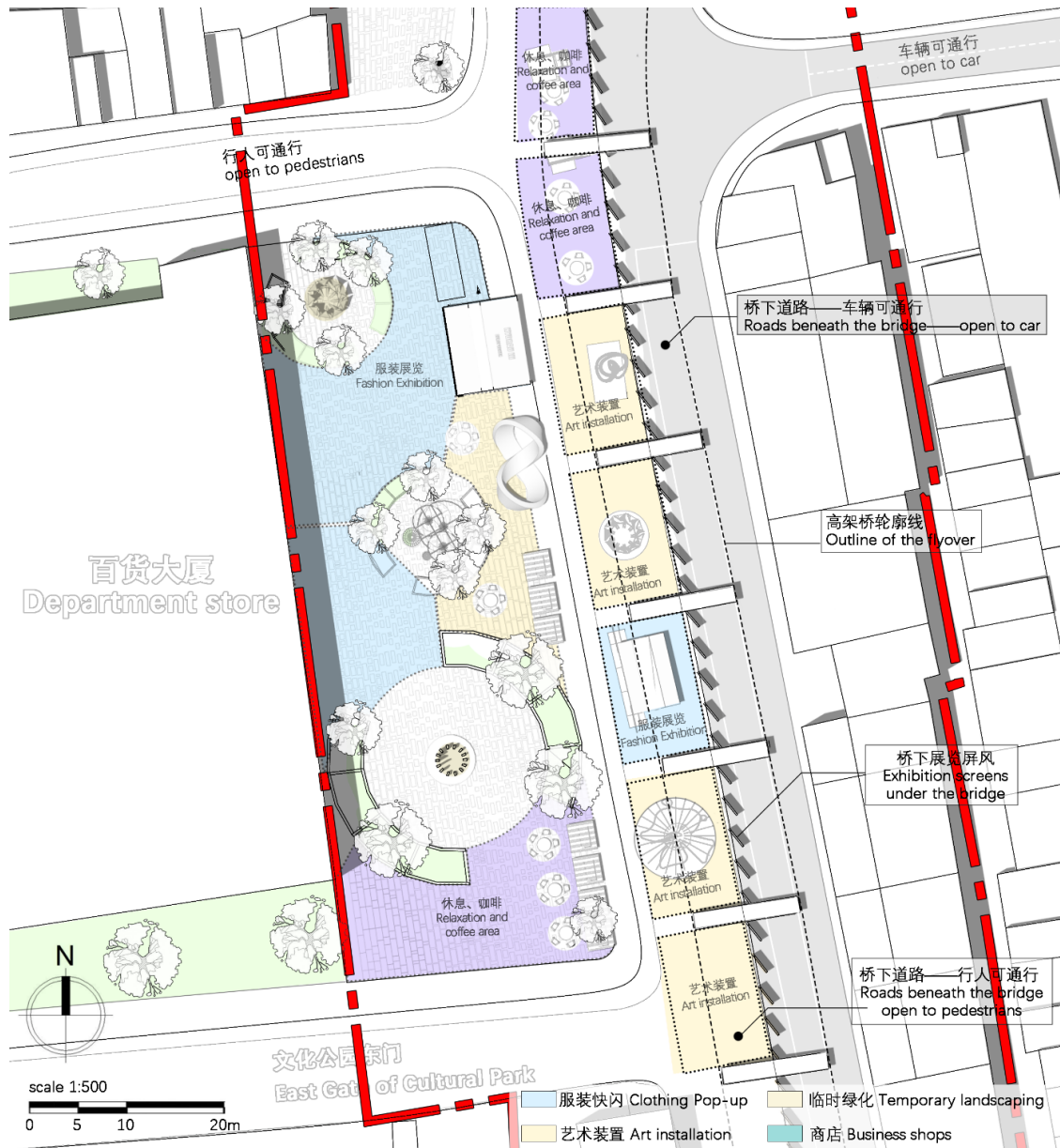


Figure 6-14 Middle section: Plan of the street frontage renovation scheme from Daxin Road to the New China Building

Source: Author

This part of the site is relatively complete in shape. Together with the preserved trees, changes in paving, and several local circular nodes, it provides good conditions for stopping and staying. Clothing display no longer depends on closed shops or fixed exhibition halls. Instead, it enters the street through open display units and changeable frontage arrangements. Several leisure coffee areas and small staying spaces are placed in the middle and at both ends of the site to receive people drawn by the display activities and to support short stays and small social exchanges. Along the street frontage, pop-up shops, mobile food trucks, temporary exhibitions, and staying facilities are arranged to form a night-time interface for display, consumption, and activity. The long narrow space near the viaduct is organized as a continuous

under-viaduct display zone. Art installations, exhibition screens, and small areas of temporary planting are used to improve the dark and plain environment under the bridge and to strengthen the linear guiding and viewing experience. The grey space under the viaduct also gains a new identity through landmark devices and clothing-themed nodes. After this round of reorganization, the middle section changes from a wholesale frontage that closes at night into a street interface that is more open, more continuous, and more strongly themed.



Figure 6-15 Middle section: People view of the street frontage renovation scheme from Daxin Road to the New China Building

Source: Author

This section mainly serves three groups of users. The first group is the existing clothing wholesale workers, shop owners, and related business operators, who are directly connected to the industrial content of the site. The second group is the general public passing through the area at night, including people heading to the east gate of Cultural Park, moving around the department store area, or walking along the street. They mainly use the site for viewing, taking photos, short stays, and light spending. The third group is younger consumers who are more interested in clothing display, fashion culture, and interactive experiences, and who are more easily attracted by themed events, AR fitting, and pop-up displays. Before the renovation, the night-time frontage of the middle section was mainly marked by closed shops, temporary storage, a dark environment, and low use efficiency. In some places, there were also problems such as disorderly parking, crowded space, and weak identity. After the renovation, temporary planting, art installations, and lighting together improve the appeal of the site. Clothing display

and interactive content strengthen its industrial character, while leisure and commercial functions make up for the earlier lack of space for staying and social exchange. As a result, the street frontage becomes a more open and continuous overall interface (Figure 6-15).

6.2.5 Southern section: From the East Gate Plaza of Cultural Park to the pedestrian overpass

The design of the south section takes the under-viaduct space from the east gate plaza of Cultural Park to the pedestrian overpass as the main area of intervention. This section is close to the east gate of Cultural Park, Yanjiang West Road, and the nearby waterfront frontage, and it serves as an important connection point for night-time pedestrian flow entering Renmin South Road. After 19:00, motor vehicles are no longer allowed to enter the west-side road section, and the under-viaduct space is converted into a pedestrian and lighting display area to receive night-time visitors coming from Cultural Park, Yanjiang West Road, and the surrounding streets (Figure 6-16).

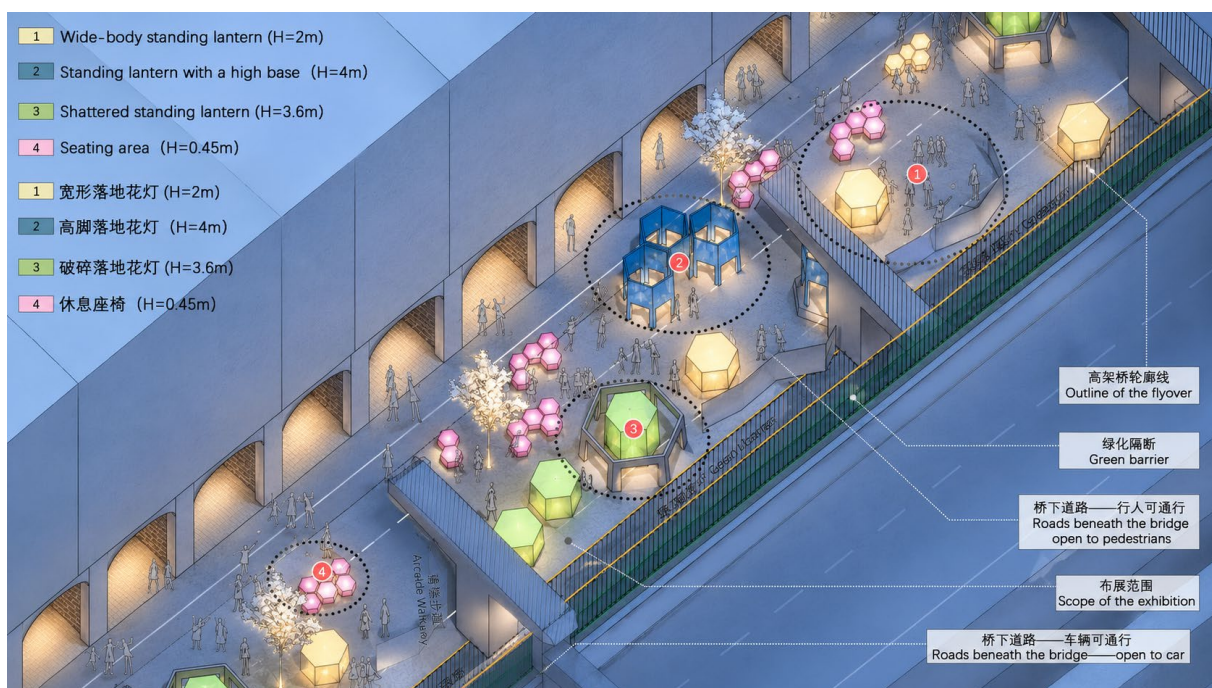


Figure 6-16 South section: Aerial view of the renovation scheme from the East Gate Plaza of Cultural Park to the Pedestrian Overpass

Source: Author

Making use of the continuous colonnade under the viaduct and the relatively high clear height, the scheme inserts a group of light display units into the linear circulation interface. These units are arranged in a staggered way following the rhythm of the columns. While keeping the pedestrian corridor continuous, they create several small exhibition spaces that people can enter and stop in, so that visitors are naturally drawn to the display interface and

pause during their movement. Above the under-viaduct space, groups of lantern installations of different sizes are suspended to form a night-time visual focus through a varied arrangement in height. These lanterns provide lighting and also act as spatial markers within the colonnade sequence. Their warm light helps improve the original dark and oppressive feeling under the bridge and also echoes the night-time activities in Cultural Park.

In plan layout (Figure 6-17), the space between the outer edge of the arcade and the roadway is reorganized as a slow-movement and staying zone, mainly supporting walking, short stays, and neighborhood rest.

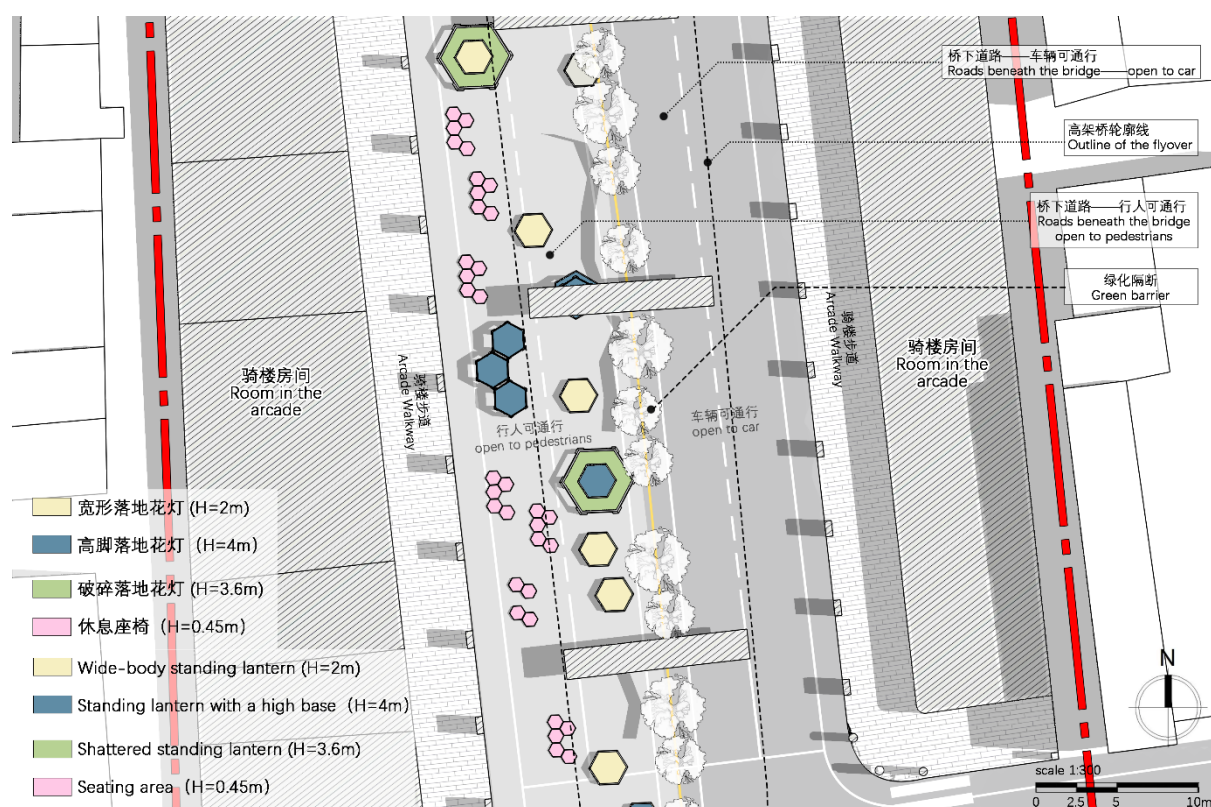


Figure 6-17 South section: Plan of the renovation scheme from the East Gate Plaza of Cultural Park to the Pedestrian Overpass

Source: Author

Small seats and resting nodes are placed at points along the walking route, providing space for visitors, older people, and accompanying users to pause and rest. In the middle of the road, a lantern display zone is formed by combining the existing circulation conditions with landscape renewal. Lantern installations and small green barriers help strengthen night-time wayfinding and the walking edge under the viaduct. Inside the colonnade, a continuous exhibition interface is arranged. Semi-open and small display units are used to organize the exhibition content, so that the under-viaduct space can support not only movement but also viewing and staying. The exhibition content remains flexible and can be changed according to

the themes of Cultural Park activities, festival events, or local cultural displays, which helps keep the node active over time.

This section mainly serves outside visitors and night-time pedestrians around the east gate of Cultural Park, including people entering the park, leaving the park, and walking along the street. During their movement, they are the group most easily attracted by the lanterns and exhibition interface, and they are also the main group likely to stop and stay. Shop owners along the arcade and nearby street users can also share the improved lighting, resting, and display environment under the viaduct. The node also considers family users, older people, and children accompanied by adults, so a continuous and gentle walking interface with resting points is especially important. Unlike the earlier nodes, which focus more on pop-up business or clothing display, the south section places more emphasis on public uses such as night walking, the transition to park visits, short exhibition viewing, and photo-based leisure activities.



Figure 6-18 Perspective view of the renovation scheme from the East Gate Plaza of Cultural Park to the Pedestrian Overpass

Source: Author

Before renovation, the under-viaduct space in the south section mainly served as a passage area. Lighting was generally weak and conditions for staying were limited. Although it could receive pedestrian flow from Cultural Park and the nearby overpass, it lacked effective spatial organization and activity interfaces. After renovation, the addition of lantern installations,

exhibition units, slow-walking and staying zones, and node seating helps turn the under-viaduct space into a night-time interface that supports walking, viewing, and resting at the same time (Figure 6-18).

6.3 Busy scene: Daytime micro street space experiment

6.3.1 Tactical node A: Low vitality arcade interface activation experiment

6.3.1.1 Reasons for experimental node selection

The arcade has strong spatial continuity and shelter, and it is an important frontage feature that makes Renmin South Road different from ordinary commercial streets. In the daytime, the need for protection from heat, sun, rain, and short stays gives the arcade space a certain public potential. In actual use, this potential is often weakened by goods piled up in front, closed shopfronts, missing facilities, and a visually dull environment. Tactical Node A takes part of the arcade frontage in the southern section of Renmin South Road as the test site for a daytime micro street-space experiment. The main reason is that this section is still part of the overall wholesale street system, but it has already shown a clear low-vitality condition. Compared with the core wholesale area around the New China Building, this section has weaker daytime business intensity, a relatively high vacancy rate in some shops, and a business mix mainly made up of scattered small retail, life-service uses, or low-frequency spaces. The street frontage has limited attraction and finds it difficult to support a continuous walking experience or stable staying behavior (Figure 6-19).



Figure 6-19 Tactical node A status

Source: Author

Although this kind of frontage does not create the most direct traffic pressure, it causes a clear break in spatial perception. The arcade frontage remains physically continuous, but its actual use is passive, and people rarely stop when passing through. This shows that the problem here is not a lack of pedestrian flow, but a lack of conditions that can support staying and

interaction. Some grey space still remains along the arcade edge. Small forecourts in front of certain shops, the edges of the colonnade, and street-corner turning points all have the potential for small-scale facilities and interface devices, so tactical intervention can be introduced without large-scale demolition or reconstruction. Pedestrian movement along this section is still steady and includes wholesale workers, short-term shoppers, delivery and collection staff, and nearby residents. Nearby hotels and popular photo spots near the pedestrian overpass also bring a relatively stable visitor flow, which gives this section a basis for shifting from high movement to a more stay-oriented space.

6.3.1.2 Design objectives and strategies

The main aim of Node A is to improve the recognizability, staying quality, and frontage continuity of the arcade-edge space without disrupting the basic daytime order of the wholesale street. In this way, the space can shift from a simple circulation background to a small street interface with stronger everyday appeal. During the day, Renmin South Road still needs to support frequent logistics, movement, and wholesale activity. For this reason, the arcade space is not suitable for large gathering-based events. It is more suitable for small-scale and low-disturbance measures that can add conditions for short stays and everyday social contact.

The specific intervention focuses on three aspects: frontage tidying, interface activation, and demonstration replacement. Frontage tidying mainly involves marking storage boundaries, reducing ineffective occupation of the passage space, and reorganizing the position of facilities, so that the basic continuity and visibility of the arcade corridor can be restored. Interface activation mainly involves adding movable seats, small display racks, temporary signs, and light display devices to create several small staying nodes along the arcade edge without blocking movement. This allows pedestrians to stop briefly, observe, and interact more naturally while walking. Demonstration replacement selects some vacant or low-efficiency shops and introduces uses such as exhibitions, community services, and food-related businesses. Local information displays and light installations are then used to strengthen the frontage expression, so that the previously inactive ground-floor shops can reopen toward the street.

6.3.1.3 Design presentation

Based on site visits and field research, Node A selects several vacant shops and poorly performing storefronts on both sides of the road as the main objects of intervention, and carries out targeted renewal of their ground-floor spaces. These shops are located close to Xinya Hotel and White House Hotel, and they are also within the arcade section of Renmin South Road with a relatively high level of heritage protection. Some ground-floor units next to the hotel frontage

have long faced problems such as vacancy, unstable business operation, and weak street appeal. The scheme keeps the basic street and building pattern unchanged, while reorganizing the existing ground-floor interior spaces. By opening part of the closed frontage, strengthening window display, improving entrance organization, and introducing temporary uses, the functions of the ground-floor spaces are adjusted, allowing the previously inactive shops to become a more open street-facing interface (Figure 6-20).

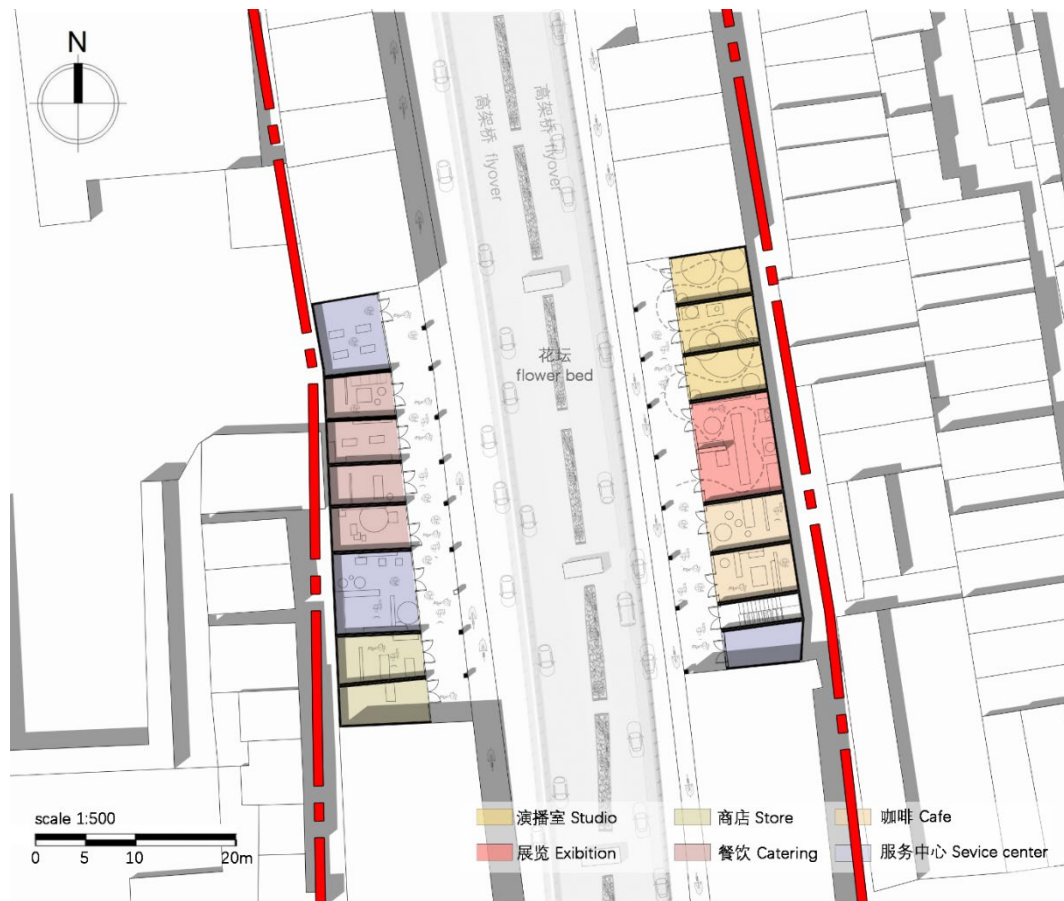


Figure 6-20 Node A: Low vitality arcade interface activation experiment transformation plan

Source: Author

After renovation, the ground-floor spaces are organized into six functional units: small exhibitions, food and drink, shops, cafés, studios, and a service center. Together, they form a continuous renewal strip along the street frontage (Figure 6-21). The exhibition spaces and studios mainly strengthen frontage visibility and support content production. The shops and cafés support everyday spending and short stays. The food spaces help extend the duration of use at the node. The service center works as a shared support unit, meeting needs such as information, short stays, and basic services. In spatial terms, these functions are mainly arranged in a linear way along both sides of the road. Exhibition spaces and studios are placed in the more visible street-facing locations to strengthen recognizability and thematic expression.

Shops, cafés, and food spaces are inserted between storefronts on both sides and connected with everyday walking routes, so that spending and staying can happen more naturally. The service center is placed in a relatively stable location and takes on information, organization, and basic support functions.

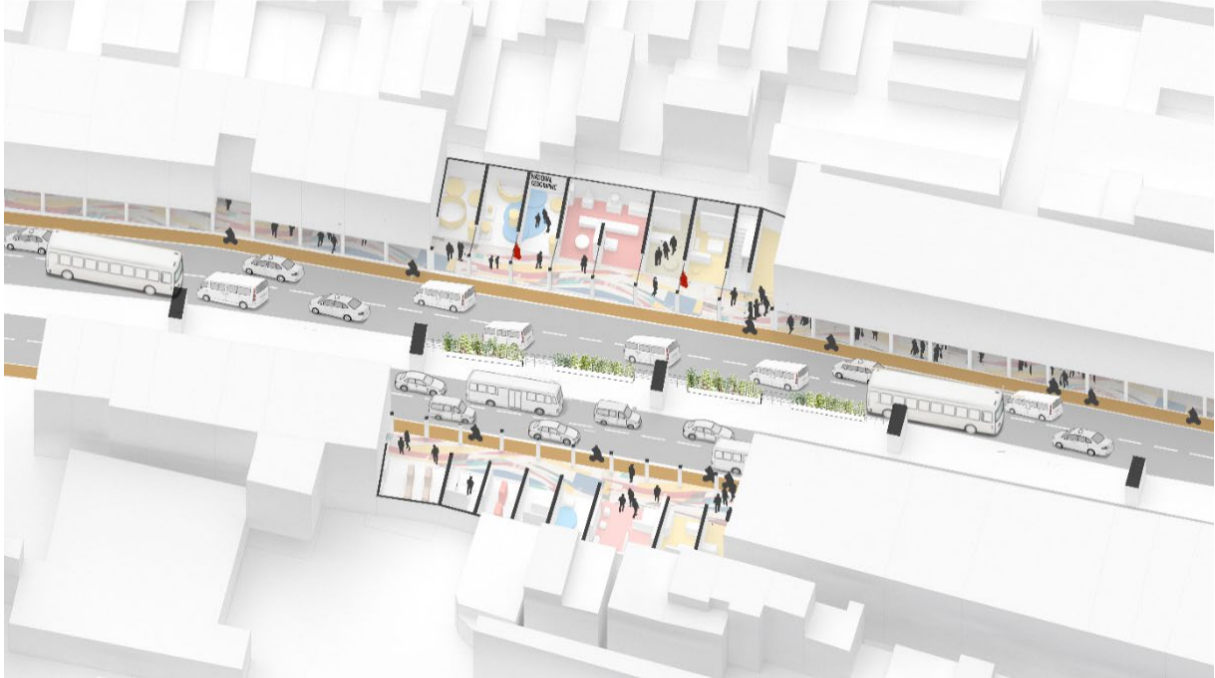


Figure 6-21 Node A: Low vitality arcade interface activation experiment transformation scheme aerial view

Source: Author

At the same time, the area around Node A contains several kinds of use, including hotel stays, clothing wholesale, street spending, and tourism-related pedestrian movement. Xinya Hotel and White House Hotel bring a relatively stable flow of arriving users, while the Thirteen Hong's clothing wholesale area, the New China Building, Cultural Park Metro Station, and the tourism activity areas around Cultural Park provide a steady source of pedestrian flow. Before renovation, the arcade edge on both sides of this node was mainly marked by low-efficiency shops, closed frontages, and short passing movement. Spatial visibility and staying conditions were weak, and it was difficult for the street frontage to form continuous attraction. After renovation, the previously inactive ground-floor shops are turned into a more open renewal strip. Functions related to display, spending, service, and short stays are reorganized, allowing the arcade edge to shift from a simple circulation background to a small street interface more suitable for daytime staying, spending, and recognition.

6.3.2 Tactical node B: Micro public space implantation experiment

6.3.2.1 Reasons for experimental node selection

Node B takes the corner space at the junction of Shangjiu Road and Renmin South Road

as the experimental site. This location is an important transition interface where the Shangxiajiu pedestrian area enters Renmin South Road, and it is also a place where daytime pedestrian flow, logistics movement, and street activities meet more clearly. Compared with the inner sections of Renmin South Road, which are mainly shaped by wholesale business and fast movement, this node has a higher frequency of pedestrian passing, but its frontage organization is relatively weak and staying facilities are limited. It has not yet formed a public activity space that matches its locational conditions (Figure 6-22).



Figure 6-22 Tactical node B status

Source: Author

In terms of spatial conditions, the area around the node still retains some frontage gaps, leftover corner spaces, and outer arcade areas that can be reorganized. Under current conditions, these spaces are mostly used for circulation buffering, temporary storage, or inactive leftover space, and they have not yet been turned into small public spaces for stopping, interaction, and recognition. On a street mainly shaped by wholesale business and frequent passing movement, this kind of corner node may not carry the greatest traffic pressure, but because of the lack of spatial organization, it often shows clear underuse. As a result, the transition point in the street becomes a place that people can pass through but find difficult to stay in.

From the daytime use pattern, the users passing through this node are also quite mixed. In addition to clothing wholesale workers, buyers, and logistics-related staff, they include short-term shoppers, nearby shop operators, hotel guests, tourists entering Renmin South Road from Shangxiajiu, people waiting or transferring temporarily within the area, and nearby residents. These groups usually do not stay for long, but they still have real needs for small public activities such as short pauses, shaded rest, brief conversations, and temporary sorting of belongings. The existing street space does not respond well to these needs, and many staying behaviors can only take place in front of shops, along the arcade edge, or within gaps in the traffic space. The selection of Node B is intended to address this long-missing public support interface at this street intersection through small-scale intervention.

6.3.2.2 Design Objectives and Strategies

The design goal of Node B is to turn the originally inactive corner space at the junction of Shangjiu Road and Renmin South Road into a small public node that supports stopping, spending, display, and recognition, without changing the daytime business character or the basic circulation order of Renmin South Road. The scheme aims to give this street corner, which originally served mainly as a passing space, a clearer staying quality and a stronger ability to receive activity through partial space release and the introduction of light content.

The design intervention mainly focuses on two aspects. The first is the release of frontage space and the reorganization of boundaries. By clearing ineffective occupation, reducing low-efficiency storage, controlling the boundary of outdoor setups, and reorganizing the relationship between shopfront edges and pedestrian routes, the street-facing area that was previously occupied or not effectively used can be turned back into usable space. The second is the introduction of small public functions. Light elements such as pop-up shops, mobile food stalls, street markets, resting nodes, and wayfinding signs are added in selected places, so that spending, display, and staying can happen within the same interface. This approach does not depend on large-scale construction and is more suitable for gradually strengthening node identity, short stays, and frontage vitality while keeping the street in normal daily operation.

6.3.2.3 Design presentation



Figure 6-23 Node B: Aerial view of the experimental transformation scheme of micro public space implantation

Source: Author

Based on the street-facing space released at the corner frontage of the intersection, the

scheme introduces pop-up shops and mobile food stalls that are small in size, flexible in arrangement, and easy to update frequently, so as to match the fast-changing business content and strong daytime rhythm of Renmin South Road. These additions create new points for spending and visual focus, and also help the corner shift from a simple traffic transition interface to a street node with activity functions (Figure 6-23).

Based on the street-facing space released at the intersection, Node B arranges pop-up shops, mobile food stalls, street markets, pop-up displays, resting nodes, and wayfinding signs along the corner frontage and the street edge, forming a street activity node mainly for small-scale spending and short stays. The scheme also brings handmade carts and freight trolleys, which were originally used for daily business and transport, into the street design system, allowing them to take on functions such as selling, display, and temporary presentation. These carts have a strong local character, require relatively low transformation cost, and are more flexible in use, so they fit the real business logic of Renmin South Road more closely. Within this spatial organization that combines linear frontage and corner space, a unified sign system and visual devices further connect the scattered small units, while the resting nodes placed between them provide basic support for short breaks, waiting, and conversation after spending activity (Figure 6-24).



Figure 6-24 Node B: People view of the experimental transformation scheme of micro public space implantation

Source: Author

Before renovation, the corner space of Node B was mainly used for movement and temporary storage. Its frontage had weak attraction, and it lacked conditions for staying and

activity. After renovation, the originally scattered and inactive leftover space is reorganized into a small public node that supports stopping, spending, and recognition. Pop-up shops, mobile food stalls, temporary displays, and resting facilities together form a more complete street-edge interface, and the node's public support function is also strengthened.

6.3.3 Tactical node C: Key entrance image enhancement experiment

6.3.3.1 Reasons for experimental node selection

In recent years, the pedestrian overpass on Renmin South Road and the nearby street section have gradually become popular photo spots on online platforms in Guangzhou. Many visitors and street photography groups come here specially to stop and take pictures. Common subjects include overhead views of the arcade street on Renmin South Road, street photography with historic buildings such as Xinya Hotel and Xinhua Hotel as the background, and views from the bridge that capture a retro urban atmosphere. The pedestrian overpass provides a rare elevated viewpoint, allowing people to see the arcade street, the traffic below, and the façades of historic buildings within a short distance. Historic buildings such as Xinya Hotel and Xinhua Hotel, together with the arcade street scene, create a setting with a strong sense of time and urban memory. Because of this, the node has developed a strong spontaneous attraction.



Figure 6-25 Tactical node C status

Source: Author

From the current conditions, this node does not lack outside visitors or passing pedestrians. The east gate of Cultural Park already has a steady flow of park visitors and leisure activities. The area is also close to urban visiting routes such as Yanjiang West Road, the Canton Customs House, and Shamian. The Renmin South Road overpass has gradually become a stopping point along these walking and photo routes. At present, staying, photography, and viewing already take place in this space, but these activities rely mainly on the attraction of the overpass and the street view itself. There is still a lack of spatial support for staying, photographing, recognition, and short gathering. During peak periods, problems can easily appear, such as scattered stopping points, photography activity taking up circulation space, and weak connection between

the under-viaduct space and the plaza frontage (Figure 6-25). The choice of Node C is meant to build on this existing attention and viewing base, and through small-scale intervention, to add the long-missing conditions for recognition, display, and staying in the entrance space.

6.3.3.2 Design objectives and strategies

The design goals of this node mainly focus on improving spatial brightness, strengthening cultural communication, shaping the entrance image of Renmin South Road, and improving the overall environmental quality. The node itself already has a certain visitor base and visual attraction. The design does not try to create another new traffic hotspot, but instead focuses on adding better conditions for staying, photography, viewing, and recognition, so that the existing spontaneous behavior of photo-taking and sightseeing can be received more clearly.

The design is organized through several methods, including lighting improvement, cultural insertion, frontage tidying, and entrance strengthening. Through the integration of a wayfinding system, themed signs, cultural display interfaces, and walking routes, the node shifts from a simple overpass entrance to a street entrance with a clearer image and identity, while also adding spatial support for staying, display, and cultural introduction. The whole intervention does not change the existing traffic organization, but improves the node's recognizability, visibility, and cultural expression within the original spatial framework.

6.3.3.3 Design presentation

The scheme keeps the original pedestrian overpass as the basic structure for crossing the road and does not change the existing traffic organization. Within the current spatial framework, it improves recognizability, staying quality, and cultural expression through lighting enhancement, graphic displays, wayfinding elements, and frontage tidying. To address the weak natural light and poor spatial guidance under the viaduct, the design adds lighting and reflective surfaces at the stairs, platforms, turning points, and the areas where the bridge connects with the ground-level space. This strengthens visibility and spatial layering along the pedestrian route, and through the adjustment of light and shadow, it also improves the sense of safety, accessibility, and comfort for staying.

Cultural communication content is inserted into the interior space of the pedestrian overpass node. Through poster-based design, the arcade, street history, and spatial memory are turned into readable display content. Graphic information on the stair risers, wall panels, and themed text on the columns together form a continuous cultural display interface, allowing the stairs and platform space, which originally served only for movement, to also take on functions of place guidance and display. The treatment of the platform and façade also responds to the

fact that this node is already used as a photo spot, providing a clearer background for stopping, group photos, and viewing. Before entering Renmin South Road, visitors can already receive basic information about the street's history, arcade space, and place characteristics, which strengthens both the recognizability of the entrance space and its role in cultural guidance (Figure 6-26).



Figure 6-26 Node C: People view of micro public space implantation experiment transformation scheme

Source: Author

Before renovation, although Node C already had a certain visual appeal and a basis for online attention, staying, photo-taking, and viewing mainly depended on the overpass and the street view itself. The spontaneous use pattern was relatively scattered, and conditions for lighting, staying support, and entrance recognition were all weak. After renovation, the lighting system, graphic displays, wayfinding devices, and frontage tidying work together on the overpass and its surrounding space, turning what was once a mainly circulation-based node into a street entrance that supports recognition, display, staying, and cultural guidance. The node's ability to receive photo-taking, viewing, and short-stay activities is improved, and the connection between the under-viaduct space and the plaza frontage also becomes clearer.

6.4 Evolutionary path from short-term experiment to long-term renewal

The night-time street linkage experiment and the daytime micro-node experiment proposed in this chapter belong to the initial testing level within the phased implementation mechanism discussed earlier, and can be understood as the first round of test schemes developed

for the actual conditions of Renmin South Road. Their task is to examine the practical adaptability of time-based organization, interface activation, node insertion, and activity introduction without disrupting the existing business order, traffic flow, or general street operation. This stage does not aim to produce fixed results in a single step. Instead, it pays more attention to the real feedback that emerges after space is released, interfaces are adjusted, and activities are introduced. Only the measures that show stable effects, clear boundaries of use, and manageable long-term operation can provide a basis for moving further into long-term optimization (Table 6-2).

Table 6-2 Evolutionary path from short-term experiment to long-term renewal

Dimension	Short-Term Experimental Content	Implementation Observation	Subsequent Direction
Road space and circulation	Adjust circulation order through a time-based use mechanism	Whether the boundaries of movement among pedestrians, vehicles, and freight are clear across different time periods, and whether the pedestrian space released at night can form an effective walking interface	Gradually establish a clearer time-based management system, and optimize the slow-mobility system and local pedestrian-priority spaces
Interface and staying	Improve the recognizability and staying conditions of the under-viaduct and street-facing interfaces through movable facilities, lighting, and wayfinding	Whether staying behavior increases, whether the interface remains open, and whether the space can continue to be used over time	Transform effective temporary measures into long-term frontage improvement, lighting optimization, and node construction
Night-time activities	Organize community staying, industry display, and cultural extension activities along the west-side pedestrian interface	Whether night-time pedestrian flow increases, whether the activities have lasting attraction, and whether different user groups begin to share the space in overlapping ways	Gradually form a more stable night-time activity belt, and strengthen links with surrounding spaces such as Shangxiajiu and Cultural Park

Table 6-2 Evolutionary path from short-term experiment to long-term renewal(Continued table)

Dimension	Short-Term Experimental Content	Implementation Observation	Subsequent Direction
Industrial translation	Use pop-up displays, themed installations, and interactive experiences to test the possibility of turning clothing industry content into street-based display and communication	Whether street identity is strengthened, whether clothing merchants become more involved, and whether display activities have continuity	Promote the gradual adjustment of street-facing interfaces and business forms toward display, experience, and mixed operation
Management and implementation	Carry out phased trials through low-cost and reversible measures, and observe acceptance from different groups and operational effects	Whether temporary measures are easy to maintain, whether space use remains orderly, and whether a relatively stable collaborative relationship is formed	Turn mature experience into future construction guidelines, operational mechanisms, and phased renewal plans

Source: Author

After the first round of experimental schemes is carried out, more specific feedback will gradually appear on Renmin South Road. Whether night-time activities can continue to attract people, whether temporary facilities are easy to maintain, whether merchants and residents accept the spatial adjustments, and whether the boundaries between circulation and activities are clear during time-based transitions will all directly affect later decisions. Measures that show stable effects, clear patterns of use, and sustainable management can be carried forward, while measures that do not fit the operating conditions of the site need to be adjusted or replaced. After a period of use, if some measures can maintain relatively stable results, they can gradually move into long-term optimization. Spatial improvements that were first created through temporary facilities and light installations can then be further developed into paving improvement, lighting upgrading, under-viaduct frontage renewal, and node system construction.

6.5 Summary of this chapter

This chapter builds on the earlier site study and problem identification, and proposes two tactical experimental directions based on the different patterns of use that appear on Renmin South Road at different times within the same day: idle-period scenarios and busy-period

scenarios. The chapter uses a time-based use mechanism as its overall framework and discusses two main spatial conditions, one at night and one during the day. This approach is closer to the actual way Renmin South Road currently operates, and it also allows renewal to move forward gradually within the existing business, traffic, and spatial conditions.

The idle-period scenario takes the west-side night-time street section of Renmin South Road as the main experimental area. Based on the different spatial conditions and vitality levels of the north, middle, and south sections, it proposes sectional strategies such as adding community staying space, translating industrial display, and receiving cultural activities, while also releasing part of the pedestrian activity frontage through time-based management. In this process, the relationship among the street, the arcade, the under-viaduct space, and the plaza is reorganized, and the night-time street, which was once dominated by traffic and closed frontages, is gradually turned into a continuous space for walking, staying, and recognition. The busy-period scenario selects low-vitality arcade frontages, releasable leftover street-edge space, and nodes with an existing basis for visibility, and develops micro experiments from three directions: interface activation, the insertion of small public space, and the improvement of entrance image. In this way, it adds support for staying, interaction, viewing, and recognition within the street.

The content proposed in this chapter does not correspond to a final scheme to be completed in one step. It is closer to a 1.0 phased experiment developed for the actual conditions of Renmin South Road. Time-based operation, night-time linkage, and node intervention form the main implementation content at this stage. Later renewal still needs to rely on feedback from actual use in order to judge which measures should be kept, deepened, and further transformed. What tactical urbanism offers here is a way of moving forward that is more suitable for the renewal of existing streets. It allows the renewal process to be adjusted through implementation and tested through use, and provides a more flexible renewal path for complex street spaces such as Renmin South Road, where a historic district, a wholesale street, and a traffic corridor overlap.

Conclusions and Prospects

1. Conclusions

This study takes the street space of Renmin South Road in Guangzhou as its research object. It focuses on the problems of a complex street space formed through the long-term overlap of arcade streets, an elevated road, and wholesale and logistics activities, and discusses the suitability of tactical urbanism for the renewal of this kind of street, while also trying to propose locally grounded renewal strategies. The renewal of Renmin South Road faces a situation in which several contradictions exist at the same time. The historic character needs to be continued, traffic operation needs to be maintained, commercial use is still active, and public activity space has long been insufficient. Since the existing structure is difficult to change as a whole in the short term, renewal can only look for more workable ways of intervention within the current conditions.

This study reviews the relevant research on street space, arcade street space, under-viaduct space, and tactical urbanism, and, together with case studies from China and abroad, summarizes key features such as low cost, gradual implementation, reversibility, and multi-actor cooperation. This method is more suitable for street spaces with complex conditions, many limits, and little possibility for full reconstruction, and it also fits the current reality of Renmin South Road.

Based on field research, questionnaires, mapping, and behavioral observation, this study analyses the real problems of Renmin South Road from the perspectives of street spatial structure, industrial mechanism, activity patterns, and environmental perception. At present, the most prominent conflicts are concentrated in three aspects. First, wholesale and logistics activities have long played the main role in street operation, and loading, handling, and public movement continue to overlap. Second, although the arcade frontage remains continuous, it lacks openness, display quality, and attraction for staying, which makes it difficult to support street vitality. Third, the linear coverage of the elevated road continues to compress the street section, visual connection, and environmental experience, while effective links between the under-viaduct space and the ground-level public space remain weak. The problems of Renmin South Road come from the long-term mismatch among different structures and ways of use, rather than from the failure of a single spatial element.

On this basis, and in response to the clear time-based pattern of use on Renmin South Road, this study proposes four types of tactical tools: street space tactics, public node activation tactics, arcade interface activation tactics, and under-viaduct space use tactics. These are then applied

to two kinds of scenarios, idle periods and busy periods. The night-time scenario mainly focuses on road space adjustment, interface display translation, and the reorganization of under-viaduct space, so as to release the public potential of the street. The daytime scenario starts from local nodes and makes small-scale adjustments to low-vitality arcade interfaces, micro public spaces, and key entrance images. This study shows that tactical urbanism can offer a renewal path that is better matched with actual site conditions for complex streets such as Renmin South Road, which combine historic, commercial, and traffic functions. This path does not aim at a fixed final scheme completed in one step. Instead, it takes short-term experiments as a first stage, observes feedback in real use, adjusts strategies, and then gradually moves toward more stable long-term optimization and continued implementation.

2. Innovation

The first key feature of this study lies in the way it understands Renmin South Road. It does not simplify the street into a traditional commercial street or a general historic district. Instead, it understands it as a complex street space formed by the joint effect of the horizontal arcade interface, the vertical structure of the elevated road, wholesale and logistics activities, and everyday behavior systems. This perspective helps explain how the spatial conflicts of Renmin South Road have formed, and it also expands the analytical scope of street renewal in historic districts.

This study also tries to connect tactical urbanism with the local conditions of Renmin South Road. It builds a targeted tactical tool system around the real problems of the site, so that this method moves from a general theoretical discussion to specific strategies that can enter real street space. In terms of design path, this study does not treat Renmin South Road as a static object for uniform renewal. Instead, following the differences in use at different times of the day, it proposes a time-based renewal approach. Busy periods focus on order adjustment, while idle periods focus on public activation. In this way, a more direct link is built between design and the real rhythm of street operation.

3. Limitations

Although this study offers a relatively systematic discussion of the renewal of street space on Renmin South Road, some limitations remain. The analysis of tactical urbanism mainly focuses on spatial strategy and design, while its long-term implementation mechanism, management connection, and policy support in the local institutional setting are not discussed in enough depth. The renewal of Renmin South Road involves traffic management, district operation, interdepartmental coordination, and the balancing of interests. These issues are

mentioned in the thesis, but the discussion is still limited.

The research materials used for the empirical analysis are also affected by limits in time, sample size, and research conditions. Some conclusions are mainly based on observation during typical periods and at key nodes. More continuous data are still needed to better support the analysis of longer-term changes in pedestrian flow, logistics fluctuation, and differences in environmental perception.

The tactical experimental schemes proposed in this study are still mainly based on research deduction and have not yet been tested through real implementation on site. The actual renewal of Renmin South Road also involves property relations, funding input, business coordination, and later maintenance. After implementation, it may face problems more complex than those considered at the design stage.

4. Prospect

The renewal of street spaces such as Renmin South Road is more suitable for continuous testing, adjustment, and experience-building in practice. Future research can start from small-scale implementation in real settings by selecting under-viaduct nodes, arcade interfaces, or street corners with relatively mature conditions for short-term experiments, and then carrying out continuous evaluation through behavioral observation, questionnaire feedback, and environmental monitoring.

From a longer-term point of view, tactical renewal should not remain only at the level of temporary activities or small installations. It is also necessary to continue discussing which measures can enter daily management, which spaces are suitable to be kept as long-term strategies, and which contents need to be supported through system and operation. Only in this way can the experience formed through short-term experiments truly become the basis for long-term optimization.

The study of Renmin South Road is not limited to this single street. Problems such as the overlap of elevated traffic infrastructure, the transformation of traditional commerce, and the weakening of public life on historic streets exist to different degrees in many old urban areas. The analytical framework, time-based approach, and tactical tools proposed in this study still need to be further tested and adjusted in more similar streets. When facing complex existing streets, renewal does not have to rely only on large-scale demolition and reconstruction or simple clean-up. Gradual, small-scale, and feedback-based methods also have clear practical value.

Reference

- [1] 王承华, 张进帅, 姜劲松. 微更新视角下的历史文化街区保护与更新——苏州平江历史文化街区城市设计[J]. 城市规划学刊, 2017, (06): 96-104. DOI: 10.16361/j.upf.201706013.
- [2] 廖开怀, 刘利雄, 朱雪梅, 等. 历史文化街区微改造与活化利用的策略研究——以广州市为例[J]. 城市发展研究, 2022, 29(05): 1-7.
- [3] 谭俊杰, 常江, 谢涤湘. 广州市恩宁路永庆坊微改造探索[J]. 规划师, 2018, 34(08): 62-67.
- [4] 孙菲. 从空间生产到空间体验: 历史文化街区更新的逻辑考察[J]. 东岳论丛, 2020, 41(07): 149-155. DOI: 10.15981/j.cnki.dongyueluncong.2020.07.016.
- [5] 全球交通与发展政策研究所. 全球街道设计指南[M]. 北京: 中国建筑工业出版社, 2016.
- [6] Lefebvre H. *The Production of Space*[M]. Oxford: Blackwell, 1991.
- [7] Lynch K. *The Image of the City*[M]. Cambridge, Mass.: The MIT Press, 1960.
- [8] Jacobs J. *The Death and Life of Great American Cities*[M]. New York: Random House, 1961.
- [9] 芦原义信. 外部空间设计[M]. 中国建筑工业出版社, 1985.
- [10] Lydon M, Garcia A. Tactical Urbanism: Short-Term Action for Long-Term Change[M]. Washington: Island Press, 2015.
- [11] 丁小涵, 朱文一. 西方城市快闪理论研究[J]. 城市设计, 2019, (03): 56-69. DOI: 10.16513/j.urbandesign.2019.03.006.
- [12] 黄路, 刘媛. 战术都市主义: 一种叛逆的城市设计尺度[J]. 设计艺术研究, 2018, 8(05): 8-13.
- [13] Silva P. Tactical urbanism: Towards an evolutionary cities' approach?[J]. Environment and Planning B: Planning and Design, 2016, 43(6): 1040-1051.
- [14] Finn D. DIY urbanism: implications for cities[J]. Journal of Urbanism: International Research on Placemaking and Urban Sustainability, 2014, 7(4): 381-398.
- [15] Sanoff H. Community participation methods in design and planning[M]. New York: John Wiley & Sons, 2000.
- [16] Moulaert F, MacCallum D, Mehmood A, et al. The international handbook on social innovation: collective action, social learning and transdisciplinary research[M]. Cheltenham: Edward Elgar Publishing, 2013.
- [17] Sadik-Khan J, Solomonow S. Streetfight: handbook for an urban revolution[M]. New York: Viking, 2016.
- [18] Mike Lydon, Dan Bartman, Tony Garcia, et al. Tactical Urbanism: Volume 2[M]. The Street Plans Collaborative, NextGen, 2012.
- [19] Douglas G C C. Do-it-yourself urban design: the social practice of informal "improvement" through unauthorized alteration[J]. City & Community, 2014, 13(1): 5-25.
- [20] Talen E. Do-it-yourself urbanism: a history[J]. Journal of Planning History, 2015, 14(2): 135-148.
- [21] Lefebvre H. Writings on cities[M]. Kofman E, Lebas E, trans. Oxford: Blackwell, 1996.
- [22] 胡佳雨, 朱文一. 外之场——日本战术都市主义若干议题[J]. 城市设计, 2021, (06): 30-37. DOI: 10.16513/j.urbandesign.2021.06.003.

- 0.16513/j.urbandesign.2021.06.015.
- [23] Pereira Guimarães M, Dessì V. A Multi-functional Design Approach to Deal with New Urban Challenges [A]. Littlewood J R, Howlett R J, Jain L C. Sustainability in Energy and Buildings 2021 [C]. Singapore: Springer, 2022: 387-397.
- [24] Lydon M, Hartley L. Tactical urbanism Vol.4: Australia & New Zealand [M/OL]. New York City: The Street Plans Collaborative, 2014. http://issuu.com/codesignstudio/docs/tactical_urbanism_vol4_141
- [25] Lydon M, Garcia T, Flynn J, et al. Tactical Urbanist's Guide to Materials and Design [M/OL]. New York City: The Street Plans Collaborative, 2016. <http://tacticalurbanismguide.com/>
- [26] Bishop P, Williams L. The Temporary City [M]. London: Routledge, 2012.
- [27] Tonkiss F. Austerity urbanism and the makeshift city [J]. City, 2013, 17(3): 312-324.
- [28] Hou J. Insurgent Public Space: Guerrilla Urbanism and the Remaking of Contemporary Cities [M]. New York: Routledge, 2010.
- [29] Talen E. Do-it-Yourself Urbanism: A History [J]. Journal of Planning History, 2015, 14(2): 135-148.
- [30] Verlinghieri E, Vitale Brovarone E, Staricco L. The conflictual governance of street experiments, between austerity and post-politics [J]. Urban Studies, 2024, 61(5): 878-899.
- [31] Bulkeley H, Marvin S, Voytenko Palgan Y, et al. Urban living laboratories: Conducting the experimental city? [J]. European Urban and Regional Studies, 2019, 26(4): 317-335.
- [32] 张翰卿, 陈莉莉. 城市规划视角下的战术城市主义研究 [J]. 城市规划学刊, 2016(05): 35-41.
- [33] Appleyard D, Gerson M S, Lintell M. Livable Streets [M]. Berkeley: University of California Press, 1981.
- [34] Gehl J. Life Between Buildings: Using Public Space [M]. New York: Van Nostrand Reinhold, 1987.
- [35] Gehl J. Cities for People [M]. Washington, DC: Island Press, 2010.
- [36] 龙瀛. 街道城市主义新数据环境下城市研究与规划设计的新思路 [J]. 时代建筑, 2016, (02): 128-132. DOI:10.13717/j.cnki.ta.2016.02.019.
- [37] Ashihara Y. Exterior Design in Architecture [M]. New York: Van Nostrand Reinhold, 1971.
- [38] Trancik R. Finding Lost Space: Theories of Urban Design [M]. New York: Van Nostrand Reinhold, 1986.
- [39] Waldheim C. Landscape as Urbanism [A]. Waldheim C. The Landscape Urbanism Reader [C]. New York: Princeton Architectural Press, 2006: 35-53.
- [40] 黄慧明, 田银生. 形态分区理念及在中国旧城地区的应用: 以 1949 年以来广州旧城的形态格局演变研究为例 [J]. 城市规划, 2015, 39(7): 77-86.
- [41] 邓舒珊, 蔡萌, 田银生. 广州状元坊传统街区商贸空间形态演变与动力机制研究 [J]. 南方建筑, 2017(2): 72-78.
- [42] 冯江, 牧骑. 广州西关老街坊复甦的路径与行动: 兼论遗产都市主义 [J]. 时代建筑, 2024(1): 6-15.
- [43] 李睿, 邢懿, 刘雅琦, 等. 回归日常性的历史文化街区保护更新实施方法探析: 以广州市荔湾

- 区为例[J] . 城市建筑, 2025(21): 33-40.
- [44] 顾雪萍, 彭长歆. 从行栈到商馆: 清代广州十三行建筑演变研究[J] . 南方建筑, 2023(8): 34-41.
- [45] 彭长歆, 杨晓川. 骑楼制度与城市骑楼建筑[J] . 华南理工大学学报(社会科学版), 2004, 6(4): 29-33.
- [46] 林冲. 广东近代骑楼发展原因初探[J] . 华中建筑, 2001, 19(5): 89-91.
- [47] 林冲. 广州近代骑楼发展考[J] . 华中建筑, 2005, 23(7): 114-116.
- [48] 林冲. 骑楼型街屋的发展与形态的研究[J] . 新建筑, 2002(2): 19-20.
- [49] 张帆, 李郇. 参与式社区规划对社区社会空间的影响: 以广州市深井村共同缔造工作坊为例[J] . 地理科学, 2022, 42(12): 2068-2075.
- [50] 赵楠楠, 何深静, 刘玉亭, 等. “后增长” 存量时代中国社区共治模式及其公众利益表达: 基于广佛实证[J] . 城市规划学刊, 2025(2): 105-111.
- [51] 芮光晔, 黎子铭. 参与式规划设计驱动社区多维协同发展的机制与路径: 以广东佛山顺德东风村为例[J] . 风景园林, 2026, 33(2): 59-67.
- [52] 林耿, 李燕. 历史文化因素对广州市商业业态空间的影响[J]. 人文地理, 2005, (04): 30-33+4.
- [53] 周斌. 现代广州的旧城改造: 加速逝去的老广州[J]. 国家人文历史, 2013.
- [54] 赵中杰, 宋起航. 城市更新实践中历史文化街区保护与更新方法探究——以上海和广州历史文化街区为例[J]. 城市建筑, 2025, 22(14): 25-27. DOI: 10.19892/j.cnki.csjz.2025.14.07.
- [55] 杨宏烈. 广州骑楼商业街的文化复兴[J]. 规划师, 1998, (03): 60-63.
- [56] 李颖, 刘云亚. 广州市骑楼街的保护与发展[J]. 城市规划汇刊, 2002, (01): 63-67+80
- [57] 余倩雯, 王霖, 汪成刚. 新形势下广州骑楼街保护规划探索——以中山六路骑楼街保护规划为例[J]. 规划师, 2014, 30(S5): 136-141.
- [58] 郑宇, 杨世云, 冯淳, 等. 文化记忆视角下广州北京路步行街改造提升策略研究[C]//中国城市规划学会, 合肥市人民政府. 美丽中国, 共建共治共享——2024 中国城市规划年会论文集(03 城市更新). 广州市城市规划设计有限公司; 2024: 2765-2775. DOI: 10.26914/c.cnkihy.2024.035140.
- [59] 赵树望. 厦门骑楼建筑群街道美学初探[J]. 艺术百家, 2011, 27(S2): 58-60.
- [60] 喻俊华. 基于街道美学分析下的骑楼街道设计[N]. 中华建筑报, 2025-02-25(011). DOI: 10.38313/n.cnki.nzhjz.2025.000009.
- [61] 陈国雄, 么冰儒. 广告牌匾与岭南骑楼立面装饰之关系及其发展研究[J/OL]. 中外建筑, 1-11[2026-03-19]. <https://link.cnki.net/urlid/43.1255.tu.20250307.1155.002>.
- [62] MacKeith M. The History and Conservation of Shopping Arcades[M]. London: Mansell Publishing Limited, 1986
- [63] 林琳, 陈洋. 国内外有关骑楼建筑的研究述评[J]. 建筑科学, 2006, (05): 119-125
- [64] Yeang K. The Tropical Verandah City: Some Urban Design Ideas for Kuala Lumpur[M]. Kuala Lumpur: Longman, 1987

- [65] Li S. Mechanism of Spontaneity in Utilization of Qilou Verandah Space: Case Study on Amoy [D]. Tokyo: The University of Tokyo, 2018
- [66] 孙永生. 旧城游憩商业区改造研究——以广州上下九为例[J]. 华中建筑, 2009, 27(07): 52-59.
- [67] 陈博. 浅谈广州老城区更新保护利用工作——以广州恩宁路永庆坊旧城更新案例研究为例[J]. 智能城市, 2020, 6(10): 118-119. DOI: 10.19301/j.cnki.zncs.2020.10.063.
- [68] Lee, Sim Loo. "Urban Conservation Policy and the Preservation of Historical and Cultural Heritage: The Case of Singapore." *Cities* 13.6 (1996): 399-409. Web.
- [69] 查尔斯·瓦尔德海姆. 景观都市主义[M]. 刘海龙, 刘东云, 孙璐, 译. 北京: 中国建筑工业出版社, 2011.
- [70] 缪朴. 亚太城市的公共空间: 当前的问题与对策[M]. 司玲, 司然, 译. 北京: 中国建筑工业出版社, 2007.
- [71] Hormigo P, Morita T. Urban Gaps: Problems and Opportunities in Urban Design Analysis of Gaps Originated by Elevated Railways[J]. Architectural Institute of Japan, Architectural Institute of Korea, Architectural Society of China, 2004, 3(1): 181-188.
- [72] Youssef M. Problems of neglected places under bridges: A case study of Yerevan bridge, Beirut, Lebanon[J]. *WIT Transactions on Ecology and the Environment*, 2017, 226: 739-750.
- [73] Azadeh L, Ramezani M, Aghamolaei R. Reviving the Lost Spaces under Urban Highways and Bridges: An Empirical Study[J]. *Journal of Place Management and Development*, 2019, 12(4): 469-484.
- [74] Ahmed, Hamna, et al. "Study of utilizing residual spaces under flyovers in Lahore, Pakistan." *Journal of Art, Architecture and Built Environment* 3.1(2020): 84-98.
- [75] AbuBakr, Eng Soha, Mohamed A. El Fayoumi, and Abeer Elshater. "Public spaces under flyovers: Qualitative data analysis of users' interests in Heliopolis." (2021).
- [76] 巩姝辰, 张险峰, 梁峰豪, 等. 基于剩余空间理论的城市桥下空间更新研究[J]. 华中建筑, 2025, 43(08): 41-45. DOI: 10.13942/j.cnki.hzjz.2025.08.002.
- [77] 覃剑. 城市桥下空间功能开发与治理研究[J]. 建筑经济, 2019, 40(05): 93-97. DOI: 10.14181/j.cnki.1002-851x.201905093.
- [78] 童亚雄, 黄亮. 城市高架桥下空间利用探讨——以武汉市刘店互通为例[J]. 中外公路, 2018, 38(05): 298-302. DOI: 10.14048/j.issn.1671-2579.2018.05.064.
- [79] New York City Department of Transportation. Green Light for Midtown Evaluation Report[R]. New York: New York City Department of Transportation, 2010
- [80] Slome M. No Longer Empty: Building Art and Community in Unused Spaces[EB/OL]. OnCurating.org, 2022[2026-03-20]. <https://www.on-curating.org/files/oc/dateverwaltung/books/Manon%20Slome/No-Longer-Empty-WEB.pdf>
- [81] kokosil 池袋. Machinaka 生活项目“池袋生活循环”[EB/OL]. 2021-06-22[2026-03-24]. <https://home.ikebukuro.kokosil.net/zh-hant/archives/92547>
- [82] 深圳市朗程师地域规划设计有限公司. 西湾-前海湾慢行公共空间, 深圳[EB/OL]. 谷德设计网,

- 2024-08-14[2026-03-20].
- [83] 前海管理局. 打造国际化城市新中心!前海重点公共设施规划建设加速推进[EB/OL]. 2024-10-14[2026-03-20].
- [84] 广州市人民政府. 花如海人如潮行过花街才过年[EB/OL]. 2023-01-02[2026-04-02].
- [85] 广州市公安局交通警察支队. 广州市公安局交通警察支队关于 2024 年广州迎春花市期间实施临时交通管制的通告[EB/OL]. 2024-01-23[2026-04-02].
- [86] 南方网. 逛花街,转大运!2025 年广州市越秀西湖花市开市[EB/OL]. 2025-01-25[2026-04-02].
- [87] 越秀区人民政府. 2026 广州越秀西湖花市五大亮点抢先看[EB/OL]. 2026-01-26[2026-04-02].
- [88] Street Plans Collaborative,Alliance for Biking & Walking.The Open Streets Guide:Opening Streets to People,Sharing Resources,Transforming Communities[EB/OL].2012[2026-03-20].<https://bikeleague.org/wp-content/uploads/2023/03/OpenStreetsGuide.pdf>
- [89] Mike Lydon, Dan Bartman, Tony Garcia, et al. Tactical Urbanism: Volume 2[M]. The Street Plans Collaborative, NextGen, 2012
- [90] Mike Lydon, Tony Farcia, Julie Flynn, et al. Tactical Urbanist's Guide to Materials and Design[M]. The Street Plans Collaborative, 2016
- [91] 张翰卿,李倩. 战术城市主义视角下道路作为临时公共空间的潜力研究——以武汉市东湖南路为例[J]. 华中建筑,2020,38(09):63-68.DOI:10.13942/j.cnki.hzjz.2020.09.014.
- [92] Cariello A,Ferorelli R,Rotondo F.Tactical Urbanism in Italy: From Grassroots to Institutional Tool—Assessing Value of Public Space Experiments[J].Sustainability,2021,13(20):11482.
- [93] The Street Plans Collaborative.Tactical Urbanism:Volume 2[EB/OL].2012[2026-03-20].<https://tacticalurbanismguide.com/guides/tactical-urbanism-volume-2/>
- [94] 周琳娜. 战术城市主义视角下的城市剩余空间更新策略研究[D]. 西南交通大学,2023.DOI:10.27414/d.cnki.gxnju.2023.002317.
- [95] Alekseevaa I V,Koltsova H A,Skovorodnikova N A.Formation of Tactical Urbanism by Means of Street Art as the Design-Method[J].IOP Conference Series: Earth and Environmental Science,2020,459(3):032091.
- [96] Bråten L N.Temporary temporariness? The (mis)use of tactical urbanism from the ‘open city’ framework[J].Urban Studies,2025,62(5):809-827.
- [97] 张侃. 战术城市主义下的街道改造——以麦迪逊广场为例[C]//中国城市规划学会,重庆市人民政府.活力城乡 美好人居——2019 中国城市规划年会论文集(02 城市更新).同济大学,2019:1568-1577.DOI:10.26914/c.cnkihy.2019.005306.
- [98] Trancik R.Finding Lost Space: Theories of Urban Design[M].New York: Van Nostrand Reinhold, 1986
- [99] Grandel G,Berger M.Pathways from street experiments to transformation: a systematic review of theories of change[J].Transport Reviews,2025,45(6):924-947.
- [100] 广州市规划和自然资源局. 广州市规划和自然资源局关于公布广东省历史文化街区广州市人民南历史文化街区保护规划(2021-2035 年)的通告[EB/OL]. 2023-09-27[2026-03-20].

- [101] 陈立新,杨宏烈. 广州人民南路骑楼街的文化复兴[J]. 热带地理,2006,(04):389-394.DOI:10.13284/j.cnki.rddl.000964.
- [102] 广州市人民政府. 传承十三行商埠文化 推动人民南延线焕发老城市新活力[EB/OL]. 广州市人民政府网,2019-09-26[2026-03-20].
- [103] 广州市商务局. 广州首个时尚产业价值出海公共服务平台在“新中国大厦”揭牌[EB/OL]. 广州市商务局网站,2024-11-14[2026-03-20].

Appendix 1

Table 1 International Cases of Under-Viaduct Space Renewal

Practice cases of space reconstruction under viaduct in foreign countries					
Photograph	City / Country	Object name	Utilization	Feature	Source
	Melbourne, Australia	Sky Rail Community Activity Park	Park and community activity space	A unified plan for 17 km of space under the elevated railway, with strong overall coherence	https://www.goood.cn/sky-rail-community-nodes-by-march-studio.htm
	Seoul, South Korea	Terrace Square	Leisure plaza	Functional conversion that supports community interaction	https://www.archdaily.cn/cn/943610/shou-er-lu-tai-yan-chang-gao-jia-qiao-xia-de-zai-sheng-kong-jian-hg-architecture
	Toronto, Canada	Underpass Park	Park, sports, and art	One of the largest under-bridge parks in North America, combining art installations with sports grounds	https://www.planpart.ca/underpass-park
	Miami, United States	The Underline Park	Linear park and slow-mobility system	Connects spaces under multiple elevated metro lines and highlights green mobility	https://www.theunderline.org/
	Toronto, Canada	The Bentway Public Space	Public plaza and cultural activities	Transforms linear under-bridge space into a place for public art and events	https://www.archdaily.cn/cn/913389/the-bentway-public-work

Table 1 International Cases of Under-Viaduct Space Renewal(Continued table)

Practice cases of space reconstruction under viaduct in foreign countries					
Photograph	City / Country	Object name	Utilization	Feature	Source
	Bandung, Indonesia	Taman Film Park	Outdoor cinema	Combines cultural and leisure functions and makes innovative use of leftover space	http://www.landscape.cn/landscape/11244.html

Source: Author

Table 2 Domestic Cases of Under-Viaduct Space Renewal

Domestic Cases of Under-Viaduct Space Renewal					
Photograph	City / Country	Object name	Utilization	Feature	Source
	Chengdu	Folk Culture Park under the Renmin South Road Interchange	Cultural display	Combines local culture and creates a distinctive leisure space	https://www.jfdaily.com/sg/h/detail?id=1380269
	Shanghai	Jiangsu North Road "Suhe Super Tube"	Cultural display	An under-bridge space filled with an artistic atmosphere and also a "second classroom" for children	https://www.jfdaily.com/sg/h/detail?id=1380269
	Ningbo	Inner Ring Under-bridge Waterfront Space	Sports facilities	Includes basketball, badminton, and other sports functions, helping strengthen community vitality	https://www.jfdaily.com/sg/h/detail?id=1380269

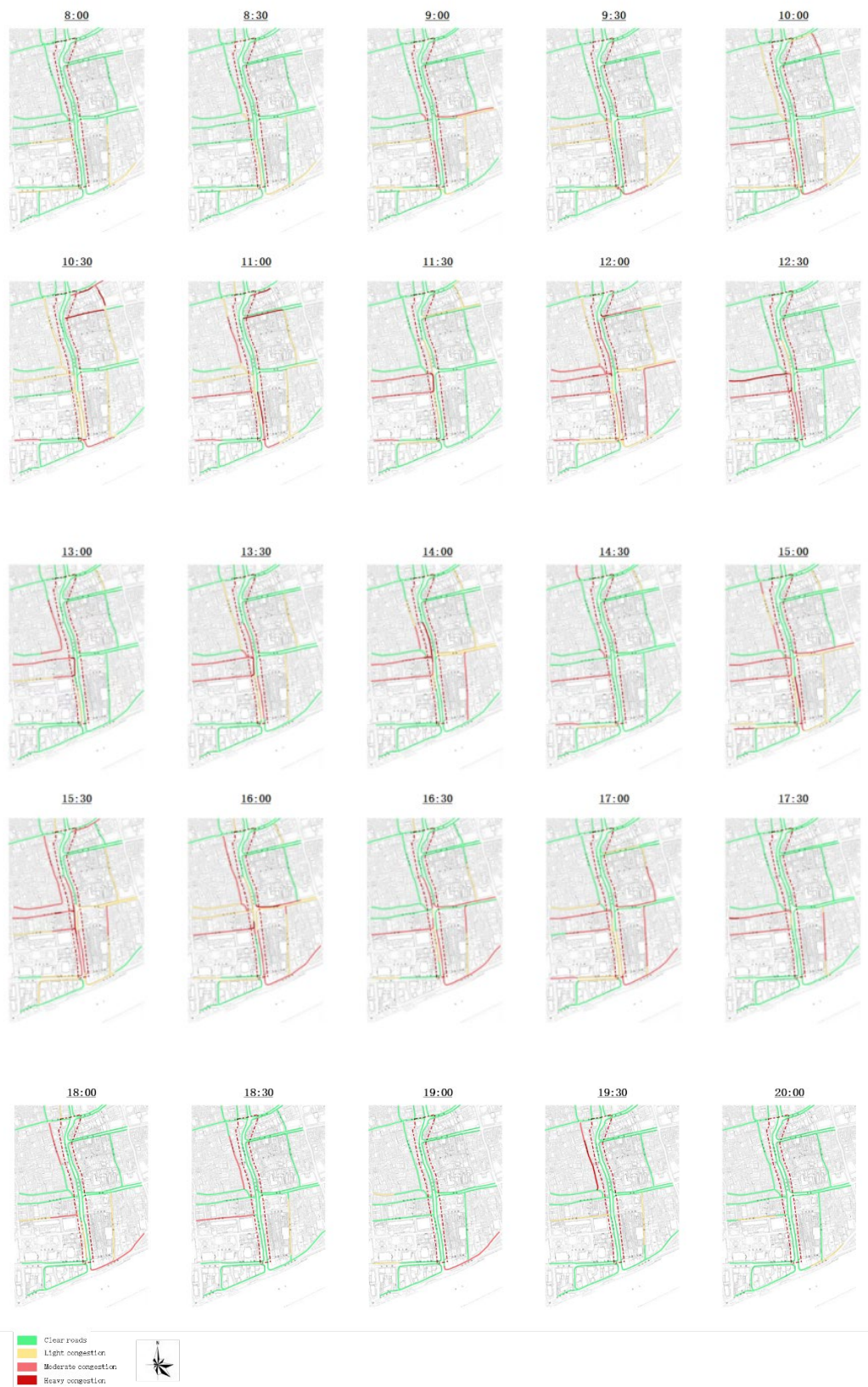
Table 2 Domestic Cases of Under-Viaduct Space Renewal(Continued table)

	Shanghai	Rock Park under the Zhonghuan Interchange	Sports facilities	Includes under-bridge basketball courts and fitness areas, mainly serving young people	https://www.jfdaily.com/sg/h/detail?id=1380269
	Shanghai	Inner Ring Under-bridge Waterfront Space	Sports facilities	Includes green walking paths, children's play areas, basketball courts, and fitness equipment	https://www.jfdaily.com/wx/detail.do?id=595398
	Chengdu	Furong Garden	Ecological landscape	Creates a forest-like garden atmosphere	https://www.jfdaily.com/sg/h/detail?id=1380269
	Shenzhen	Under the Guangzhou-Shenzhen Riverside Expressway	Ecological landscape	Connects mountains and the sea, with the city set within the landscape	https://www.jfdaily.com/sg/h/detail?id=1380269

Source: Author

Appendix 2

Figure 1 Time-sharing road usage of Renmin South Road (source: based on Amap)



Appendix 3

Questionnaire on the Use of and Willingness to Support Renewal in the Complex Street Space of Renmin South Road, Guangzhou

Hello, I am a master's student from the School of Architecture at South China University of Technology. I am currently conducting thesis research on the use of street space and renewal needs on Renmin South Road, and I would like to invite you to complete a questionnaire. This questionnaire is completely anonymous and does not involve any personal privacy. All information collected will be used for academic research only.

1、Your identity

- ☐ Nearby resident
- ☐ Wholesale merchant or shop operator
- ☐ Buyer or distributor
- ☐ Visitor
- ☐ Freight or delivery worker
- ☐ Other

2、How often do you come to this street

- ☐ Every day
- ☐ Several times a week
- ☐ Several times a month
- ☐ Occasionally
- ☐ The first time

3、How long do you usually stay on this street

- ☐ Less than 5 minutes
- ☐ 5–15 minutes
- ☐ 15–30 minutes
- ☐ More than 30 minutes

4、What activities do you usually do on this street? (Multiple answers allowed)

- ☐ Passing through
- ☐ Short stay, such as shopping, waiting, or resting
- ☐ Talking or chatting
- ☐ Street vending or business activities
- ☐ Other

5、Are you willing to slow down your walking pace on this street

- ☐ Often
- ☐ Occasionally
- ☐ Rarely

- ☐ Never

6、 Are you willing to stay in the public space of the street

- ☐ Often
- ☐ Occasionally
- ☐ Rarely
- ☐ Almost never

7、 Do you think the street-facing shopfront interface is continuous

- ☐ Very continuous
- ☐ Basically continuous
- ☐ There are obvious breaks
- ☐ The interface is relatively fragmented

8、 How would you rate the display quality and attractiveness of the current street-facing shops

- ☐ Very strong
- ☐ Average
- ☐ Relatively weak
- ☐ Almost none

9、 Do you think the arcade space is suitable for staying

- ☐ Very suitable
- ☐ Average
- ☐ Relatively unsuitable
- ☐ Unsuitable

10、 How do you feel about the overall street space

- ☐ Comfortable
- ☐ Average
- ☐ Oppressive
- ☐ Chaotic

11、 Do you think the street space feels safe

- ☐ Very safe
- ☐ Basically safe
- ☐ Average
- ☐ Unsafe

12、 How would you rate the street environment at night

- ☐ Bright and safe
- ☐ Average
- ☐ Relatively dim
- ☐ Unsafe

13、Do you think the elevated bridge creates a sense of oppression in the street space

- ☐ Very obvious
- ☐ Has some influence
- ☐ Little influence
- ☐ No feeling

14、Are you willing to stay in the under-viaduct space

- ☐ Willing
- ☐ Depends on the situation
- ☐ Unwilling

15、What do you think are the main current problems of the under-viaduct space? (Multiple answers allowed)

- ☐ Insufficient lighting
- ☐ High noise level
- ☐ Lack of safety
- ☐ Space is occupied
- ☐ Lack of activity facilities
- ☐ No obvious problem

16、What do you think should be given priority for improvement at present? (Multiple answers allowed)

- ☐ Optimisation of street-facing shopfront interfaces
- ☐ Widening or reorganisation of pedestrian space
- ☐ Renovation of the under-viaduct space
- ☐ Improvement of traffic organization
- ☐ Improvement of night-time lighting
- ☐ Increase in public activity space

17、If temporary markets, cultural exhibitions, or public activities were added to the street, would you be willing to participate

- ☐ Very willing
- ☐ Quite willing
- ☐ Neutral
- ☐ Unwilling

18、Would you be willing to take part in public consultation on street renovation

- ☐ Very willing
- ☐ Quite willing
- ☐ Neutral
- ☐ Unwilling

攻读硕士学位期间取得的研究成果

一、已发表（包括已接受待发表）的论文，以及已投稿、或已成文打算投稿、或拟成文投稿的论文情况（只填写与学位论文内容相关的部分）：

序号	作者（全体作者，按顺序排列）	题 目	发表或投稿刊物名称、级别	发表的卷期、年月、页码	与学位论文哪一部分（章、节）相关	被索引情况

注：在“发表的卷期、年月、页码”栏：

- 1 如果论文已发表，请填写发表的卷期、年月、页码；
 - 2 如果论文已被接受，填写将要发表的卷期、年月；
 - 3 以上都不是，请据实填写“已投稿”，“拟投稿”。
- 不够请另加页。

二、与学位内容相关的其它成果（包括专利、著作、获奖项目等）

致谢

行文至此，窗外光阴几度流转，研究生岁月也将缓缓收束。回望来路，有埋首书卷的寂静时刻，也有反复推敲、几经修改的漫长夜晚。幸得师长指引、亲友相伴，使我在困顿与迟疑中仍能向前，终将这段求学时光凝成纸上文字。

感谢我的家人。你们始终以理解、包容与支持托举着我，使我在奔忙与疲惫中仍有安定的归处。

感谢导师的悉心教诲，感谢学院诸位老师的教导，感谢评阅专家的批评与指正。感谢李春老师的关心与照拂，以细致耐心之心为学生答疑解惑、协调事务、排忧解难。也感谢调研途中愿意驻足交谈的居民、商户与工作人员。你们的讲述与经验，使这篇论文得以接近真实的地方生活，也让我在文字之外看见城市更深处的温度。

感谢同窗与朋友一路相伴。那些共同讨论、赶图、修改、相互鼓励的日子，虽平凡，却弥足珍贵。多年以后回望，想来也会成为青春里温柔而明亮的一页。

最后，也感谢这一路坚持下来的自己。感谢自己在漫长的论文写作、反复修改与诸多压力之中，仍然没有放弃对学业的认真与对生活的热爱，依然努力保持乐观。

谨以此文，向所有曾给予我帮助、鼓励与善意的人，致以最诚挚的谢意。

四、答辩委员会决议书

答辩委员会对学位（毕业）论文的评语（主要内容包括：1. 论文选题与综述；2. 学术水平与创新性；3. 论文综合能力表现；4. 学位（毕业）论文答辩情况；5. 存在的不足之处和建议等）

论文选题紧扣当代城市存量更新中的复杂街道空间问题，以广州人民南路这一典型的“骑楼、高架、商业活动”复合型空间为研究对象，探讨战术都市主义在本土街道微改造中的应用路径，具有一定的学术价值和现实意义。论文能够结合广州历史文化街区、骑楼街、高架桥下空间和批发物流活动等现实背景，对人民南路街道空间的现状特征和主要矛盾进行分析，现状矛盾识别清晰。

论文研究框架基本完整。答辩过程中，作者能够较清楚地陈述论文主要内容和设计成果，并对评委提出的问题作出回应。

根据投票结果，答辩委员会一致同意冯韵怡通过硕士学位论文答辩，同意其毕业，建议授予建筑学硕士学位。

论文答辩日期：2016 年 5 月 21 日

答辩委员会委员 5 人

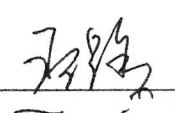
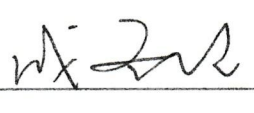
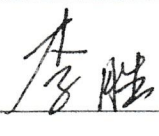
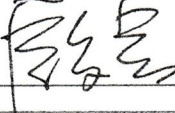
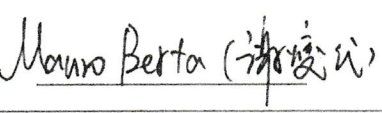
毕业表决票数：通过（5）票；不通过（0）票

学位表决票数：通过（5）票；不通过（0）票

答辩委员会决议（打“√”）：

毕业：通过（√）；不通过（ ）

学位：通过（√）；不通过（ ）

答辩成员 签名	 (主席)    
答辩秘书 签名	