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Applying Temporary Use Strategies in Historical Area Regeneration: In the Case of Guangzhou Daxiaomazhan Academies Cluster

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Abstract

During the COVID-19 pandemic, cities rapidly established temporary testing stations, makeshift hospitals, and other facilities, highlighting the importance of temporary use in emergency management and promoting the concept of “dual-purpose for both peacetime and emergencies.” This suggests that temporary use not only plays a key role in emergencies but can also serve as a flexible urban renewal strategy, meeting short-term needs and optimizing resource utilization. Guangzhou, with its rich historical heritage and flexible policy environment, has already seen several instances of temporary use. However, most of these instances are spontaneous and informal, lacking systematic management, and have yet to be fully applied in the preservation of historic districts. Taking the Daxiaomazhan Academy complex in Guangzhou as an example, this paper explores the application of temporary use in the preservation and revitalization of historic districts, aiming to provide new ideas for activating such areas.

This study first outlines the origins, concepts, and development of temporary use in Europe, clarifying its complete process, which includes four key steps: identification, design, operation, and exit. Through case studies, temporary use is categorized into four modes: testing phase, cultural events, idle utilization, and pop-up projects. The characteristics, applicable conditions, and externalities (both positive and negative) of each mode are explored in detail. In the Chinese context, the study analyzes the applicability of temporary use and existing regulations, pointing out that while current regulations offer some guidelines, they lack systematic and targeted measures. Using the Daxiaomazhan Academy complex in Guangzhou as an empirical case, detailed site analysis was conducted, identifying four potential spaces for temporary use: demolition land, community rooftops, abandoned commercial spaces, and courtyards or plazas. Design strategies and application plans for temporary use were developed, and their expected effects were assessed.

The findings show that temporary use can quickly meet the short-term development needs of cities without compromising the historical and cultural value of heritage sites. Proper temporary use is more beneficial for historical preservation than poorly permitted or

unplanned permanent buildings. The successful implementation of temporary use requires comprehensive policy support and coordination among stakeholders, with a need to balance commercial development and cultural heritage preservation under the premise of protection. This research provides new ideas and methods for the preservation and revitalization of historic districts and offers valuable reference points for improving the framework for the tool-based approach to temporary use.

Keywords: temporary use; strategies; historic district; Daxiaomazhan; urban regeneration

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1.1 Research Background and Purpose

1.1.1 Research Background

(1) The Pandemic Highlighted the Importance of Temporary Use

During the COVID-19 pandemic, temporary use in cities expanded significantly. Facilities such as temporary testing stations, makeshift hospitals, and isolation centers were quickly set up, becoming critical infrastructure in combating the pandemic. The establishment of these temporary uses was not the result of prolonged decision-making, but rather a rapid response to urgent needs. This phenomenon underscored the value of temporary use in emergency management, allowing cities to swiftly address sudden problems in the short term. The experience of temporary use during the pandemic has provided practical insight for future urban planning, promoting the concept of "dual-purpose for both peacetime and emergencies," which explores how temporary use can play a role during emergencies while integrating its functions during normal times to create an efficient use of space [1].

In this context, temporary use is no longer merely a stopgap measure for emergencies but can also serve as a broader urban planning tool, occupying a vital role in cities through flexible spatial arrangements and resource optimization. This not only reflects the critical nature of temporary use in responding to emergencies but also introduces new thinking on how temporary use can be incorporated into longer-term planning.

(2) Guangzhou Provides a Favorable Environment for Temporary Use

As a national historical and cultural city with over 2,200 years of history, Guangzhou boasts a rich heritage alongside a rapidly developing urban environment. In Guangzhou's urban renewal process, instances of temporary use have become relatively common. For example, land cleared from demolished buildings is used as temporary parking lots, and residential areas have been temporarily converted into warehouses. These examples demonstrate the city's flexibility and the autonomy of its citizens in utilizing spatial resources [2]. Moreover, Guangzhou has shown inclusivity and experimentation in its policies, as seen in

the establishment of temporary zones for mobile vendors, signaling that the concept of temporary use has already been introduced into urban management [3]. This flexible approach and open policy environment provide a solid foundation for the development of temporary use.

The phenomenon of temporary use in Guangzhou not only shares similarities with European models but also reflects the city's unique urban context and needs. In contrast to the more mature systems of temporary use in Europe, Guangzhou's temporary use remains relatively spontaneous and informal, offering an experimental space for urban renewal and resource optimization while also revealing a lack of formalization and systematic management.

(3) Temporary Use as a Potential Solution for the Stalemate in the Daxiaomazhan Revitalization

The Daxiaomazhan Academy complex in Guangzhou, an important historical and cultural site, faces long-term idleness and a breakdown in cultural transmission due to complex property rights and delayed development. During the revitalization process, some historic buildings have been demolished or misused, causing the vitality of the area to gradually decline [4]. Given that the renewal process of historic districts tends to be lengthy, traditional preservation and development methods have not effectively addressed the issues of this area. As a result, temporary use has emerged as a potential solution for maintaining cultural vitality.

Through temporary use, historic districts like Daxiaomazhan can be activated in the short term before formal development, preventing further deterioration of buildings while providing a flexible experimental platform for future preservation and development. This transitional use strategy not only introduces new ideas for the preservation of historic districts but also offers practical experience in how to better integrate preservation with development.

1.1.2 Research Purpose

(1) Providing New Tools for the Regeneration of Historical Districts

With the introduction of the "Urban Repair and Ecological Restoration" policy, the conservation of historical and cultural districts has become a significant topic in urban

renewal[3]. However, conservation efforts are facing stagnation, and the strategy of temporary use offers new possibilities. Since the 1990s, European cities have gradually incorporated temporary use into formal planning systems[4]. Through temporary use, underutilized spaces can be transformed into places for innovation, creativity, and public activities, fostering the revival of historical districts. Temporary use not only activates idle spaces in the short term but also provides opportunities for exploration in long-term development. It can bring positive economic, cultural, and social impacts to the regeneration of historical districts, making it an important tool for reference in historical and cultural district renewal.

(2) Providing New Perspectives for the Protection of Historical Buildings

The best way to protect a building is to use it. Temporary use during periods of vacancy can serve as a potential conservation measure for heritage protection. Temporary use is a mode of urban revival, not necessarily aimed at the restoration of buildings, and the structures in question do not always have to be protected buildings. However, during the use of existing old buildings, transitional use can, on one hand, prevent vacant buildings from being illegally occupied, and on the other hand, to some extent, prevent further deterioration of the buildings[5]. In the process, the value of district heritage gradually becomes more apparent and more easily recognized by the public, reflecting the social value of heritage protection.

Figure 1-1 Temporary Use as Part of the Urban Regeneration Toolkit in Italy
Source: https://www.diamovalorealpaese.agenziademanio.it/it/multimedia/infografiche/dettaglio-infografica/Usi-temporanei

1.2 Definition of Research Objects

1.2.1 Temporary Use

In Europe, temporary use in urban regeneration is an area of action, policy-making, and research that still lacks a unified concept, terminology, and clear understanding. It is used to describe the reuse and reactivation of vacant, leftover, and underutilized spaces in cities. Historically, there have been many similar terms, such as 'temporary use,' 'interim use,' 'pop-up use,' 'transient use,' and more recently, 'meanwhile use'[7]. In this paper, temporary use refers to the temporary utilization of space or resources while awaiting the determination or implementation of long-term uses.

1.2.2 Historic District

The term "Historical Conservation Area" is a unique designation in China, with similar concepts internationally, such as Historic Urban Areas, Historic Areas, and Historic Sites. It, along with the protection of cultural relics and the protection of historical and cultural cities, constitutes the three-tiered system of heritage protection in China, and it is also a key aspect and core content of historical and cultural city protection[8]. According to the "Regulations on the Protection of Famous Historical and Cultural Cities, Towns, and Villages," a historical and cultural district refers to an area, approved and published by the provincial, autonomous region, or municipal people's government, that has a particularly rich collection of cultural relics, a concentration of historical buildings, and can relatively completely and authentically reflect traditional patterns and historical features, while maintaining a certain scale[9].

1.3 Literature Review

1.3.1 Current Status of Domestic Research

(1) Protection and Renewal of Historical Districts

The protection and renewal of historical districts have garnered widespread attention in research, particularly driven by community participation, resilience perspectives, and micro-renewal strategies. Lü Bin (2012), using Nanluoguxiang as a case study, proposed a sustainable regeneration model for old cities, which promotes development through protection and strengthens protection through development. This model mobilized the participation of various social forces, achieving widespread community involvement and sustainable development of the district[10]. Sun Yina (2016), focusing on residential historical districts in Hangzhou, analyzed the challenges of protection and renewal under the context of "organic renewal" and proposed strategies to address these issues, emphasizing the preservation of residential functions and the coordinated renewal of the environment[11]. Yuan Qifeng et al. (2016), from a resilience perspective, discussed the protection and renewal of historical districts in Shantou and Foshan, highlighting the importance of economic, social, and institutional resilience in spatial reconstruction, and emphasized the critical role of scale, public participation, and

institutional support in cultural heritage protection projects[12]. Zhang Xiaoyang et al. (2017), combining practices from historical districts in Guangzhou, explored how the "micro-renewal" strategy, through multi-stakeholder participation and property rights tools, effectively enhances the vitality and residential environment quality of historical districts[13]. Wang Chenghua et al. (2017), in their study of the Pingjiang Historical and Cultural District in Suzhou, proposed the application of a "micro-renewal" model, achieving the protection and renewal of historical and cultural districts through context restoration, catalyst-driven initiatives, and the activation of internal forces[14]. Wang Shifu et al. (2019), through the practice of urban renewal and spatial innovation in Guangzhou, summarized micro-renewal strategies for existing residences, buildings, and historical districts, and proposed innovative institutional paths for urban renewal[15]. Wang Jianguo (2021) studied the adaptive protection and vitality regeneration of Yixing Dingzhu Ancient South Street, exploring functional enhancement and protection strategies under complex social conditions, and proposed practical paths with demonstrative value[16]. Hao Zhiying (2024), from the perspective of building and land reuse, explored key issues in the renewal of historical and cultural districts, providing methodological support for improving district quality through quantitative evaluation and potential identification[17]. These studies on historical districts suggest that their protection and renewal require the integration of community participation, resilience building, and micro-renewal strategies. Through multi-stakeholder collaboration and innovative paths, the continuation of cultural heritage and the vitality regeneration of urban spaces can be achieved.

(2) Research on Temporary Use

There are relatively few studies on the application of temporary use strategies domestically, and the existing literature mainly focuses on analyzing and drawing from Western theories, providing further localized guidance based on the domestic social environment. Dong Yiping and Hou Binchao (2012), through the analysis of the Sulzer Industrial District warehouse square in Winterthur, Switzerland, revealed specific strategies and the significance of temporary use in the regeneration of industrial building heritage, and reflected on its applicability in the Chinese context[18]. Yang Shan (2018) explored the development and related research of "transitional use" domestically and abroad, sorting out its concepts, characteristics, and mechanisms, and emphasized its importance in the renewal of

urban stock in China[19]. Liu Qianru (2021) further elucidated the advantages of temporary use in optimizing urban leftover spaces, particularly its flexibility, diversity, and innovativeness, and proposed specific strategies for planning, operation, and environmental design[20]. Wan Tingting and Li Mingye (2021), through a detailed study of the transitional use project "Les Grands Voisins" in Paris, demonstrated the exploratory role of transitional use in mitigating district decline and promoting urban regeneration, offering insights for the adaptive reuse of Chinese urban heritage[6]. Deng Linna and Tang Yan (2022) conducted an in-depth analysis of temporary use in the renewal of industrial land in Germany, distinguishing between passive and active types of temporary use and exploring their roles and management mechanisms in industrial land transformation. They found that passive temporary use precedes formal planning, while active temporary use is advanced under planning guidance[21]. Zhao Guanhua (2022), in the study of the "Edible Landscape" project in Pidu District, Chengdu, combined theories of spatial production and collaborative governance, analyzing key practices and interest coordination mechanisms in the use of idle land[22]. Lu Kuan (2022) summarized the application models of temporary use in urban renewal, proposing strategies from informal transitional use to formal planning and exploring its impact on subsequent planning[23]. Deng Linna and Tang Yan (2023) discussed the connotation of temporary use from the aspects of adaptability, processuality, and agency, and revealed the core issues of its development domestically and abroad through comparative research[5].

These studies collectively indicate that temporary use has played a crucial role in urban renewal and, through flexible implementation strategies, has driven the regeneration of industrial heritage and the efficient utilization of urban spaces, providing rich practical experience and theoretical support for the sustainable development of future cities.

Theme	Title	Research Object	Main Contribution	Year	Type
Temporary Use	Temporary-use Model in Industrial Heritage Conservation and Regeneration: A Case Study on Sulzer-Areal in Winterthur, Switzerland	Sulzer Industrial Area in Winterthur, Switzerland	Analyzes strategies for using temporary use in industrial heritage protection and its applicability in China.	2012	J
	Development and Research of Interim Use: An Innovative Perspective for Urban Study	Development of Interim Use in Domestic and International Contexts	Proposes the concept of interim use, exploring its significance in China's urban regeneration.	2018	J
	Research on Temporary Use Theory in Renewal of Urban Residual Space	Urban Residual Space	Suggests the flexibility and innovation of temporary use in optimizing urban residual space.	2021	D
	Study on the French Temporary Use Model of Historic Districts Regeneration and Enlightment on the Adaptive Reuse of Urban Heritage in China	Saint Vincent de Paul Hospital in Paris	Draws from French experiences to suggest adaptive reuse for historical districts in China.	2021	J
	Temporary Uses in the Regeneration of Industrial Lands in Germany: Case Studies of Media Spree and HafenCity	Media Spree and HafenCity, Germany	Compares two modes of temporary use in Germany's industrial land regeneration and their impact.	2022	J
	Coordinated management promotes the idle land to be used temporarily: A case study of the edible landscape in Chengdu	Pidu District, Chengdu	Explores coordinated management and temporary use strategies for idle land in the context of governance.	2022	D
	Temporary Action for Long-term Change: Urban Regeneration Strategies from the Perspective of Interim Use	Urban Regeneration Projects	Summarizes three modes of interim use and discusses their applications in urban regeneration.	2022	D
	The Domestic and International Research Progress of Temporary Use and Its Value and Connotation	Theoretical Research on Temporary Use	Reviews domestic and international developments in temporary use and key issues.	2023	J
Theme	**Title**	**Research Object**	**Main Contribution**	**Year**	**Type**
Historic Districts	Sustainable Regeneration Practice in the South Luogu Lane Based on the Community: A Model for Old City Historic Districts' Protection and Development	Nanluoguxiang Historic District, Beijing	Proposes a sustainable regeneration model that combines protection and development for historic districts.	2012	J
	Protection and Renewal of Residential Historic Districts under the background of Urban Organic Renewal in Hangzhou	Residential Historic Districts in Hangzhou	Analyzes strategies for organic renewal in Hangzhou's residential historic districts.	2016	D
	Historical District Preservation and Renovation from Tenacity Angle: A Comparison Between Shantou and Foshan Cases	Historic Districts in Shantou and Foshan	Proposes resilience-based approaches for protecting and renewing historic districts.	2016	J
	The Implementable "Micro-Reform": A Strategy for Activating Historic Districts	Historic Districts in Guangzhou	Suggests micro-reform strategies for activating historic districts, emphasizing multi-stakeholder participation.	2017	J
	Protection and Renewal of Historical and Cultural Blocks at the Micro-level: A Case Study of Pingjiang Historic and Cultural Block in Suzhou	Pingjiang Historic and Cultural Block in Suzhou	Proposes micro-renewal strategies to strengthen internal motivation in historic districts.	2017	J
	Guangzhou Urban Regeneration and Spatial Innovation	Urban Renewal Projects in Guangzhou	Summarizes spatial and institutional innovation in Guangzhou's urban renewal projects.	2019	J
	Exploring the Approaches of Adaptive Conservation, Reconstruction and Revitalization ofHistoric Districts: A Case Study ofGunanjie Street in Dingshu, Yixing	Gunanjie Historic District, Yixing	Proposes pathways for adaptive conservation and revitalization of historic districts.	2021	J
	Research on Historical and Cultural Districts Renew Strategy and Practice: Feasibility Assessment on Buildings and Land Reuse	Historical and Cultural Districts	Discusses the feasibility of building and land reuse strategies in the renewal of historic districts.	2024	J

Table 1-1 Overview of Relevant Domestic Literature

Source: author

1.3.2 Current Status of Foreign Research

(1) Definition and Scope of Temporary Use

Temporary use, as a strategy to address urban space scarcity and resource constraints, has received widespread attention and application in modern urban planning abroad. The Urban Catalyst (2011) research project, conducted in European cities such as Helsinki, Amsterdam, and Berlin, developed action models and strategic planning tools that effectively integrated temporary uses into long-term urban development, providing important references for architects, planners, and municipal authorities[24]. Peter Bishop and Lesley Williams (2012) further explored how, in the context of increasingly scarce resources, temporary use has become an important means of urban renewal, emphasizing its legitimacy and significance as a tool for gradual change in modern planning[25]. Urban Catalyst (2013), in The Power of Temporary Use, summarized various temporary use strategies, showcasing their roles in promoting niche economic development and addressing legal challenges, and highlighted successful examples from major European cities[26]. Ali Madanipour (2017) focused on the application of time as a resource in temporary urbanism, analyzing the cultural and identity crises brought about by the instrumentalization of temporality and proposed strategies to address these challenges[27]. Arup and the Greater London Authority (2020), through stakeholder interviews and case studies in London, demonstrated how temporary use can enhance urban resilience, support community development, and promote social and environmental goals[28]. Q Stevens and K Dovey (2023), through their research on 21st-century temporary and tactical urbanism, revealed the profound impact of these strategies in enhancing urban intensity, creativity, and adaptability[29].

(2) The Instrumentalization of Temporary Use

The role of temporary use as an urban planning tool has increasingly gained attention, especially in the post-industrial context where it demonstrates unique value. Lehtovuori and Ruoppila (2012) emphasized that temporary use not only serves experimental purposes but also brings numerous social and commercial benefits. Particularly in European cities, government-led project strategies have successfully integrated temporary uses into urban development, redefining the functions of urban spaces[30]. Graham (2012), in a study of Winnipeg, explored how temporary use reactivated underutilized spaces, highlighting its critical role in slow-growth cities and suggesting policy adjustments to support more

temporary projects[31]. Frisk et al. (2014) proposed the concept of "Temporary Use 2.0," further positioning temporary use as a tool for testing and developing new urban environments, especially in the reuse of industrial sites, demonstrating its great potential and flexibility[32]. URBACT (2015), through the TUTUR project, showcased the practical application of temporary use in urban renewal, developing policy tools to support the temporary utilization of vacant properties, providing new pathways for urban revival[33]. Bragaglia and Caruso (2020), from the perspective of urban regeneration, discussed the dual role of temporary use in urban revival and neoliberal policies, analyzing its complexity and diversity through European case studies[34].

(3) Temporary Use and Historical Heritage

Temporary use as a strategy for the protection and reuse of historical heritage has also shown significant potential. Tuohy Main (2014), through the analysis of international cases, emphasized the practical value of temporary use in dealing with endangered historical buildings. This strategy not only prevents further structural threats but also effectively activates vacant and underutilized heritage buildings[35]. Mariko Ikeda (2022), in her study of Berlin, explored the contribution of temporary use to sustainable urban development from a heritage protection perspective, particularly in temporary projects that have evolved into permanent commercial uses. This research demonstrated the key role of temporary use in preventing building decay and revitalizing urban areas, while promoting sustainable urban development through public participation[36]. Dario Zoric (2023), focusing on the protection and economic activation of port cultural heritage, proposed that the TEMPUS project enhanced the cultural value and economic vitality of port heritage through temporary use, emphasizing the long-term impact of this tool in promoting urban economic development and strengthening community identity[37].

Through the study of foreign literature, it is evident that temporary use has evolved from an emergency measure into a core strategy of modern urban planning. It effectively addresses urban space scarcity and resource constraints, playing a critical role in the protection of historical heritage and urban regeneration. The flexibility and wide application of temporary use provide new momentum for sustainable urban development and will continue to play a vital role in promoting cultural and economic revival in the future.

Theme	Title	Research Area	Main Contribution	Year	Type
Temporary Use	Urban catalyst: Strategies for temporary use	Helsinki; Amsterdam; Berlin; Naples; Vienna	Investigates the potential of temporary use in urban development and develops strategies and planning tools.	2011	M
	The Temporary City	Europe; North America	Discusses the growing legitimacy of temporary use as a tool for incremental change in urban planning.	2012	M
	The Power of Temporary Use	Europe	Summarizes different strategies for temporary use across European cities and their implications.	2013	M
	Cities in time, temporary urbanism and the future of the city	Europe; North America	Explores the risks of commodifying temporality in urban spaces, such as gentrification and commercialization.	2017	M
	Meanwhile Use London-A Research Report ForThe Greater London Authority	London	Highlights the broader social value and flexibility of temporary use in fostering resilient and innovative growth.	2020	R
	Temporary and tactical urbanism:(Re) assembling urban space	Europe; North America	Examines the material, social, and political complexities of small-scale, temporary urban interventions.	2023	M
Theme	**Title**	**Research Area**	**Main Contribution**	**Year**	**Type**
Temporary Uses as Tools	Temporaryuses as means of experimental urban planning	Europe	Discusses temporary use in urban renewal, emphasizing its experimental nature and various governmental approaches.	2012	J
	Temporary uses as tools for urban development	Winnipeg, Canada	Explores the effectiveness of temporary use in reactivating underutilized spaces and supporting strong urban design.	2012	M
	Temporary use 2.0: a tool for planning and developing the new urban context	Denmark	Focuses on temporary use in previously industrial areas as a tool for planning and testing ideas.	2014	C
	Temporary Use as a Tool for Urban Regeneration	Europe	Highlights a policy tool developed to encourage temporary use of abandoned properties in various cities.	2015	R
	Temporary uses: a new form of inclusive urban regeneration or a tool for neoliberal policy?	Europe	Analyzes temporary urbanism's role in city regeneration, questioning its alignment with inclusive or neoliberal policies.	2020	J
Theme	**Title**	**Research Area**	**Main Contribution**	**Year**	**Type**
Temporary Use and Heritage	Temporary Use: A Potential Strategy for Historic Buildings At Risk	Britain	Investigates how temporary use can be employed as a strategy for endangered historic buildings.	2014	J
	Temporary Uses as a Toolkit for Heritage-Led Sustainable Urban Development	Berlin	Reassesses the role of temporary use in heritage conservation through case studies in Berlin.	2022	C
	Temporary Uses as Start-Up Actions to Enhance Port (In)Tangible Heritage	Italy; Croatia	Explores the TEMPUS project's use of temporary actions to enhance tangible and intangible port heritage.	2024	R

Table 1-2 Overview of Relevant International Literature
Source: author

1.4 Research Content and Methods

1.4.1 Research Content

(1) Organizing the Complete Process of Temporary Use

First, the research will systematically organize the process of the temporary use strategy, including the selection of space types, clarification of participant roles, project planning and lifecycle settings, as well as discussions on funding sources and operational models. By formulating exit strategies and evaluating their long-term impact, the study will clarify the application framework of temporary use strategies in historical districts, providing a foundation for subsequent regeneration practices.

(2) Establishing a Classification of Temporary Use Models

Based on the organization of the temporary use process, the research will summarize several major models of temporary use, starting from domestic and international case studies. Each model will be analyzed in detail according to its application scenario, target audience, and resource requirements. This will form a classification framework that provides a theoretical basis for specific applications.

(3) Exploring the Applicability of Temporary Use in China

The research will explore the applicability of the temporary use strategy in terms of policies, land use, and socio-economic aspects, combined with existing temporary use phenomena in Guangzhou. By referencing relevant regulations, the study will propose development paths for temporary use adapted to the Chinese context.

(4) Analyzing the Current Protection and Utilization Status of the Daxiaomazhan Academy Cluster and Its Temporary Use Potential

Through field research and literature analysis of the Daxiaomazhan Academy Cluster, the research will assess the historical value, spatial characteristics, and current protection and utilization status of the area in detail. The study will focus on analyzing the deficiencies in space utilization and, by identifying key issues that hinder its sustainable development, further explore its potential for temporary use, providing a basis for subsequent strategy formulation.

(5) Researching the Application of Different Models in the Regeneration of Historical Districts

Finally, combining the actual situation of the Daxiaomazhan Academy Cluster, the research will analyze how different temporary use models can be implemented in the renewal process of the academy cluster and explore the possibility of integrating multiple models.

Through this multi-level combination of models, the study aims to ensure that cultural heritage preservation, social interaction, and spatial sustainability are balanced in the regeneration of historical districts, promoting the integration of temporary use and historical district regeneration.

1.4.2 Research Methods

Literature Review: The research extensively reviewed domestic and international literature on temporary use strategies and the regeneration of historical districts, constructing a theoretical framework. It studied relevant regulations and government planning documents and also referenced the application of temporary use strategies in historical districts abroad, providing theoretical support and practical guidance for the research. These literature sources cover academic journals, monographs, theses, and various government reports.

Organization and Summarization: Based on the literature review, the research systematically organized and summarized the temporary use strategies through data statistics and chart analysis. By conducting a horizontal comparison of different temporary use models, the advantages and disadvantages in various scenarios were extracted. For the Daxiaomazhan Academy Cluster in Guangzhou, the research organized its historical background and architectural spatial characteristics, laying the foundation for subsequent field research and classification analysis.

Classification Analysis: The research adopted a classification analysis method to explore temporary use strategies from multiple dimensions. By analyzing successful domestic and international cases, the study classified them based on implementation methods, funding sources, and outcomes. Combined with the characteristics of the Daxiaomazhan Academy Cluster, the research assessed its feasibility and challenges in Guangzhou, refining the application models of temporary use strategies.

Field Investigation: Through on-site visits to the Daxiaomazhan Academy Cluster in Guangzhou, the research obtained firsthand data on the current state of space utilization. Combined with photography and drawing methods, the current state of the site was recorded in detail. A questionnaire survey was also conducted to understand residents' perceptions and attitudes toward the site, providing social background information for strategy formulation.

Data Collection: Through literature analysis, field investigation, and classification research, a large amount of data was collected, including historical archives, site plans, and traffic data. The organization and analysis of these data provided a solid foundation for formulating scientific and reasonable temporary use strategies.

1.5 Research Framework

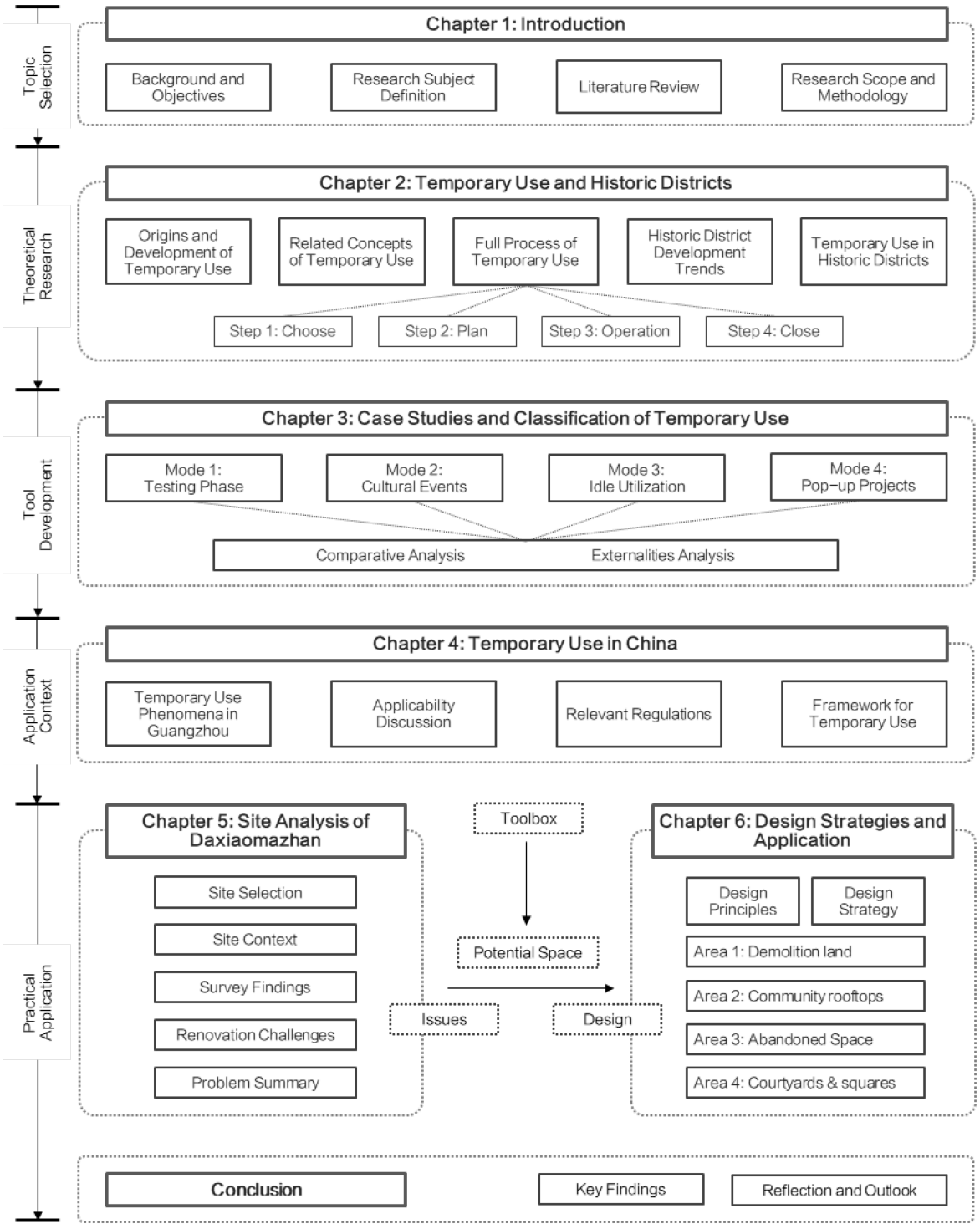


Figure 1-2 Thesis Framework Diagram
Source: author

This research constructs a comprehensive research framework through six chapters, gradually exploring the application paths of temporary use in the protection and regeneration of historic districts, from theoretical review to practical application.

The first chapter introduces the research background, highlighting the importance of temporary use during the pandemic. It also points out that, considering Guangzhou's unique environment, temporary use can provide a potential solution to the revitalization challenges of the Daxiaomazhan Academy complex. The research defines the concepts of "temporary use" and "historic districts," reviews the current state of relevant research, and clarifies the research objectives and methods, laying the foundation for the following chapters.

The second chapter delves into the origins and development of temporary use, focusing on its evolution in Europe and its application in historic districts. By analyzing the complete process of temporary use, including the four key steps—selection, design, operation, and exit—a theoretical framework is formed. The chapter also analyzes the trends in the renewal of historic districts in Guangzhou and summarizes the advantages of temporary use in protecting historic districts.

The third chapter, based on case studies, establishes four modes of temporary use: the testing phase, cultural events, idle utilization, and pop-up projects. Each mode is analyzed in depth through typical case studies, comparing their differences in funding, policies, social participation, and other factors, while also discussing their external impacts. This chapter provides theoretical support for the specific application of temporary use in the regeneration of historic districts.

The fourth chapter focuses on the Chinese context of temporary use, analyzing relevant practices in Guangzhou and discussing the applicability of temporary use in China’s urban renewal. By reviewing existing regulations, the chapter proposes suggestions for standardizing and improving the framework for temporary use.

The fifth chapter analyzes the site of the Daxiaomazhan Academy complex, exploring its historical evolution, the current state of buildings, and issues in the implementation of plans. It summarizes the site’s strengths and challenges and points out the main difficulties faced

during the renewal process, providing practical context for the design of temporary use strategies.

The sixth chapter, based on previous research, proposes temporary use design strategies for the Daxiaomazhan Academy complex. It defines the design principles, identifies four potential spaces—demolition land, community rooftops, abandoned commercial spaces, and courtyards or plazas—develops specific temporary use plans, and discusses the advantages, challenges, and policy suggestions of these plans.

1.6 Summary

This chapter first introduces the research background, emphasizing the importance of temporary use during the pandemic and Guangzhou's favorable environment for temporary use. It points out that temporary use offers a potential solution to the revitalization challenges faced by the Daxiaomazhan Academy complex. The research aims to provide new tools and perspectives for the regeneration of historic districts and the protection of historic buildings. By defining the concepts of "temporary use" and "historic districts," the chapter reviews the current state of domestic and international research, clarifies the research content and methods, and paves the way for the in-depth discussions in the subsequent chapters.

Chapter 2 Temporary Use and Historical District

2.1 Origins and Development

2.1.1 Temporary Use

The concept of "Temporary Use" originates from the post-war context of European cities, with Germany being a typical example. After World War II, due to social, economic, and political turbulence, especially under the background of the division between East and West Germany, urban development in Berlin stagnated, leaving a large number of buildings vacant for a long time, particularly in the Kreuzberg area along the Berlin Wall. Due to inconvenient transportation and the lack of planning for these spaces, owners, in order to reduce economic losses, chose to temporarily open these idle spaces to vagrants while also receiving tax incentives[20]. The government and property owners tacitly allowed self-help projects and squatting, which marked the emergence of temporary use[38].

2.1.2 The Development of Temporary Use in Europe

Temporary use originated in Western Europe and has gone through three main development stages as a method of urban renewal.

The First Stage (1980s to 1990s): Temporary use was primarily driven by spontaneous social reform, lacking policy support and often involving non-compliance. However, as governments and scholars began researching vacant spaces, planning and institutional support gradually emerged, such as the land compatibility and project incentive policies implemented in Leipzig, Germany, and Basel, Switzerland, which promoted the formalization of temporary use.

The Second Stage (Early 21st Century): Temporary use expanded to North America under government guidance and became mainstream in urban renewal. During this time, organizations such as "Urban Catalyst" in Europe further promoted the development and professionalization of temporary use through the publication of monographs and research projects.

The Third Stage (2010s to Present): Temporary use has been more widely promoted through top-down policies, with typical projects such as the HafenCity development in Hamburg, Germany, and the protective regulations of Tempelhof Airport in Berlin. Meanwhile, the popularization of internet technologies has turned temporary activities and pop-up stores into new urban landscapes, driving social media influence[5].

Temporary use has evolved from early spontaneous activities to a government-supported and institutionalized urban renewal strategy, becoming more diversified in form and having a positive impact on urban function transformation and economic growth.

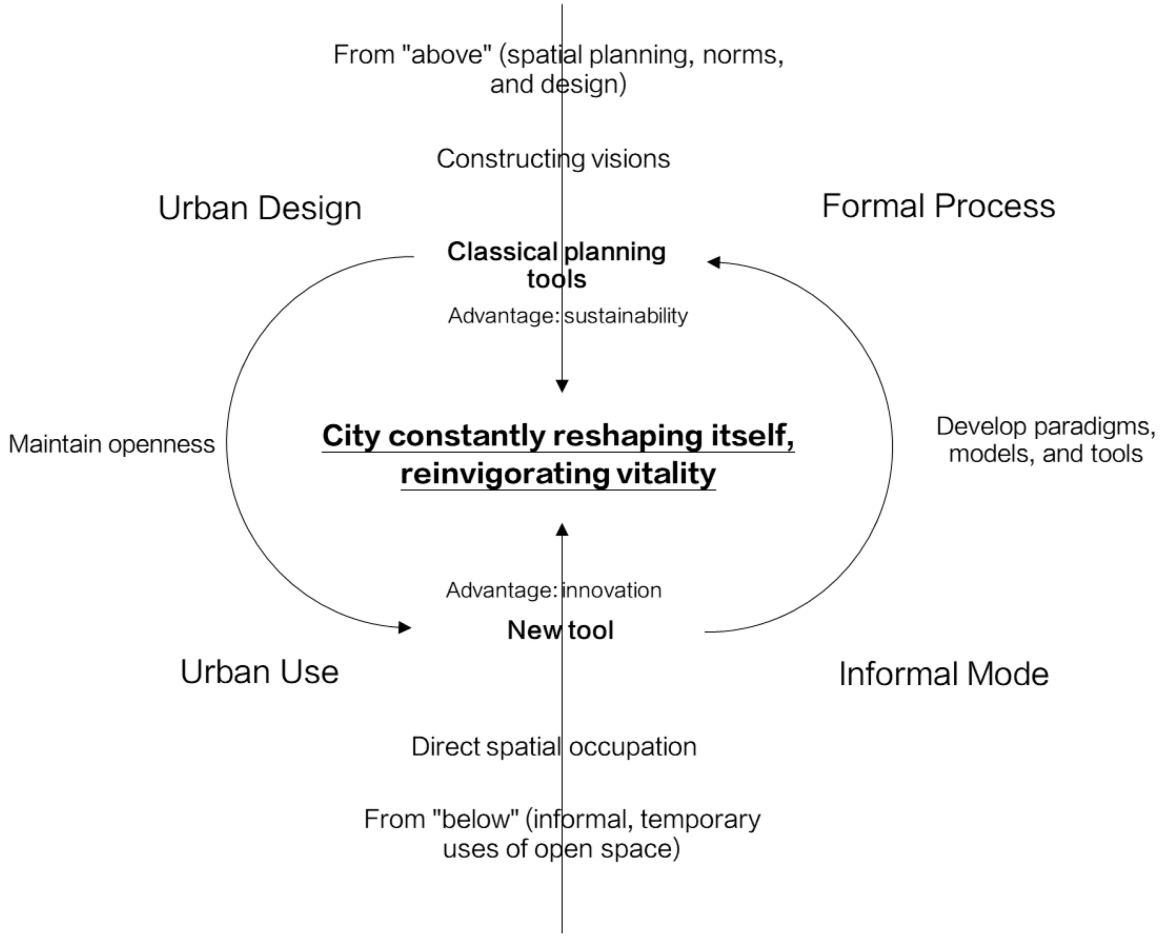


Figure 2-1 Integration of Temporary Use into Traditional Planning Tools
Source: author

2.2 Conceptual Clarifications

Interim Use/Meanwhile Use refers to the temporary utilization of space for other purposes during gaps in its intended use. This type of use is usually not solely motivated by

economic reasons but rather seeks to maximize the utility of the space during its transitional period by integrating short-term use with the space's dominant function. Meanwhile, "Meanwhile Use" focuses more on using idle buildings for social welfare purposes until these buildings can return to regular commercial use. This practice has become a recognized renewal strategy among developers, property owners, and tenants in the UK.

Pop-up Stores are a trend in short-term space leasing that originated in Canada, the United States, the UK, and Australia. These projects are typically associated with brand promotion or commercial activities, quickly attracting consumer attention before withdrawing shortly afterward. Unlike other forms of temporary use, pop-up stores tend to prioritize commercial interests rather than community benefits[35].

Tactical Urbanism is a neighborhood-building approach led by citizens or urban leaders, using short-term, low-cost, scalable interventions to catalyze long-term community change. For citizens, tactical urbanism bypasses bureaucratic procedures to achieve community improvements. For developers, it provides an opportunity to test ideas before formal development as a "Phase 0" project. For municipal authorities, it helps raise public awareness of participation, increasing citizen involvement during project development[39].

DIY Urbanism emphasizes micro-urban space transformations initiated spontaneously by citizens, which have garnered attention worldwide in recent years. These transformations include guerrilla gardening, community gardening, housing cooperatives, pop-up actions, and subcultural practices like skateboarding, graffiti, and parkour, all of which have had a significant impact on shaping urban spaces[40].

Temporary use, interim use, and meanwhile use are the most commonly used terms and are more related to temporary solutions such as marketing and placemaking strategies to promote urban regeneration. These concepts are more common in the UK and Europe, focusing on physical transformations of space within a limited time frame. In contrast, tactical urbanism and DIY urbanism are more commonly associated with alternative uses/users and grassroots or rebellious placemaking. These concepts are more popular in North America and Australia, emphasizing bottom-up spatial practices and the new forms of social agency developed through these practices.

Although there is no consensus on the theoretical definition of "temporary use," literature from different countries consistently emphasizes similar themes[41]. These recurring themes include innovative urban use, use outside of traditional development cycles, urbanism forms often associated with crises, interventions in vacant lots and buildings, community-oriented socially beneficial proposals, and practical use during the pause of property processes.

2.3 The Full Process of Temporary Use

In the full lifecycle of temporary use, its operational process can be summarized into four key steps: Choose, Plan, Operation, and Close. These four steps need to be considered before the initiation of temporary use. Below is a systematic discussion of the process based on these steps.

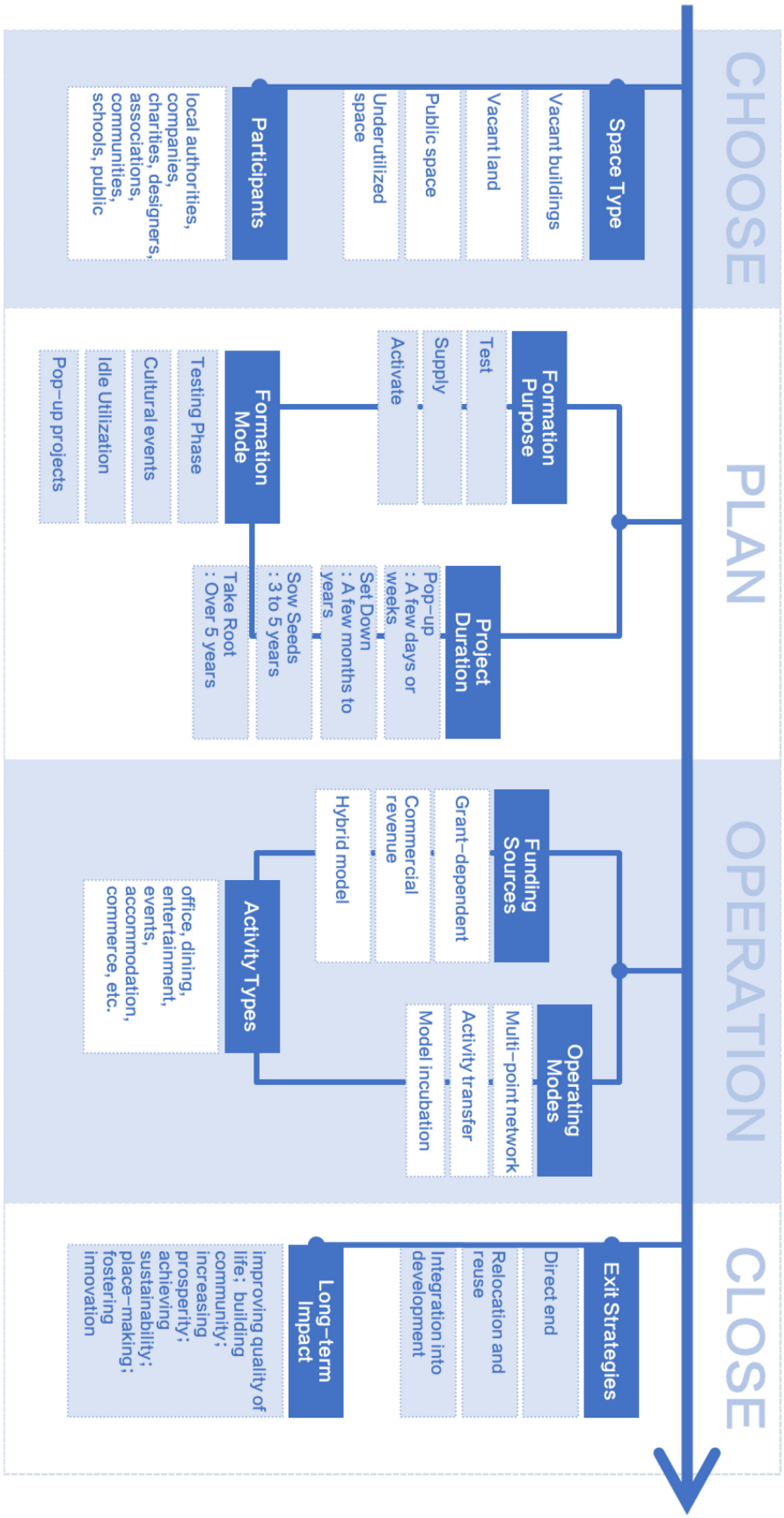


Figure 2-2 Full Process Diagram of Temporary Use
Source: author

2.3.1 Step 1: Choose

(1) Space Type

The types of space used for temporary projects are diverse and often occur in unused or idle buildings and sites, with users typically not owning the property rights to these spaces. Spaces with low public attention, those that are relatively hidden or inconspicuous, are more likely to be used for temporary projects. In addition, some well-located buildings or land may be difficult to undertake long-term redevelopment for various reasons, making them suitable for short-term projects[19]. The main types of spaces for temporary use include vacant buildings, vacant land, public spaces, and underutilized spaces.

Vacant Buildings: These are typically buildings that have been abandoned due to age-related deterioration or functional decline. While these buildings may still have complete infrastructure, they have not been effectively utilized for a long time.

Vacant Land: Some parcels of land in cities remain vacant during long periods of pre-development. These vacant plots are temporarily unused due to policy, economic, or planning reasons and are not immediately available for development.

Public Spaces: These spaces include plazas, streets, and parking lots, typically used for daily transportation or social activities. However, during certain periods, public spaces can also be utilized for temporary purposes.

Underutilized Spaces: These spaces are usually found inside or around buildings, such as vacant floors within buildings, rooftop spaces, or abandoned courtyards. Although these spaces have potential functions, they have not been effectively developed due to insufficient planning or management.

(2) Participants

In temporary use projects, the participation of multiple roles is essential to drive the success of the project and achieve social benefits. Each role's unique function and responsibility contribute to the project's implementation, from the generation of ideas, financial support, provision of space, to decision-making, promotion, and ultimately benefiting from the project. All these aspects are interlinked. The roles include idea creators, funders, space providers, decision-makers, promoters, beneficiaries, and coordinators[27]. Each

role plays a specific function at different stages of the project to ensure the smooth progression from conception to implementation.

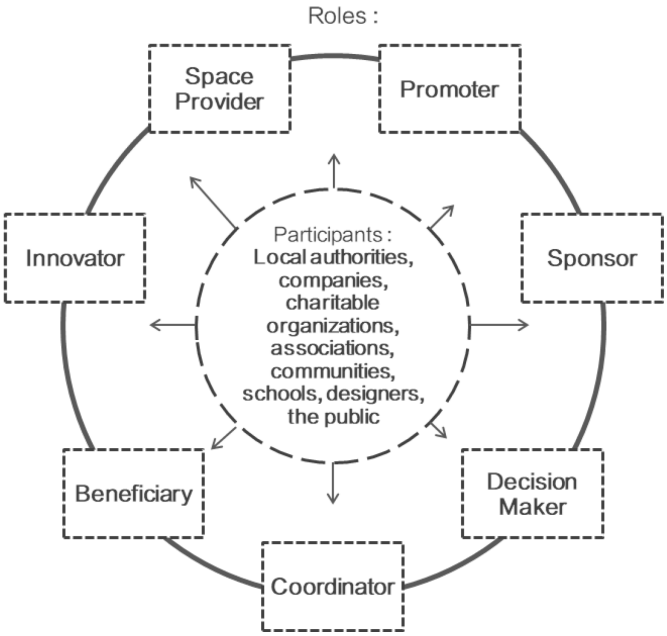


Figure 2-3 Participants and Their Roles in Temporary Use
Source: author

Innovator: Responsible for proposing innovative ideas that meet the needs of the community and the goals of urban development, usually represented by architects, designers, community members, or local governments. Their creativity provides the vision and foundation for the temporary use project.

Sponsor: Provide financial support for the project, which may come from the government, businesses, or charitable organizations, ensuring the initiation and continuous operation of the project.

Space Provider: These are the actual site providers of the project, typically from the government or developers, offering idle or underutilized spaces.

Decision-Maker: They ensure the legality and public interest of the project through administrative approval, promoting the implementation of the project according to regulations.

Promoter: Possessing project operation experience, they participate in the initiation and activation of the project, ensuring its long-term sustainability.

Beneficiary: These are the groups that ultimately benefit from the project, usually including community residents and businesses. Their feedback helps optimize the project.

Coordinator: They are responsible for facilitating communication and cooperation among all parties, usually represented by local governments or consulting intermediaries.

2.3.2 Step 2: Plan

(1) Formation Purpose and Modes

In the next chapter, through literature review and case analysis, temporary use is categorized into three purposes and four modes. The testing phase mode is primarily used to test ideas, cultural events and pop-up projects focus on space activation, and idle utilization is used to fill needs. By analyzing and comparing these modes, their best applicable situations are identified.

The testing phase mode is suitable for experimental projects with significant funding support and policy backing. It is typically used in urban renewal or newly planned areas to assess the potential and future direction of the space. In historic districts, the testing phase mode can explore paths for revitalizing spaces and evaluate whether temporary renovation is compatible with long-term preservation goals. For example, by introducing short-term experimental projects, it is possible to observe how to activate the space without damaging historic buildings and accumulate experience for future permanent renovation. The success of such projects often depends on government leadership and policy support, ensuring the project's long-term value for historic district preservation.

The cultural events mode is primarily used to attract public and media attention in the short term, invigorating urban spaces through large cultural activities. This mode is particularly suited for the short-term cultural revival of historic districts, where festivals or art exhibitions can quickly increase the district's visibility and promote social engagement. These activities help strengthen the community's cultural identity and bring short-term economic benefits to the historic district. However, due to the high density of temporary events and the influx of large crowds, the cultural events mode must balance protecting historic buildings with attracting visitors, avoiding over-commercialization or damage to the district's original character.

The idle utilization mode emphasizes reactivating idle resources through social participation and government support, particularly in resource-constrained old city areas or historic district preservation efforts. Historic districts often face long-term vacancy and insufficient preservation funding, and the idle utilization mode offers a flexible transitional solution for these spaces. With moderate budget requirements and high community participation, the government can gradually guide the community to participate in the renovation of historic districts, unlocking their potential value. By temporarily using idle buildings in historic districts, not only is further deterioration avoided, but a foundation is also laid for long-term preservation and development.

The pop-up project mode is characterized by low costs and flexible deployment, suitable for short-term projects such as temporary markets or emergency facilities. This mode requires minimal spatial demands and can respond quickly, often fitting situations with limited policy support. In historic districts, pop-up projects can be used for temporary markets, exhibitions, or short-term cultural spaces, helping to inject short-term vitality into the area while minimizing the impact on historic buildings. It meets short-term economic and social needs and brings attention and foot traffic to the historic district without interfering with its long-term preservation plans.

Through analysis and comparison, it becomes clear that each mode can be applied in historic districts and has its unique applicable scenarios and value. The testing phase mode is suitable for early exploration in long-term planning and preservation, the cultural events mode brings about short-term cultural revival, the idle utilization mode provides a transitional means for long-term revitalization and community engagement, and the pop-up project mode plays a role in quick responses to short-term needs.

(2) Project Duration

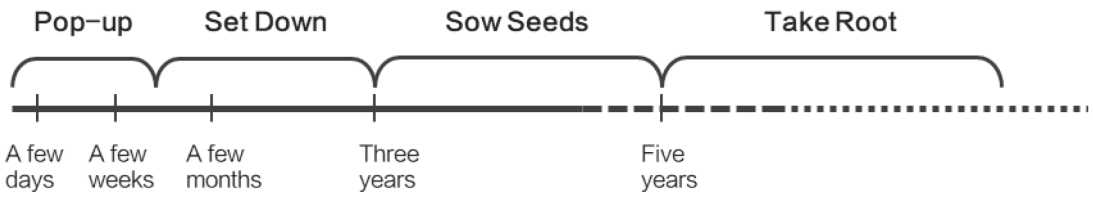


Figure 2-4 Lifespan of Temporary Use Projects
Source: author

The lifespan of temporary use projects is a key consideration. Different lifespans serve different goals, making it essential to plan a reasonable time frame. Based on their duration, this paper categorizes the lifespans of temporary use projects into four main types: pop-up events, set down activities, sow seeds projects, and take root initiatives.

Pop-up events have the shortest lifespan, usually lasting a few days to a few weeks. They quickly attract public attention through short-term events such as parties or festivals. These are simple to organize, do not require complicated planning permissions, but still need financial support. Although short-lived, pop-up events often pave the way for more long-term projects by serving as a warm-up. Set down activities have a longer time span, possibly lasting months to years. These activities require more detailed preliminary planning and sustained investment, typically organized by community groups with the goal of providing ongoing events and participation opportunities for the community.

Sow seeds projects typically last three to five years, involving larger investments and requiring planning permissions and building regulations approval. They often play an experimental role, laying the groundwork for future long-term development, serving as "seed projects" for urban growth, with an impact extending beyond the project's timeframe. Take root initiatives have the longest lifespan, usually over five years. These are large-scale regeneration projects that require collaboration from multiple parties and significant investments. Although still considered temporary use, they have profound long-term social and economic benefits for the community and often drive the long-term development of the site.

2.3.3 Step 3: Operation

(1) Funding Sources

The funding sources for temporary use can be divided into three modes: grant-dependent mode, hybrid mode, and commercial mode[28].

Grant-dependent mode focuses on achieving social goals, relying on public or private funding and subsidies. It is usually operated by charities or social enterprises and is commonly used for community projects, affordable housing, or emergency shelter. These projects mobilize resources by stimulating social value, but since they are difficult to self-

finance, long-term financial stability depends on external funding. Although rent is often waived, service and maintenance costs are borne by the funder or tenant, making it challenging to maintain a stable cash flow in this mode.

The hybrid mode balances social and commercial objectives by combining commercial revenue with subsidies to meet social needs, such as providing affordable workspace or training centers. The advantage of this mode is that commercial activities supplement funding, reducing reliance on external support. However, there is also the challenge that commercial activities may weaken social objectives. Its flexibility allows space providers to test different uses and provide references for future development.

The commercial mode focuses on profitability, usually operated by companies or social enterprises, relying on commercial activities for financial independence. This mode is common in retail, dining, or office spaces. It is easy to obtain loan support and helps achieve quick profitability, but faces higher financing costs and challenges in building connections with the community. Through revenue-sharing and short-term investments, the commercial mode can achieve sustainable returns.

Category	**Grant-dependent Model**	**Hybrid Model**	**Commercial Model**
Purpose	Social focus	Mix of social and commercial goals	Mainly commercial, with some social elements
Examples	Community gardens, affordable housing, civic group offices	Affordable offices, workshops, retail, event spaces, training centers for vulnerable groups	Retail, dining, event, and office spaces
Opportunities	Leverage social capital (volunteers, community resources) for low-cost activities	Low rent allows access for organizations unable to afford market rates	Easier access to loans through company registration
Challenges	Covering operational and maintenance costs	Balancing revenue generation with maintaining social focus	Securing assets for larger loans to expand operations
Business Model	Reliance on public/private funding, possible revenue from social activities, rent-free space for managing organizations	Mix of revenue from activities, grants, and subsidies	Revenue from commercial activities, sharing profits with site owners (developers, councils)

Table 2-1 Funding Models for Temporary Use
Source: author

(2) Operating Modes

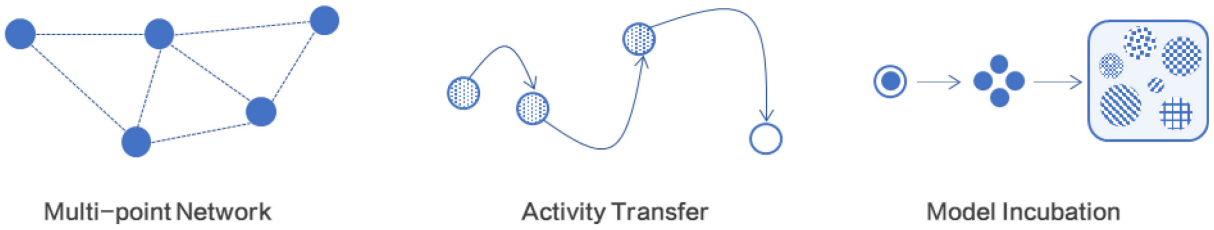


Figure 2-5 Operational Models of Temporary Use
Source: Reference [20]

The operating modes for temporary use are mainly divided into three types: multi-point network mode, activity transfer mode, and model incubation mode. Each mode has its own characteristics in terms of implementation logic, applicable scope, and social effects.

The multi-point network mode is characterized by low cost, high replicability, and easy scalability. It relies on public initiative, adapting to different environments, and activates urban resources through small-scale space transformations. It does not require significant professional support but instead relies on bottom-up actions, forming interactions between multiple nodes, and mobilizing social forces extensively to address rapidly changing urban needs.

The activity transfer mode emphasizes the relay-like dissemination of projects across multiple locations, relying on professional teams for planning and execution. By reusing mobile buildings or local materials, the activity transfer mode can establish connections between multiple communities and gradually expand social influence. This mode is suitable for projects that require high community participation and strong organizational capabilities, helping form an interregional urban network across multiple space nodes.

The model incubation mode is usually initiated by spontaneous community action, which may initially operate in a gray area. However, as it successfully demonstrates social value, it gradually gains recognition from the government and local institutions. The goal of this mode is to use small-scale temporary interventions to eventually drive community revitalization, showcasing the potential to transition from temporary use to long-term social change[20].

2.3.4 Step 4: Close

(1) Exit Strategies

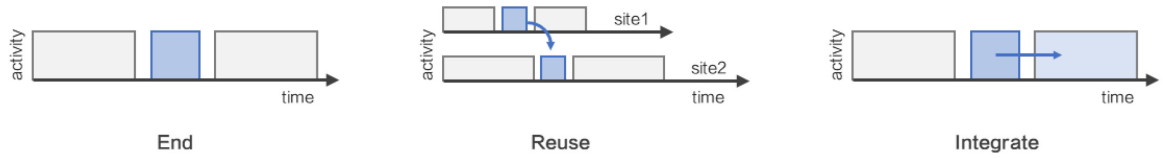


Figure 2-6 Exit Strategies for Temporary Use
Source: author

Formulating an exit strategy is crucial for temporary use projects, as it not only ensures a smooth end to the project but also maximizes its social benefits. At the end of a project, there are usually three main exit paths:

Lease term expiration: When the project's lease term expires, the project naturally concludes as planned. This scenario is common for pop-up or set down activities, where the project ends after achieving its intended goals. Although the impact is short-term, it can still bring certain social or economic benefits to the area. In this case, founders need to devise plans for resource and equipment disposal and provide follow-up development plans for the beneficiaries.

Transfer to another site: When a project is successful and the beneficiaries' needs continue, the project may be relocated to a new site due to lease expiration or land development needs. By transferring the project to adjacent areas, its social benefits can be extended, preserving the existing social capital and providing ongoing support to a new community.

Integration into new development: When a site faces long-term development, a successful temporary use project may be incorporated into the new development. This allows the project to transition from temporary to permanent solutions, becoming an official part of the community planning, enhancing the social and economic benefits of the new project.

(2) Long-term Impact

Impact theme	Contributing to
Attaining Sustainability	Greening & Biodiversity
	Efficient use of resources
	Energy transition/ Decarbonization
	Air, Water & Soil Quality
Improving Quality of life	Physical & Mental Health
	Inclusion & Equal opportunities
	Safety & security
	Affordable Housing
Growing Prosperity	Local enterprising
	Circular value chain
	Employment & Income
Making Places	Sustainable & Clean mobility
	Well-maintained, user friendly public spaces
	Local Identity & Heritag
	Integrated, connected and multi-function places
Cultivating Innovation	Digitalisation & Light Reindustrialisation
	Learning, skilling, Making
	Creativity & Talent
Building Communities	Distributed Power, Agency & Legitimacy
	Solidarity & Belonging
	Urban Commons
	Cohesion & Social Justice

Table 2-2 Long-Term Impacts of Temporary Use
Source: author

Figure 2-7 Long-Term Impacts of Temporary Use
Source: Reference [7]

In the impact framework of the T-Factor project in Italy, the long-term social impacts of temporary use are reflected through clear goal statements[42]. These long-term impacts are mainly manifested in six areas.

First, temporary use significantly improves the quality of life for community residents by providing quality local healthcare and social services, improving access to resources such as food and water, and promoting cultural diversity and social inclusion. This reduces crime rates and anti-social behavior, ensuring equal living opportunities. Secondly, it creates more livable, diverse community environments by improving transportation infrastructure, enhancing the quality of public green spaces, and promoting housing development. Temporary use is also committed to the efficient use of energy, water resources, and land, protecting natural resources and biodiversity, actively responding to climate change, and promoting sustainable community development.

Economically, temporary use promotes community prosperity by providing employment and training opportunities, attracting sustainable businesses, and building a diverse commercial community. It also enhances community innovation by improving the creativity

of organizations, businesses, and individuals, promoting education and lifelong learning, ensuring widespread internet access, and fostering innovation. Finally, temporary use strengthens community cohesion and participation by fostering a sense of responsibility and belonging, establishing responsible governance systems, and providing resource support for various groups.

Focusing on these themes, temporary use not only brings short-term benefits to space but can also have profound positive impacts on social, economic, and environmental levels in the long run.

2.4 Protection and Renewal of Historical Districts

2.4.1 The Protection and Renewal Process of Old Districts in Guangzhou

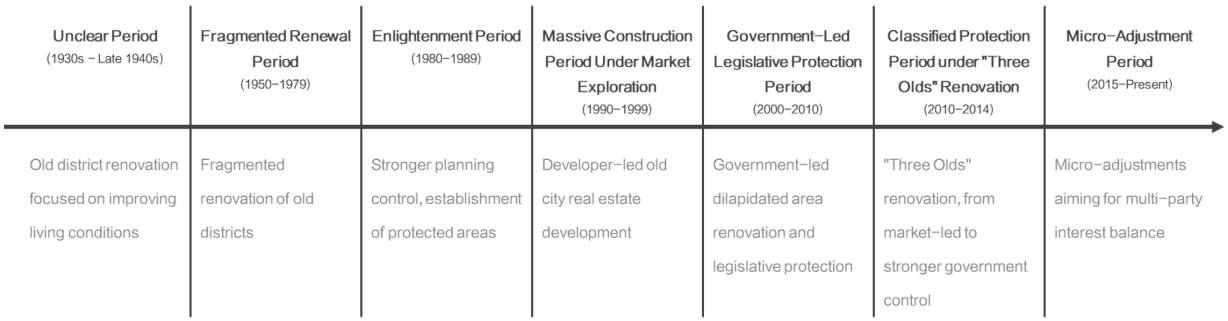


Figure 2-8 Preservation and Utilization Process of Historic and Old Districts in Guangzhou
Source: Reference [43]

The protection and renewal of old historical districts in Guangzhou can be traced back to the 1930s, undergoing several stages of evolution. In the early stages, from the 1930s to 1940s, it was in the exploratory phase, mainly focusing on sporadic renovations. After 1949, the renewal work primarily aimed at improving living conditions, entering a scattered renovation period. Between 1950 and 1979, urban renewal emphasized planning control, with the establishment of protected areas. From 1990 to 1999, large-scale demolitions and constructions led by developers began, but concerns about the loss of historical heritage were also raised. Between 2000 and 2010, the government led the renovation of dilapidated housing and strengthened protection through legislation. From 2010 to 2014, the “three old” redevelopment phase commenced, reinforcing government control. Since 2015, Guangzhou has entered a micro-renewal phase, focusing on balancing multiple interests and cultural

protection[43]. The renewal process of old districts in Guangzhou has evolved from early exploratory stages to government-led micro-renewals, balancing protection and renewal.

2.4.2 Trends in Historical District Renewal

The renewal of historical districts is gradually developing towards diversification and refinement, mainly reflecting four trends: micro-renewal, shared interests, spatial innovation, and sustainable regeneration.

"Micro-renewal" has become one of the mainstream approaches in the renewal of historical districts. Compared to large-scale demolitions and reconstructions, micro-renewal focuses more on maintaining the spatial pattern of historical districts, achieving protection and revitalization of historical features through partial restoration and functional replacement. This method is suitable for districts where functions are incompatible with surrounding environments, have low utilization efficiency, and poor living conditions, effectively preserving historical context and protecting urban memory[44]. The concept of interest-sharing is also becoming increasingly important. Renewal involves multiple stakeholders, including the government, developers, merchants, residents, and third-party organizations. Guangzhou has explored a model of “government-led, enterprise-implemented, and resident-participated” renewal, promoting sustainable development of districts through multi-party collaboration to balance various interests[45]. Spatial innovation is another key driving force for the revitalization of historical districts. By optimizing and redefining existing spaces, new functions can be accommodated, enhancing social, economic, and cultural benefits, and attracting more innovative talent and industrial resources[46]. Sustainable regeneration is an important goal in the renewal of historical districts. Policies increasingly emphasize the formation of long-term mechanisms for optimizing resource allocation and space utilization through government guidance, market operations, and public participation. Strategies such as urban acupuncture and patch-based renewal are gradually replacing large-scale demolitions, achieving coordinated development of ecological, economic, and social benefits[47].

The renewal of historical districts is gradually moving towards refined micro-renewals, interest balance, innovation-driven approaches, and sustainable development. These trends

not only continue the cultural context of historical districts but also inject new vitality into them, promoting their long-term development in modern cities.

2.5 Temporary Use in Historic Districts

2.5.1 Advantages of Applying Temporary Use

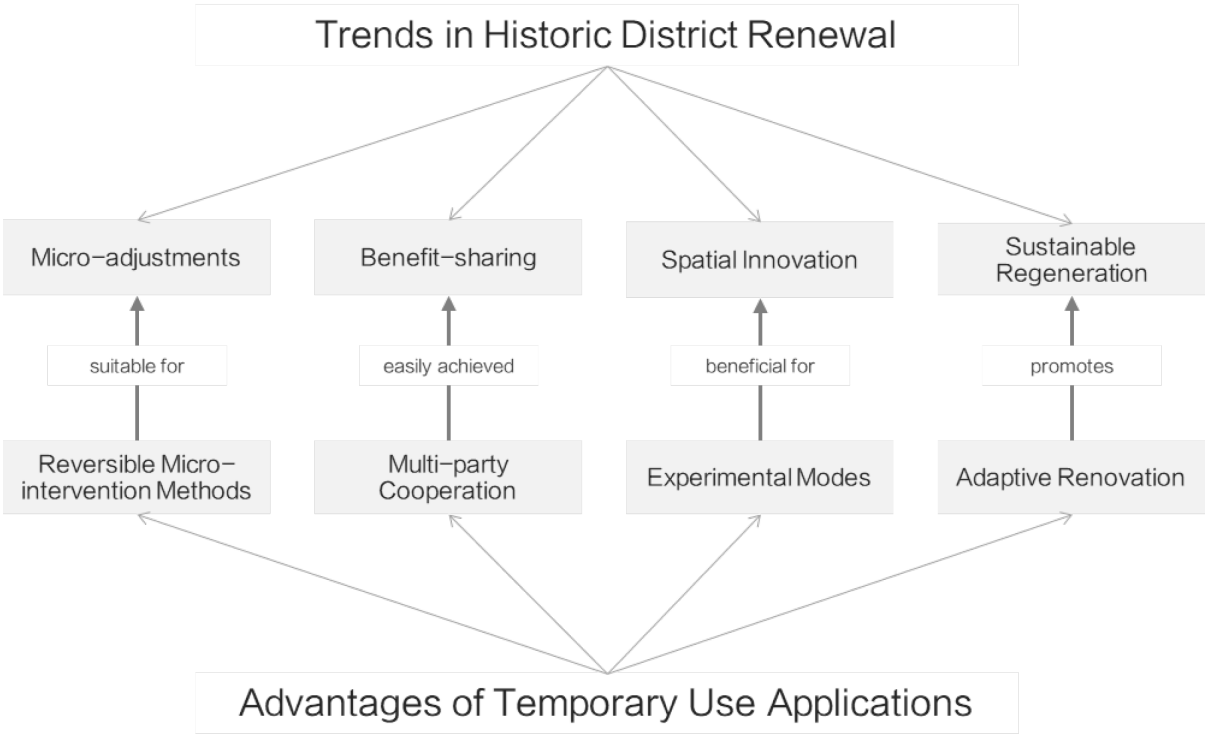


Figure 2-9 Adaptability of Temporary Use Advantages to Historic District Renewal Trends
Source: author

The compatibility of temporary use with historical districts is reflected in the following: reversible micro-intervention methods are suitable for micro-renewal; multi-party collaboration facilitates interest-sharing; experimental models contribute to spatial innovation; and adaptive transformation promotes sustainable regeneration.

Temporary use becomes an ideal strategy for micro-renewal of historical districts through “reversible micro-intervention” methods. It avoids damaging the original spatial form and instead adds to the existing structures through “distributed, small-scale incremental renovations,” flexibly expanding or adjusting space functions[20]. In practice, temporary use leverages methods such as "light construction, prefabrication, and modularization" to enable

quick assembly and disassembly, making it adaptable and reusable. The “multi-party collaboration” mode of temporary use promotes interest-sharing, attracting widespread participation from developers, governments, users, and professional organizations. It not only provides short-term development space for users but also generates rental income for property owners and enhances tax revenues and public trust for the government, balancing the interests of all parties[48].

As a “flexible, low-cost” alternative strategy, temporary use provides an experimental platform for spatial innovation[19]. It fills the void of vacant urban spaces, enhances urban vitality, and offers new ideas for land composite use and planning reform. Moreover, temporary use promotes “adaptive transformation” to achieve sustainable regeneration. Through non-profit transitional use, it maintains social equity and promotes the integration of different social classes, as seen in the "Big Neighbor" project, which provides temporary housing for low-income groups and artists, ensuring social equity and community cohesion[6].

The advantages of temporary use align with the development trends of historical districts. Its flexibility and adaptability not only protect the cultural and spatial structures of historical districts but also bring tangible economic and social benefits to multiple parties in the short term.

2.5.2 The Relationship Between Temporary Use, Preservation, and Utilization

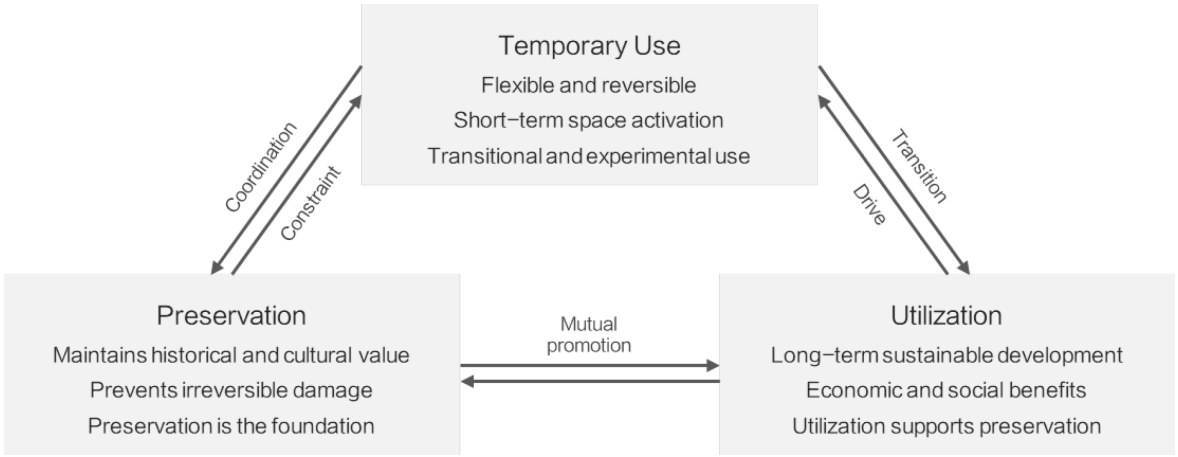


Figure 2-10 Relationship Between Temporary Use, Preservation, and Utilization in Historic Districts
Source: author

Temporary use, as a flexible short-term strategy, provides a buffer for the preservation of historic buildings while generating short-term economic benefits to promote long-term development and utilization. At the same time, the preservation requirements of historic districts impose necessary restrictions on the implementation of temporary use, ensuring that the core cultural value of the heritage is not compromised during temporary activities. Through this coordinated relationship of restriction and promotion, temporary use offers a new pathway for balancing preservation and development in historic districts, achieving short-term activation and long-term growth.

(1) Preservation and Utilization of Historic Districts

In historic districts, preservation and utilization are complementary concepts. The primary goal of preservation is to maintain the historical and cultural value of the district, preventing irreversible damage. Historic districts carry the cultural memory of the city, so preservation efforts must first ensure the integrity of the buildings and their cultural information. However, the ultimate purpose of preservation is to enable better utilization. Through proper utilization, historic districts can generate economic benefits while continuing to maintain their cultural vitality, making them a part of the city's liveliness [49].

Overemphasizing preservation can lead to stagnation in historic districts, causing them to lose their connection to contemporary society. On the other hand, focusing solely on commercialization can undermine the historical authenticity of these areas. Therefore, a careful balance must be maintained between preservation and utilization, ensuring that while economic benefits are achieved, the cultural value of the district is not eroded. Preservation is the foundation, and utilization is the means; both should interact to ensure the long-term development of the historic district.

(2) Balancing Temporary Use and Preservation

Temporary use and preservation must be coordinated, with preservation serving as the prerequisite for temporary use. In the process of preserving historic districts, temporary use provides a flexible and reversible method to activate historic buildings in the short term. Temporary use can, under the condition of preserving the structure and historical value of the building, intervene lightly to prevent long-term damage. This flexibility allows temporary use

to align with preservation goals by introducing new functions and vitality to the area without harming the original buildings, thus preventing decay due to long-term vacancy.

However, the preservation requirements of historic districts also impose certain constraints on temporary use. Since the fundamental task of preservation is to maintain the integrity of cultural heritage, any design and implementation of temporary use must follow this principle, ensuring that no irreversible damage is done to the buildings. The "reversibility" and "light modification" features of temporary use are specifically designed to meet these preservation needs. Therefore, while temporary use offers possibilities for short-term activation, it must operate within strict preservation frameworks to ensure that it does not deviate from the core goals of cultural heritage protection.

(3) Temporary Use as a Transition to Long-Term Utilization

Temporary use acts as a transitional tool for utilization, with the demand for utilization driving the widespread application of temporary use. As a short-term solution, temporary use provides an experimental platform for the long-term development of historic districts. Without altering the core structure of the buildings, temporary cultural events, commercial projects, and community functions can generate short-term economic benefits and social recognition for the district. These short-term gains lay the foundation for subsequent long-term utilization, with temporary use effectively serving as a bridge between an idle state and long-term development.

At the same time, the demand for utilization drives the introduction of more temporary use projects. To meet economic and social goals, temporary use offers a method to quickly activate spaces, functioning as an experimental measure before long-term utilization. The demand for utilization accelerates the implementation of temporary use, while the economic and social feedback generated by temporary use provides valuable reference for long-term utilization. Thus, there is a mutually reinforcing relationship between temporary use and utilization: temporary use not only supports long-term utilization by providing data but also promotes the continuous development of historic districts by generating short-term benefits.

2.6 Summary

Building on the background introduced in the first chapter, this chapter delved into the origins, development, and application of temporary use in the preservation of historic districts. First, it reviewed the rise and evolution of temporary use in Europe, clarifying related concepts. Next, it thoroughly analyzed the complete process of temporary use, including the four key steps: identification, design, operation, and exit, providing a theoretical basis for practice. The chapter then examined the protection and renewal of historic districts in Guangzhou, summarizing trends such as micro-renewal, benefit-sharing, spatial innovation, and sustainable regeneration. Finally, it explained the advantages of applying temporary use in historic districts, emphasizing characteristics such as reversibility, multi-stakeholder collaboration, and adaptive modification, while discussing the relationship between temporary use and the preservation and utilization of historic districts. This provides theoretical support for the case studies in the next chapter.

Chapter 3 Case Studies and Categorization of Temporary Use

3.1 Categorization of Temporary Use

3.1.1 Existing Classifications

Many European countries have conducted their own research on temporary use, and large cities often publish research reports or issue recommendations regarding temporary use. However, there is currently no universally agreed-upon classification system for temporary use. One of the earlier studies on temporary use, Urban Catalyst, introduced several successful and failed examples created in cities like Berlin, London, Vienna, Rome, and Amsterdam in their 2013 publication. Through case analysis, they proposed six strategies for temporary use: enable, initiate, claim, coach, formalize, and exploit[26].

At the Urban History Planning History Conference in 2014, R. Frisk and others discussed temporary use cases from Copenhagen, Denmark, dividing them into events, kick-starters, and testing. These categories represent "an event tool, an activating tool, and a testing tool," respectively[32].

In the report from the Italy-Croatia Cross-border Cooperation Programme, five types of temporary use were identified: event, container-based temporary uses, urban/land art action, tactical urbanism for cultural heritage, and incremental re-activation[37]. These classifications of temporary use were all derived from case studies, with each model explained through two or so case examples.

Title	Type	Research Area	Year	Author	Classification Basis	Classification
The Power of Temporary Use	M	Europe	2013	Urban Catalyst: Philipp Oswalt, Klaus Overmeyer, Philipp Misselwitz	Case study, each type is explained with two case examples	1. ENABLE: increase advertising, access to the structure, and communication between ownership and users. The goal is to revitalize part of the city through many small private activities, creating a dynamic space and an open program for the future.
						2. INITIATE: spaces are too large for a single temporary use. The goal is to revitalize the place and increase its value through various cultural activities.
						3. CLAIM: create new public spaces that generate new social and cultural impulses.
						4. COACH: the goal is not to give form but to create a network of connections between people.
						5. FORMALIZE: establish a temporary use by building or making the activity permanent. This strategy often leads to failure.
						6. EXPLOIT: advertise numerous events in spaces used for temporary purposes to find a tenant.
Temporary use 2.0: a tool for planning and developing the new urban context	C	Denmark	2014	R Frisk, J Loulie, J Frisk	Case study, each type is explained with 1-2 case examples	1. EVENTS: an event tool.
						2. KICK-STARTER: an activating tool.
						3. TESTING: a testing tool.
Temporary Uses as Start-Up Actions to Enhance Port (In)Tangible Heritage	R	Italy; Croatia	2023	Dario Zoric	Case study, each type is explained with 1-2 case examples	1. EVENT:Spot initiatives that give impulse and visibility to a certain area or issue. Examples: social streets; festivals; fairs; exhibitions; expos.
						2. CONTAINER-BASED TEMPORARY USES: Quick and low-cost creation of architectures and spaces using steel intermodal containers (shipping containers) as the main structural element, placed within the context of a cultural asset.
						3. URBAN/LAND ART ACTION: Site-specific installations perfectly merging into the context they are implemented in, be it urban or rural. This temporary use can highlight the characteristics of a specific cultural asset and, by interpreting the collective feelings through artistic languages, they can emotionally engage the community and stimulate a sense of ownership.
						4. TACTICAL URBANISM FOR CULTURAL HERITAGE: Low-cost, short-term micro-projects also known as Do-It-Yourself Urbanism, Planning-by-Doing, Urban Acupuncture or Urban Prototyping: a "bottom-up" approach that makes use of "lightweight," short-term, low-cost and scalable interventions capable of catalysing long-term change.
						5. INCREMENTAL RE-ACTIVATION: Activation of temporary uses that require low-cost and easy-to-implement interventions in a portion of the CH to bring forward an incremental, step-by-step logic toward the complete restoration or redevelopment of the property.

Table 3-1 Existing Classifications of Temporary Use
Source: author

3.1.2 Classification in This Study

Due to the limited information available from individual case studies, it is insufficient to support a discussion of a specific temporary use mode. Therefore, this study adopts the classification methods and approaches from the referenced literature and divides the twenty collected case studies into four temporary use modes for analysis. The four modes are: Testing Phase, Cultural Events, Idle Utilization, and Pop-up Projects.

For each temporary use mode, one case is selected for detailed study and illustration, and an analysis of four other cases is conducted to examine the mode's characteristics and applicable conditions. Finally, a cross-comparison between the modes is conducted to discuss the differences between the various modes.

	Mode Characteristics	Applicable Conditions
Mode 1 Testing Phase: Testing ideas through temporary use of space	1 Formality: Official temporary use 2 Dependency: Relies on soft and hard measures 3 Experimentality: Innovative experiments for future development	1 Space with regeneration and development potential 2 Financial support 3 Openness to experimental innovation
Mode 2 Cultural Events: Activating space through temporary cultural festivals	1 Restorative: From physical repair to cultural revitalization 2 Diversity: Multilateral collaboration, emphasis on participation 3 Periodicity: Maintaining space vitality through regular activities	1 Space requiring restoration and revitalization 2 Social participation and multilateral collaboration 3 Significant impact in the short term
Mode 3 Idle Utilization: Filling needs through temporary use of space	1 Agency: Driven by spontaneous civic use 2 Adaptability: Meets the changing urban demands 3 Sustainability: Makes full use of surplus resources	1 Existence of unused space 2 Active community involvement 3 Government support and policy guidance
Mode 4 Pop-up Projects: Activating space through temporary design or installation	1 Flexibility: Small-scale, quickly implementable 2 Modularity: Easily available materials, portable 3 Short-Term: Short in duration	1 Environments with urgent short-term needs 2 Limited resources and spaces 3 Sites with a defined temporary use duration

Table 3-2 Temporary Use Classification in This Study
Source: author

3.2 Mode 1: Testing Phase

Figure 3-1 City Lab Image
Source: https://temparchitecture.com/architectuur/de-flexibele-stad-oplossingen-voor-leegstand-en-krimp/

3.2.1 City Lab

The City Lab project is located in the Piet Mondriaanplein area of Nieuw-West, Amsterdam, and aims to address the issue of large-scale land vacancy caused by the economic crisis and stagnating population growth between 2008 and 2013. Faced with rising vacancy rates in the real estate market and declining community vitality, the city government proposed a flexible development mode using temporary use strategies to maintain the livability of the community and avoid the passive risk of waiting for economic recovery.

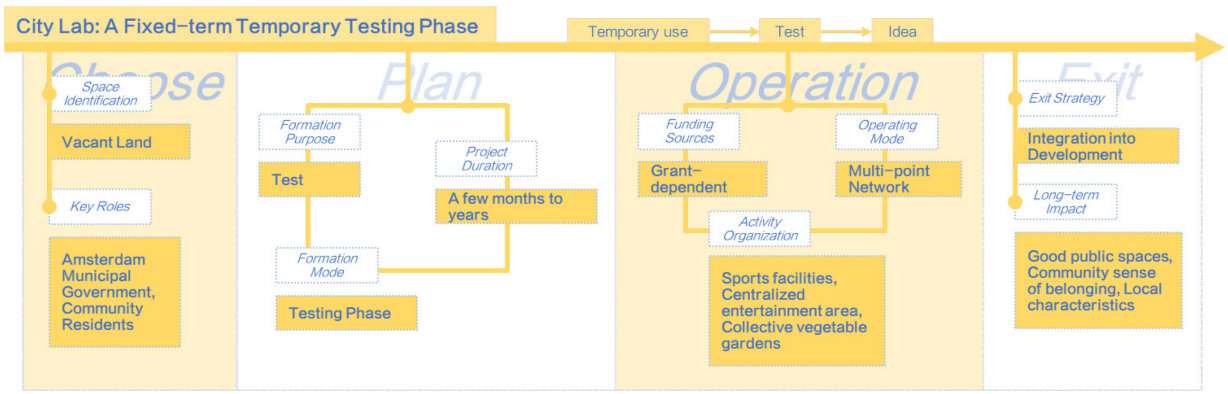


Figure 3-2 City Lab Temporary Use Process
Source: author

The project established a “mobile front desk” within the community to directly interact with residents, ensuring that their needs were reflected and addressed. Residents proposed various ideas, such as sports facilities, green spaces, and community gardens. The city government incorporated these suggestions into testing projects and used experimental temporary use to evaluate the functionality of these vacant lots. The results revealed differing preferences across neighborhoods, with some favoring public fitness facilities and others prioritizing greenery and spaces for community interaction. The diversity and flexibility of temporary use allowed the project to quickly respond to the actual needs of the community.

Through these short-term experiments, the city government not only validated the feasibility of various temporary use solutions but also collected valuable data on how different types of space utilization could improve community life quality. Ultimately, some successful temporary facilities were integrated into the long-term plan, becoming part of permanent developments. The project demonstrated the effectiveness of temporary use in addressing urban space crises, mitigating the negative impacts of prolonged vacancy, and strengthening social cohesion in the community.

Mode	Case		Region	Space Type	Purpose	Time	Implementation Process	Initiator	Key Factors	Effects
Testing Phase	City Lab		Amsterdam, Netherlands	Vacant land	Exploring citizen needs	2008-2013	Faced with stagnating urban renewal, large buildable plots were abandoned. The municipality engaged with residents to find temporary uses for these vacant lands. Popular uses were incorporated into new construction plans.	Municipal authorities	Municipality experimenting with public services	Community building, Sustainability, Place-making, Quality of life improvement
	TEMPUS		Ravenna, Italy; Solin and Rijeka, Croatia	Abandoned port area	Testing new uses	2019-2021	Initiated temporary use as a trigger action, guiding the broader cultural regeneration of port heritage sites and reactivation of abandoned spaces.	Municipal authorities, University of Bologna	EU Commission funding	Prosperity, Sustainability, Place-making, Innovation
	Camden Collective		London, UK	Vacant buildings, planned demolitions	Affordable workspaces for startups	2009-present	Provided free office spaces in vacant buildings to support startups. Funds raised are used to subsidize future refurbishments, gradually reducing reliance on grants.	Municipal authorities, Independent charity	Self-sufficient sustainable development model	Community building, Prosperity, Sustainability, Place-making, Innovation, Quality of life improvement
	PLACE Ladywell Housing		London, UK	Space left after the demolition of a leisure center	Affordable housing	2016-2020	Provided mixed-use space for residents, with modular, relocatable buildings. After four years on site, the structures were relocated. This successful project led to three new proposals for affordable housing.	Municipal authorities	Modular construction technical iteration	Prosperity, Sustainability, Place-making, Innovation, Quality of life improvement
	Upgrading the street, Nørrebroga		Copenhagen, Denmark	High-traffic road entering city center	Improving street use experience	2008-2009	The municipal authorities conducted phased, experimental reductions in car traffic, widened sidewalks and bike lanes, altered bus stop locations, and held various events.	Municipal authorities	Focus on experimental evaluation and public opinion	Prosperity, Place-making, Quality of life improvement

Table 3-3 Testing Phase Case Studies
Source: author

3.2.2 Mode Characteristics

(1) Formality: Formal Temporary Use

In testing phase temporary use projects, formality is reflected in the structured and regulated nature of the project. These projects are typically led by government departments or authoritative institutions, ensuring they have a clear management framework and legal safeguards. The TEMPUS project, carried out in port areas of Italy and Croatia, is a typical example of this formality. It was co-led by municipal authorities and the University of Bologna, providing the project with a clear management structure that aligned with local government's urban regeneration plans and contributed to the broader cultural value enhancement.

(2) Dependence: Funding Reliant on Grants

Testing phase projects often depend on grants for funding, relying on financial support from governments, international organizations, or other funding agencies to initiate and sustain operations. For instance, the success of the Camden Collective project was largely due to financial support from local authorities and charitable organizations. These funds were used not only to provide free office space but also to ensure the project's long-term development. This dependence is particularly evident in the early stages, but as the project matures, funding sources may gradually shift towards self-sufficiency, enhancing the project's sustainability.

(3) Experimentality: Innovative Experiments for Future Development

Experimentality is the core characteristic of the testing phase, where projects serve as practical trials that provide important innovative references for future urban planning and development. The City Lab project in Amsterdam explored citizen needs through temporary use in stagnating urban renewal areas. This experimental approach not only alleviated current land vacancy issues but also provided the municipal government with valuable experience and data on how to more effectively utilize vacant urban spaces. Similarly, the PLACE Ladywell Housing project in London used modular temporary structures to test the feasibility of affordable housing, offering key design insights for future residential developments. The Upgrading the Street, Nørrebroga project in Copenhagen experimented with stage-by-stage lane reductions and optimized street designs to improve street use experiences, providing empirical evidence for future urban street planning. Through continuous testing and optimization, these experiments laid the groundwork for long-term urban development and offered practical guidance for future urban planning.

3.2.3 Applicable Conditions

(1) Idle Space with Development Potential

The testing phase mode is typically applied to temporarily idle urban spaces that have potential future development value. These spaces may be temporarily vacant due to planning adjustments or economic fluctuations but may be redeveloped or reused in the future. Temporary use in the testing phase can activate and utilize such spaces in the short term without altering their long-term purposes.

(2) Need for Financial Support

Due to the experimental and temporary nature of testing phase projects, they often rely on financial support from governments, international organizations, or other funding agencies. Securing external funding is critical to initiating and sustaining operations, making it essential for cities or communities applying this mode to have strong financing capabilities or the ability to attract external funding.

(3) Tolerance for Innovation and Experimentation

The testing phase mode involves a large amount of innovation and experimental operations, requiring high levels of openness and tolerance from community or city managers and residents. A city environment that is willing to embrace and participate in these innovative projects is a prerequisite for the successful implementation of the testing phase mode.

3.3 Mode 2: Cultural Events

Figure 3-3 Hidden Door Arts Festival Image
Source: https://hiddendoorarts.org/about/press/

3.3.1 Hidden Door Arts Festival

Since its inception in 2009, the Hidden Door Arts Festival has fully utilized abandoned urban spaces to revitalize these areas through temporary cultural projects. The core concept of the festival is to transform neglected buildings into new platforms for cultural exhibitions through various forms of art, including visual arts, theater, music, and poetry. What makes Hidden Door unique is that it does not rely on traditional art exhibition venues but instead

seeks out overlooked urban spaces, giving these areas new meaning and driving community cultural revival.

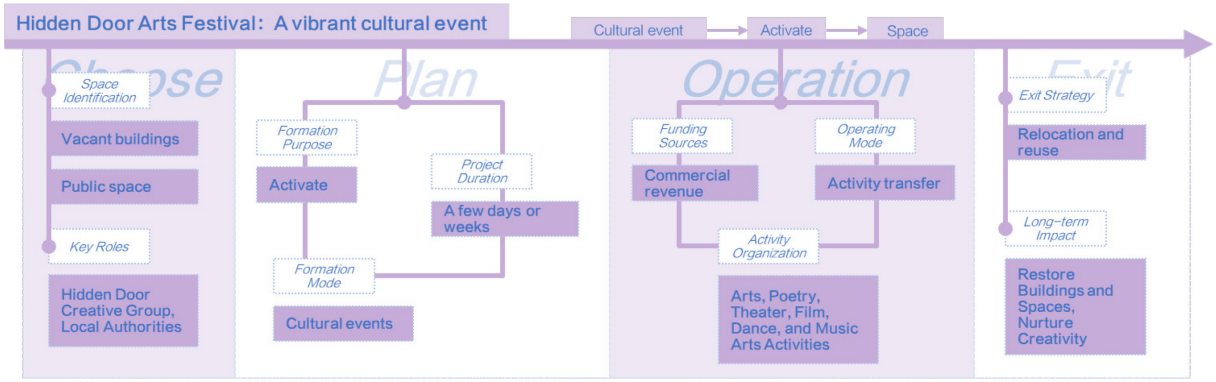


Figure 3-4 City Lab Temporary Use Process
Source: author

The festival operates through an interactive "space-art-public" mode. With the efforts of volunteers and collaboration with local creative teams, the festival selects a different abandoned building or public space each year. For example, in 2014, it took place in Market Street Vaults and in 2017 at the Leith Theatre. These venues were cleaned and repurposed for several days of artistic activities, attracting a large public audience and directly promoting the socialization of art.

In terms of funding, Hidden Door adopts a multi-channel financing strategy, including ticket sales, commercial sponsorship, and fundraising events. This mode ensures the continued operation of the festival, enhances its commercial viability, and lays the financial foundation for the reuse of abandoned spaces. As the festival's influence expanded, Hidden Door gained increasing support from municipal authorities, securing long-term leases for spaces such as Lauriston Place for ongoing operations. Through the short-term activation of abandoned spaces, Hidden Door explored paths for their long-term reuse. Some buildings used as temporary art venues were converted into permanent public cultural facilities after the events. This strategy created diverse art platforms, showcasing the potential of temporary use in urban regeneration and proving that cultural activities can effectively drive the revival and transformation of urban spaces.

Mode	Case		Region	Space Type	Purpose	Time	Implementation Process	Initiator	Key Factors	Effects
Cultural Events	Hidden Door		Edinburgh, UK	Vacant Buildings	Host Art Events	2014-present	Due to lack of venues, the art team holds various art events in abandoned spaces and relocates to other vacant spaces, helping to revive the buildings.	Creative Individuals	Collaboration between artists and municipal authorities	Prosperity, sustainability, placemaking, innovation cultivation
	Shenzhen-Hong Kong Biennale		Shenzhen, China	Vacant Buildings, Spaces with Gaps, Underutilized Spaces	Promote Urbanization	2005-present	Intervene in different sites through urban and architectural practices for renovation. Series of activities held to revitalize sites, attract funds and attention.	Municipal Authorities	Policy guidance and support	Community building, prosperity, sustainability, placemaking, innovation cultivation
	Summer 2018		Florence, Italy	Vacant Buildings	Raise Public Awareness	2018	Developed rich activities and lab programs in reopened spaces. Initial temporary activities facilitated rediscovery of the tobacco factory and community dialogue.	Joint Venture Companies	Organize cultural activities	Prosperity, placemaking, innovation cultivation
	Festival of Empty Shops		Budapest, Hungary	Vacant Buildings	Revitalize Street with Ground-Level Spaces	2014	This festival opened up long-vacant ground-level spaces for dozens of merchants. Temporary stores attracted hundreds of participants, revitalizing the dismal streets.	Municipal Authorities, Urban Design Organizations	Urban design organization mediates between government and societal needs	Prosperity, placemaking
	Festival of Architecture		London, UK	Public Spaces, Spaces with Gaps, Underutilized Spaces	Explore Potential Through Discussions	2004-present	Focused on transforming streets and public spaces through activities, installations, and temporary architecture, opening architectural spaces for exhibitions and lectures.	Built Environment Organizations	Bring together public communities and professionals	Community building, prosperity, sustainability, placemaking, innovation cultivation

Table 3-4 Cultural Events Case Studies
Source: author

3.3.2 Mode Characteristics

(1) Restorative: Comprehensive Activation from Physical Repair to Cultural Revival

Restoration in the cultural events mode has a dual meaning: physical restoration of buildings and socio-cultural revival. For example, the Hidden Door project in Edinburgh held art events in abandoned buildings. These activities not only repaired the physical structure of the buildings, preventing further decay or demolition, but more importantly, they infused the buildings with new cultural and social functions. Similarly, in the Summer 2018 project, an abandoned tobacco factory in Florence was revitalized through a rich program of events and workshops, breathing new life into a long-neglected space.

(2) Diversity: Multi-party Collaboration and Strong Participation

The diversity of the cultural events mode is manifested in broad social collaboration and deep public participation. The Shenzhen-Hong Kong Biennale project is a notable example, where the collaboration of architects, artists, and the public helped activate various unused urban spaces. This wide collaboration ensures smooth project progression and strong social impact. Similarly, the Festival of Empty Shops in Budapest involved government, urban design organizations, and merchants, creating a wide-ranging community effort to activate long-vacant spaces.

(3) Periodicity: Sustaining Spatial Vitality through Regular Events

Regular cultural and artistic events ensure ongoing public interest and participation, maintaining the vitality of urban spaces. The Festival of Architecture in London and the Hidden Door project held repeated annual events, gradually increasing the cultural richness of these spaces.

3.3.3 Applicable Conditions

(1) Spaces in Need of Restoration and Revival

The cultural events mode is suitable for spaces requiring both physical restoration and socio-cultural revitalization. These spaces may have lost their original function due to long-term neglect or historical legacy issues and need intervention to reawaken their potential.

(2) Need for Social Participation and Multi-party Collaboration

This mode is ideal for projects that require collaboration among multiple stakeholders, such as governments, businesses, cultural groups, and the general public. Broad and deep social participation is key to its success.

(3) Need for Significant Short-term Impact

The cultural events mode is also suitable for projects needing to create significant social, cultural, or economic impact in a short time.

3.4 Mode 3: Idle Utilization

Figure 3-5 Canning Town Caravanserai Image
Source: https://interimspacescreativeuse.wordpress.com/canning-town-caravanserai/

3.4.1 Canning Town Caravanserai

Canning Town Caravanserai, located in Canning Town in East London, was a five-year temporary community project led by Ash Sakula Architects. The inspiration for the project came from ancient caravanserais along the Silk Road, which served not only as resting points for travelers but also as hubs for the exchange of goods, ideas, and culture. Ash Sakula sought to bring this concept into modern urban life by creating an open, multifunctional public space to address the issue of reusing temporarily vacant land during urban development.

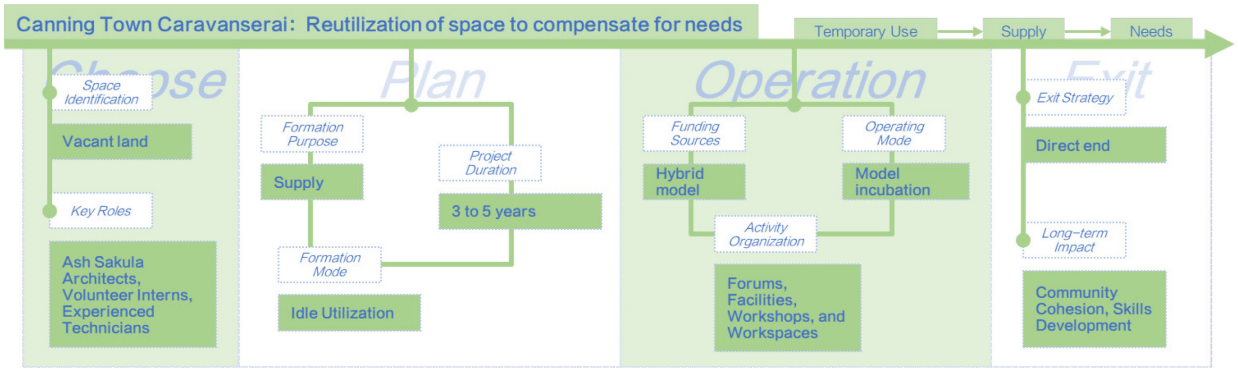


Figure 3-6 Canning Town Caravanserai Temporary Use Process
Source: author

This temporary project was centered around an open courtyard, surrounded by market stalls, a community garden, an open-air theater, and micro-manufacturing workshops. Over two years, more than 50 volunteer interns collaborated with skilled workers to construct the site facilities using reclaimed materials, without any prefabricated systems. All structures incorporated materials found on-site. The space provided a platform for local entrepreneurs and micro-enterprises, as well as opportunities for students, volunteers, and craftsmen to develop skills through hands-on participation. During colder winter months, the project team adapted by creating more enclosed spaces to continue serving the community. The project's funding came from multiple sources, including Ash Sakula Architects, foundations, Bank of America, and other institutions.

Over its five-year duration, the project successfully revitalized the local community, playing a key role in promoting micro-enterprises, skill development, and cultural exchange. Although the site has since been replaced by a new city center development, the project demonstrated that the reuse of temporary spaces can be an effective solution to urban vacancy issues by creating low-cost, multifunctional community public spaces.

Mode	Case		Region	Space Type	Purpose	Time	Implementation Process	Initiator	Key Factors	Effects
Idle Utilization	Canning Town Caravanserai		London, UK	Vacant Spaces	Land Reuse	2011-2015	Temporary camp built from waste materials in urban brownfields, consisting of buildings, gardens, outdoor kitchens, market stalls, workshops, and performance spaces. After five years, it was demolished, and the location became part of a new city center.	Municipal Authorities	Organized participatory activities	Community building, prosperity, sustainability, placemaking, innovation cultivation
	Gaegeviertel		Hamburg, Germany	Vacant Historic Buildings	Protect Historic Buildings	2009-2010-present	Artist groups occupied central historic buildings, turning them into a cultural activity center, saving them from decay and demolition.	Non-profit Associations	Artist groups negotiating with municipal authorities	Community building, prosperity
	Ex-Vuoto		Pavia, Italy	Abandoned Buildings and Spaces	Encourage Citizens to Use Abandoned Buildings and Spaces	2016-present	Mapped and reactivated abandoned and underused spaces in Pavia, creating an interactive map featuring 170 such spaces to date.	Urban Creative Organizations	Platform development	Community building
	Torre de David		Caracas, Venezuela	Abandoned Buildings	Housing Needs	2007-2014	Housing shortage led homeless individuals to occupy a tower, forming a community and developing a micro-economy. The government later relocated the families to towns outside the city center.	Homeless Population	Government-led evacuation	Community building, improved quality of life
	Avanti c'è spazio		Cesena, Italy	Vacant Buildings	Public Participation	2020-2021	The municipal government offered two properties to local entities and associations to collect proposals for temporary use, reviving the spaces through shared approaches.	Municipal Authorities	Government shared projects, addressing new societal needs	Community building, placemaking, innovation cultivation

Table 3-5 Idle Utilization Case Studies
Source: author

3.4.2 Mode Characteristics

(1) Agency: Citizen-Driven Activation of Idle Spaces

The agency of the idle utilization mode lies in encouraging citizens and social organizations to actively discover and occupy vacant spaces, giving new life to these areas through bottom-up initiatives. In the Gaegeviertel project, a group of artists spontaneously took action to save historical buildings that were on the verge of being forgotten, bringing new social energy to the community through cultural activities. This process shows how individual and collective agency can offer more dynamic solutions to space utilization when confronting rigid urban planning. However, this agency is not just about disorderly occupation; it is strengthened through collaboration with local governments, non-profit organizations, and other stakeholders. While the Torre de David project initially began with

homeless people occupying an abandoned skyscraper in Caracas, over time they established a dynamic balance with local informal economic networks and government agencies, showcasing creativity and resilience in addressing housing shortages.

(2) Adaptability: Responding to Evolving Urban Needs

The idle utilization mode can quickly respond to emerging gaps and needs within urban environments, offering flexible space modifications to provide solutions aligned with current societal demands. The Ex-Vuoto project used an interactive map to reactivate abandoned spaces in Pavia, making urban space management more flexible and democratic. In the Avanti c'è spazio project, the city government offered two properties to local citizens and associations, inviting suggestions for temporary use, and restoring the spaces through shared usage.

(3) Sustainability: Maximizing Resource Utilization

Sustainability in the idle utilization mode refers not only to the recycling of materials but also to the broader scope of social and economic sustainability. Canning Town Caravanserai utilized reclaimed materials to construct the site facilities without prefabricated systems, emphasizing sustainable practices. Similarly, in the Gaegeviertel project, artists transformed idle historical buildings into a long-term cultural center through ongoing cultural activities, bringing sustained economic and social benefits to the community. This sustainability goes beyond economic self-sufficiency, creating lasting social capital and community cohesion through cultural activities and community engagement.

3.4.3 Applicable Conditions

(1) Presence of Idle Spaces

The primary condition for the idle utilization mode is the existence of a certain number and variety of idle spaces in the city. These may include abandoned buildings, underutilized public areas, historical buildings, or other locations temporarily abandoned due to functional changes. The existence of these spaces provides the foundation for idle utilization, allowing this mode to reactivate them in a low-cost manner and reintegrate them into urban life.

(2) Community Agency and Participation

The success of the idle utilization mode depends on active participation from the community and social organizations. Citizens and organizations can self-organize and drive the reuse of idle spaces, quickly transforming them to meet the needs of the community. Support and openness from local government or relevant institutions are also critical, as encouraging citizen and organizational participation is key to ensuring the smooth implementation of this mode.

(3) Government Support and Policy Guidance

Government support and policy guidance are essential for the successful implementation of the idle utilization mode. Suitable locations typically have clear policy frameworks that support or encourage the reuse of idle spaces. Additionally, government assistance in coordinating stakeholder interests, streamlining approval processes, and providing necessary resources and funding is vital to ensuring smooth execution.

3.5 Mode 4: Pop-up Projects

3.5.1 Pop-up Town Hall

Figure 3-7 Pop-up Town Hall Image
Source: http://www.bmwguggenheimlab.org/

The BMW Guggenheim Lab was a mobile laboratory focused on urban life, commissioned by the Solomon R. Guggenheim Foundation and sponsored by BMW. Designed to explore the sustainable development of future urban life and civic participation, it was created by the Tokyo architecture firm Atelier Bow-Wow. The project launched in New York in 2011 and was set to tour nine cities worldwide. The "lab" aimed to provide a flexible, modular structure that could be dismantled, reorganized, and reassembled in different cities.

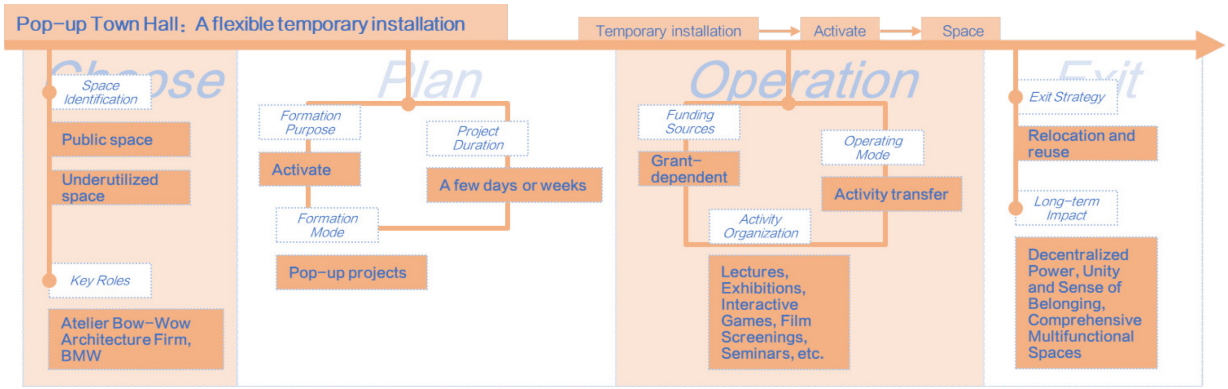


Figure 3-8 Pop-up Town Hall Temporary Use Process
Source: author

The lab's design concept emphasized high flexibility, allowing it to adapt to various spatial and activity needs. Its core structure consisted of a carbon fiber frame with a semi-transparent shell, and the space included two parts: the lower level was an open, multifunctional activity space with movable furniture and hanging systems for flexible use, while the upper level was equipped with lighting, sound, and projection equipment, allowing the space to quickly transition from a workshop to a formal lecture or film screening venue. The locations for temporary use were usually underutilized urban spaces, such as vacant lots or abandoned buildings, but it could also be combined with other public venues, such as conferences, exhibitions, or festivals.

The project operated using an activity transfer mode, with a lifespan of a few days to a few weeks at each location. Ultimately, in the major cities of New York, Berlin, and Mumbai, the lab engaged local communities in discussions about urban issues through lectures, interactive games, film screenings, and workshops. It provided a public platform for local

citizens, scholars, and planners to participate, interact, and collaborate, allowing participants from different disciplines, backgrounds, and interests to collectively explore the future of urban spaces. This showcased how flexible design and temporary use can effectively activate underutilized urban spaces.

Mode	Case		Region	Space Type	Purpose	Time	Implementation Process	Initiator	Key Factors	Effects
Pop-up Projects	Pop-up Town Hall		New York, USA; Berlin, Germany; Mumbai, India	Underutilized Space	Experimental Ideas	2011, 2012, 2013	Carbon fiber structures were built in underused spaces in New York, followed by participatory academic discussions. It then moved to Berlin and finally opened in multiple locations in Mumbai.	The BMW Guggenheim Lab City Experiment Organization	Reusable and reassembled carbon fiber structure	Fostering innovation, placemaking, sustainability
	Seating for Socializing		Hong Kong, China	Public Space	Increase Interactivity	2015	Interaction was encouraged by providing rest facilities in public spaces to promote social interaction.	The Chinese University of Hong Kong	Low-cost, portable public space installations	Placemaking, improving quality of life
	Common Unit		Mexico City, Mexico	Spaces with Vacant Gaps	Activity Activation	2016	Within the regulatory framework, diverse activities were initiated through the selection of different functional facades.	Architect Teams	Simple, quickly assembled space installations	Placemaking, improving quality of life
	The Proxy project		San Francisco, USA	Vacant Land	Site Pre-Activation	2009-2015	A beer garden and shops were built from nine shipping containers on a parking lot of a housing development project that was not constructed due to the economic downturn.	Local Government, Envelope A + D Architecture Firm	Negotiations between architects and local authorities	Placemaking, prosperity, improving quality of life
	FLPP		Sassari, Italy	Underutilized Space	Liberating Public Spaces	2015	Within three days, small play spaces were constructed using wood to protest against cars taking over public spaces.	Schools, Citizen Volunteers	Durable, low-cost recyclable materials	Placemaking, community building, sustainability

Table 3-6 Pop-up Projects Case Studies
Source: author

3.5.2 Mode Characteristics

(1) Flexibility: Small Scale, Quick Implementation

Flexibility is the core advantage of pop-up projects, characterized by their small scale and rapid deployment to address the ever-changing demands of urban environments. For example, Hong Kong's Seating for Socializing project installed mobile seating in public spaces, successfully promoting citizen interaction. These installations could be adjusted at any time based on user needs or relocated to other places for continued use. This flexibility allows

pop-up projects to quickly find suitable contexts in the city, addressing temporary space demands. Similarly, Mexico City's Common Unit demonstrated this flexibility in a community setting, where diverse design schemes activated multiple functions within limited space.

(2) Reversibility: Easily Built, Easily Dismantled, and Movable

The reversibility of pop-up projects enables them to provide short-term services without interfering with long-term site plans. The Proxy Project in San Francisco used shipping containers as building materials to quickly activate the site, and upon completion of the project, the structures were easily removed, avoiding permanent changes to the site. This reversibility offers a highly sustainable temporary solution in urban planning. Likewise, the FLPP project in Sassari, Italy, built small public spaces using detachable wooden structures, further demonstrating the reusable and movable nature of materials. This reversibility reduces resource waste and mitigates negative impacts on the environment and urban planning.

(3) Temporariness: Short-Term Duration

The temporary nature of pop-up projects makes them an effective tool for rapidly responding to short-term urban needs through brief space interventions to test new concepts or provide transitional services to the community. In the Pop-up Town Hall project in New York, Berlin, and Mumbai, carbon fiber structures appeared for brief periods, providing spaces for academic discussions and community engagement. After the project ended, the temporary structures were quickly dismantled or moved to other locations, ensuring that the city's long-term planning remained undisturbed. This temporariness allows cities to carry out experiments and innovation over short periods while relinquishing the space afterward for other uses.

3.5.3 Applicable Conditions

(1) Environments with Strong Short-term Needs

Pop-up projects are particularly suited to environments where there is a strong need for quick responses and short-term solutions. Whether addressing temporary events, community needs, or specific short-term functions, pop-up projects can rapidly deploy and efficiently utilize space to have an immediate impact.

(2) Limited Resources and Budgets

Pop-up projects offer an efficient and cost-effective solution when resources and budgets are limited. Due to their small scale, low cost, and use of easily dismantled, movable materials and facilities, pop-up projects can be implemented without requiring significant funding, providing a feasible option for utilizing sites with limited resources.

(3) Sites with Defined Temporary Use Periods

For sites with a clear temporary use period but that are not yet ready for long-term development, pop-up projects are an ideal choice. They can maximize the functionality of the site during its temporary use period, preventing vacancy while preparing for future long-term development.

3.6 Comparison of Modes and Study of Externalities

3.6.1 Horizontal Comparison of Four Modes

Demand Category	**Mode 1: Testing Phase**	**Mode 2: Cultural Events**	**Mode 3: Idle Utilization**	**Mode 4: Pop-up Projects**
Funding Budget	High	Relatively High	Medium	Low
Policy Support	High	Medium	Relatively High	Low
Social Participation	Medium	High	High	Medium
Space Potential	High	Relatively High	Medium	Low
Short-term Significant Impact	Low	High	Low	High

Table 3-7 Horizontal Comparison of Four Modes
Source: author

In the cross-comparison of the four temporary use modes, differences can be observed in terms of budget requirements, policy support, social participation, space potential, and short-term impact.

The Testing Phase mode demands the highest budget and policy support among the four modes. This is because the mode typically involves experimental use of space, relying heavily

on government support and substantial funding to ensure smooth project operations. However, since this mode focuses on exploring and testing new ways of utilizing space, the short-term impact it generates is relatively low. Its primary objective is to accumulate experience and data for future long-term development. Additionally, the testing phase mode generally selects sites with high space potential, with the aim of providing valuable insights for the future development of these spaces through experimental use. Social participation in this mode is relatively weak. Although some public feedback is required, the project's focus is more on cooperation between the government and professional institutions.

In contrast, the Cultural Events mode places the greatest emphasis on social participation. This mode is characterized by large cultural events, such as art festivals or community celebrations, which attract a wide range of public participation and activate temporary spaces. Since these events rely on broad public involvement, this mode has a high demand for social participation and produces a significant short-term impact. At the same time, the budget requirement for the cultural events mode is relatively high, though slightly lower than the testing phase mode, and the level of policy support needed is moderate. Similar to the testing phase mode, the cultural events mode tends to choose spaces with high potential, as the success of the events is closely tied to the accessibility and cultural background of the space.

The Idle Utilization mode focuses on reusing existing idle spaces through moderate budget investment and higher social participation. Compared to the first two modes, the budget and policy support requirements for idle utilization are moderate, depending on the optimization of existing resources. This mode usually requires extensive community collaboration, with residents and local businesses participating to transform idle sites into vibrant public spaces. However, the short-term impact of the idle utilization mode is relatively low, as these projects often take a longer time to yield noticeable social benefits. Additionally, the space potential requirement is lower, as the focus is on repurposing existing resources rather than developing entirely new functions.

The Pop-up Project mode is highly flexible and immediate. Compared to the other modes, pop-up projects have the lowest budget and policy support requirements, as they are typically small-scale temporary projects, such as pop-up exhibitions or flash retail stores, set

up quickly over a short period. These projects depend on short-term space occupancy, so they do not require high long-term development potential. Although social participation is moderate, pop-up projects have a very high short-term impact due to their flexibility and innovation, quickly attracting public attention and engagement.

In summary, each of the four temporary use modes has its own distinct characteristics. The Testing Phase mode relies on funding and policy support to lay the groundwork for long-term development; the Cultural Events mode generates significant cultural and economic benefits in the short term through broad public participation; the Idle Utilization mode focuses on reusing existing resources, gradually revitalizing spaces; and the Pop-up Project mode achieves immediate social and economic benefits through short-term occupancy and rapid space transformation. The diversity of temporary use methods allows for flexible application of urban spaces in different contexts.

3.6.2 Externality Analysis

Based on different classification criteria, externalities can be divided into various types. From the perspective of impact, externalities can be classified as positive externalities (external economies) and negative externalities (external diseconomies). Positive externalities refer to an economic behavior that benefits others outside the acting party but without charging them, while negative externalities refer to an economic behavior that harms others outside the acting party without compensation [50]. These are the most common and easily understood types of externalities.

Temporary use projects inevitably bring external effects, including impacts on the original environment, space usage rights, and surrounding stakeholders. For example, some communities may prefer to keep certain spaces idle, while temporary use changes the function and purpose of the space. This may have positive effects for some residents but could be negative for others. The implementation of a temporary use project implies a short-term transfer of space usage rights, where temporary users control how the space is used for a certain period. This process involves a redistribution of rights: the users gain benefits, while other potential users or nearby residents may lose some potential rights. Therefore, the implementation of temporary use projects requires appropriate compensation mechanisms to

manage this transfer of rights and responsibilities and to minimize potential social dissatisfaction. In terms of compensation and regulatory mechanisms, planners should introduce multi-level mediation tools to ensure that the interests of different stakeholders in temporary use projects are balanced. The government's role is not only to authorize or supervise temporary use projects but also to ensure through policy regulation that the benefits of these projects are fairly distributed, avoiding a situation where all the benefits are monopolized by the user.

Mode 1 Testing Phase	Mode 2 Cultural Events	Mode 3 Idle Utilization	Mode 4 Pop-up Projects
+ Positive Externalities Data collection Innovation testing	+ Positive Externalities Cultural revitalization Economic growth	+ Positive Externalities Resource reuse Community vitality	+ Positive Externalities Flexible use Short-term benefits
− Negative Externalities High funding dependency Project uncertainty	− Negative Externalities Noise and traffic issues Commercialization of culture	− Negative Externalities Uncertain long-term benefits Future development limitations	− Negative Externalities Construction waste Limited long-term effects
^ Adjustment Financial planning Community engagement	^ Adjustment Environmental measures Infrastructure improvements	^ Adjustment Long-term planning Fiscal incentives	^ Adjustment Sustainable materials Short-term community benefits

Table 3-8 Externality Analysis of Four Temporary Use Modes
Source: author

The externalities of different modes vary. Specifically:

The testing phase mode brings value through its experimental nature, offering key experience and data for future urban development and planning. By temporarily testing different spatial functions, this mode helps governments and developers identify the most suitable long-term use of the space. The negative externalities of the testing phase mode mainly lie in its heavy dependence on funding and the uncertainty of the project. Since experimental projects often rely on government or external funding, if these resources are not sustained, the project may stall or fail. Additionally, because the project is temporary, the surrounding community may not see immediate benefits, potentially causing social dissatisfaction. To mitigate these negative effects, the government needs to ensure that the project has clear phased objectives and reasonable funding arrangements. Moreover, strengthening communication with the community and allowing residents to participate and be informed can help alleviate short-term negative impacts such as noise or traffic issues, which can be compensated for through temporary public services or fee reductions.

The cultural events mode rapidly activates temporary spaces by hosting large cultural events, enhancing the cultural vibrancy and economic benefits of the area. However, negative impacts include the environmental pressure caused by the short-term concentration of large numbers of people and resources, such as waste management, noise pollution, and traffic congestion. Additionally, the commercialization of cultural activities may dilute their original cultural significance, making them overly reliant on commercial interests while neglecting the community's long-term needs. To address these negative externalities, planners of cultural events should enhance control over environmental impacts, ensuring that the space is quickly restored to its original state after the event. For example, green environmental measures can be introduced to minimize damage, or public facilities can be improved to compensate for the short-term effects of the event on the community.

The idle utilization mode brings positive externalities by efficiently reusing resources and enhancing community vitality. By temporarily transforming idle spaces, this mode can quickly provide public spaces for communities, promote social interaction, and stimulate the economy. However, the negative externalities of the idle utilization mode mainly lie in the uncertainty of long-term economic benefits. Since these projects rely on temporary use without a clear long-term development plan, they may struggle to attract sufficient investment. Additionally, the temporary nature of the transformed space may limit future long-term development, affecting overall urban planning. To mitigate these negative externalities, the government can provide long-term development plans or clear policy support to ensure that successful temporary projects do not hinder future development. For the community, the temporarily used space should align with the needs of long-term stakeholders, and fiscal subsidies or tax incentives may be necessary to compensate for potential economic losses.

The pop-up project mode has positive externalities in its flexibility and efficient short-term utilization. However, the short-term and instantaneous nature of pop-up projects also brings potential negative externalities. The rapid construction and dismantling of projects may generate significant construction waste and cause environmental damage. Additionally, short-term projects often fail to provide lasting social and economic benefits for the community. To

address these issues, projects should use sustainable materials and ensure effective recycling after the project ends. Additionally, by offering short-term benefits to the community (such as community activities or educational programs), social returns can be increased in the short term, reducing negative impacts on the environment and the community.

The positive and negative externalities of the four temporary use modes differ, and the adjustment and compensation mechanisms need to be tailored to the specific context. The positive externalities of the testing phase mode lie in data accumulation and innovative experimentation, while the cultural events mode focuses on cultural and economic revitalization. The idle utilization mode emphasizes resource reuse, and the pop-up project mode quickly activates space functionality through flexibility and short-term benefits. Planners should ensure, through appropriate compensation mechanisms and externality management, that temporary use projects can balance the interests of different stakeholders and maximize social benefits.

3.7 Summary

Building on the theoretical foundation of the previous chapters, this chapter establishes a classification of temporary use modes through case studies, dividing them into four types: testing phase, cultural events, idle utilization, and pop-up projects. Each mode is analyzed in depth through typical case studies, examining its characteristics, applicable conditions, and implementation processes. The chapter then compares the four modes horizontally, analyzing their differences in terms of budget, policy support, social participation, and spatial potential. It also explores the externalities of different modes, identifying their positive and negative externalities and compensation mechanisms. This chapter provides a multidimensional reference for the application of temporary use in the regeneration of historic districts and lays the foundation for the subsequent practical work at Daxiaomazhan.

Chapter 4 Temporary Use in Guangzhou

4.1 Temporary Use Phenomena in Guangzhou

The phenomenon of temporary use in Guangzhou is an important practice in the city's development, showcasing its flexible response to space resource shortages and diversified needs. From the long-term retention of large event facilities to grassroots spontaneous space utilization, Guangzhou demonstrates the innovative value of temporary use in urban planning and socio-economic fields. Through the formalization of temporary buildings, the transformation of health stations, the cultural revival of historic districts, spontaneous space utilization, and the experimental policies of temporary guidance zones, Guangzhou's temporary use phenomena reflect how a rapidly growing city can flexibly manage to meet different levels of needs, enhancing urban vitality and social integration.

4.1.1 Formalization of Temporary Buildings

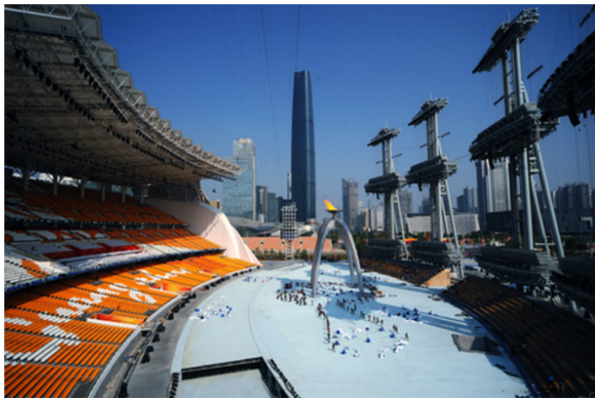


Figure 4-1 Aerial View of Haixinsha Island
Figure 4-2 Main Stand at Haixinsha
Source: https://ghzyj.gz.gov.cn/ywpd/cxgh/cssj/sjhd/content/mpost_5805895.html

The main stand at Haixinsha for the opening ceremony of the Guangzhou Asian Games is a typical case of temporary buildings being formalized. Although the stand was built to a 70-year standard, it was originally planned as a temporary facility for the Asian Games and was intended to be dismantled afterward. However, due to its high construction cost and prime location in the core of Zhujiang New Town, it was ultimately retained and repurposed for commercial operations. This phenomenon reflects the flexibility Guangzhou demonstrated

in dealing with temporary buildings after major events. The long-term retention of the Haixinsha main stand met market and social demands, while also stimulating the surrounding economy, transforming the space from post-event idleness into a multifunctional venue for culture, entertainment, and commerce. However, this formalization deviated from the original plan for public green space, sparking public concerns about the commercialization of public spaces [51]. How to balance short-term needs with long-term urban planning in temporary buildings is an issue worth reflecting on. This case shows that while Guangzhou must flexibly respond to temporary needs in urban planning, it also needs to balance public and commercial interests.

4.1.2 Transition of Health Stations to "Dual-Purpose for Peacetime and Emergencies"

Figure 4-3 Construction of Health Stations in Nansha District
Source: https://m.thepaper.cn/baijiahao_20849480
Figure 4-4 Construction of Dual-Purpose Public Infrastructure
Source: https://baijiahao.baidu.com/s?id=1793556057957396743&wfr=spider&for=pc

Following adjustments in epidemic prevention policies, some health stations in Guangzhou faced the issue of idle resources. To address this challenge, Guangzhou promoted the transformation of health stations into "dual-purpose for peacetime and emergencies" facilities, allowing them to function as wellness centers, guesthouses, etc., in peacetime, and to be converted into emergency quarantine or medical facilities when needed. This model innovatively combines daily use with emergency functions, effectively enhancing the utilization rate of the facilities and the city’s emergency response capabilities. For example, an international talent community project in Nansha District provides housing for young people

and new residents in normal times and can quickly be converted into a quarantine facility in emergencies [52]. This flexible "dual-purpose" model not only optimizes the use of public resources but also strengthens the city's resilience and ability to respond to unexpected events. Guangzhou's practice provides valuable experience for the construction of public infrastructure in other cities, showcasing its innovation and foresight in emergency management and resource allocation.

4.1.3 Cultural Activities in Historical Districts

Figure 4-5 Lion Dance in Pantang Village
Source: https://liwan.xxsb.com/content/2019-04/09/content_46066.html
Figure 4-6 Cantonese Opera Flash Mob in Yongqingfang
Source: https://www.sohu.com/a/427316563_120178674

Guangzhou's historical and cultural districts, such as Pantang Wuyue and Yongqing Fang, have successfully introduced a variety of cultural activities through micro-renovation, significantly enhancing the city's cultural atmosphere. The micro-renovation of Pantang Wuyue was the first bottom-up project in Guangzhou that involved public participation, where opinions were collected before designing. In this process, community residents not only took part in decision-making but also enriched the community's cultural life through temporary events like music concerts and traditional cultural showcases. The "30 People, 30 Songs" concert, held in a traditional brick house, attracted a large number of young people, demonstrating the power of temporary use in driving cultural revival in historical districts.

The temporary market at Yongqing Fang is another success story. Held during holidays and special events, the market, featuring handicrafts and local delicacies, attracted a large number of visitors and boosted local commerce to a certain extent. Moreover, Yongqing Fang hosted various temporary cultural events, such as Cantonese opera flash mobs, further enhancing the district's visibility and cultural influence. These types of temporary use activated idle spaces through short-term cultural activities and commercial initiatives, bringing lasting social and economic benefits to historical districts.

4.1.4 Spontaneous Space Utilization

Figure 4-7 Parking Lot in Guantao Road Historic and Cultural District
Source: https://liwan.xxsb.com/content/2019-04/09/content_46066.html
Figure 4-8 Gaodi Street's Front Shop, Back Warehouse Setup
Source: https://www.sohu.com/a/427316563_120178674

Residents and businesses in Guangzhou have demonstrated spontaneity in the utilization of spaces, as seen in phenomena such as temporary parking lots, home-to-warehouse conversions, and rooftop gardens, reflecting bottom-up space usage. In some historical districts or nearby areas, due to limited parking resources, residents and businesses temporarily use vacant lots as parking areas to alleviate parking difficulties. This type of temporary use meets daily needs to some extent. The "home-to-warehouse" phenomenon also reflects the flexible use of urban space by businesses. In areas surrounding wholesale markets, where warehouse resources are scarce, merchants often convert residential spaces into temporary storage facilities to meet the demand for storing goods[2]. Although this practice

may involve illegal modifications, it highlights the effectiveness of temporary use in addressing functional needs.

Figure 4-9 Rooftop Garden in a Residential Community in Tianhe District
Source: https://huacheng.gz-cmc.com/pages/2024/04/24/077f1b1b842a4973a51c7bba2e96a4d9.html
Figure 4-10 Rooftop Farm at a Primary School in Yuexiu District
Source: https://www.yuexiu.gov.cn/yxdt/rdzt/jsmlyx/yxhhl/content/post_8230118.html

The spontaneous creation of rooftop gardens also demonstrates the ability of Guangzhou's citizens to independently develop space resources. Rooftop gardens in the old city have rapidly developed, especially in hotels, restaurants, and residential communities, where citizens use rooftops for gardening and greening. This not only adds greenery to the urban environment but also showcases the innovative utilization of idle spaces by city residents[53].

4.1.5 Experimentation with Temporary Vending Zones

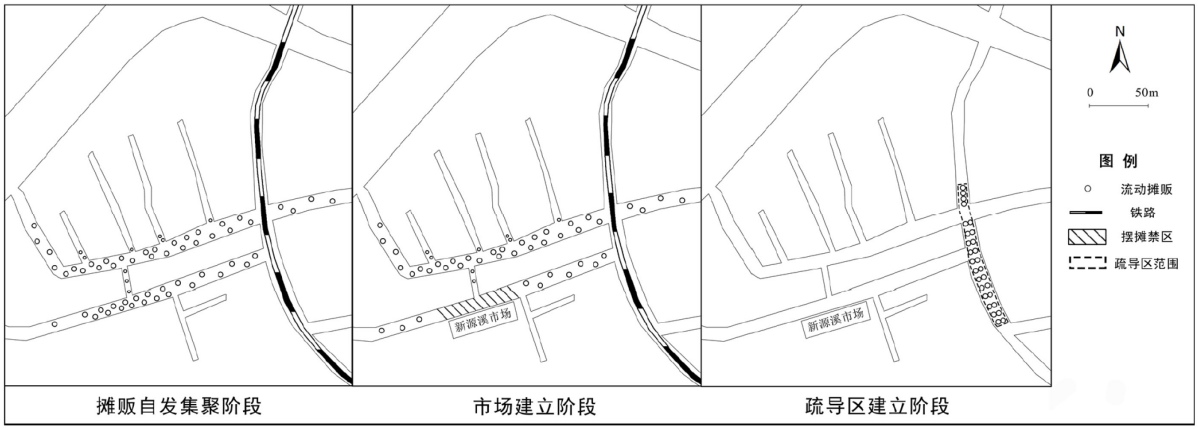


Figure 4-11 Spatial Distribution Changes of Mobile Vendors in Yuanxi Community
Source: Reference [54]

At the policy level, Guangzhou has also shown flexibility and inclusiveness toward temporary use. In addressing the issue of street vendors, the city has adopted a strategy of "combining guidance and regulation," establishing temporary vending zones that provide a legal space for mobile vendors. The Guangzhou government, drawing lessons from Singapore's experience, designated vending zones as areas for street vendors to legally operate[54]. This temporary arrangement not only provides a livelihood for low-income groups but also effectively mitigates the conflict between urban management and street vendors.

Figure 4-12 Location and Real View of the Guidance Zone in Yuanxi Community
Source: Reference [54]

The establishment of vending zones involves various steps such as land use, construction, and management. First, neighborhood offices propose site selection plans based on actual needs and negotiate with property owners about the temporary use of the land. If the land belongs to a public department, it can be used free of charge; if it belongs to village collectives or private property companies, a rental agreement must be signed. Second, the neighborhood offices draft a construction plan according to specific conditions, gather opinions from surrounding businesses and residents, and then submit the plan for approval[55]. The funding for constructing vending zones can be shared proportionally by the city, district, and neighborhood offices, or social capital can be introduced for construction. This flexible vending zone policy reflects Guangzhou's openness and inclusiveness regarding temporary use policies, offering a model for other cities to follow.

In summary, the phenomenon of temporary use in Guangzhou ranges from bottom-up spontaneous innovations to top-down policy experimentation. Throughout this process, temporary use has invigorated communities, promoted cultural revival, and fostered social inclusion.

4.1.6 Phenomenon Analysis

The phenomenon of temporary use in Guangzhou exhibits significant diversity and innovation, characterized by a dynamic interaction between top-down and bottom-up approaches. On one hand, the government, through policy guidance and resource integration, has extended temporary facilities, such as those for large events and emergency health stations, into long-term urban functions, fully realizing the potential value of these facilities. On the other hand, the spontaneous space utilization by residents and businesses showcases grassroots innovation and flexibility. These temporary use phenomena are not only direct responses to the city's functional needs but also reflect how urban residents autonomously develop and use spatial resources. The establishment of temporary guidance zones highlights the inclusiveness and mediating ability of urban management, employing a “combination of guidance and control” strategy to resolve the governance issues of mobile vendors, making positive contributions to urban equity and social inclusion. However, while these phenomena have produced positive outcomes, they have also exposed certain issues that warrant further consideration and reflection.

Firstly, the formalization of temporary buildings demonstrates Guangzhou’s flexibility and pragmatism in handling facilities for large events, but it does not fully align with the characteristics of the testing phase mode. Haixinsha’s main stand was originally a temporary structure, but its formalization reveals a conflict between short-term urban planning and market-driven decisions. Although converting this structure to commercial use has activated urban functions, it deviates from the initial plan of creating public green space, exposing the problem of poor coordination between temporary use projects and long-term urban planning.

Secondly, the transition of health stations into "dual-purpose for peacetime and emergencies" facilities showcases Guangzhou's innovation in emergency management and resource utilization. This flexible model provides valuable insights for other cities. However,

the success of this transition depends on clear policy guidance and robust infrastructure. Ensuring the efficiency and safety of facility conversion between different uses is a topic that requires further exploration in the future.

Cultural activities in Guangzhou's historic districts have demonstrated the advantages of the cultural events mode by revitalizing traditional culture and promoting commercial development. Although temporary activities can quickly energize historic districts, finding a balance between cultural commercialization and cultural preservation remains a challenge that must be addressed.

Spontaneous space utilization, such as temporary parking lots, residential-to-warehouse conversions, and rooftop gardens, reflects the autonomous creativity of citizens, particularly in meeting everyday needs with limited resources. However, these phenomena often exist in a regulatory gray area, lacking systematic standards and policy support. On one hand, this spontaneity reflects the vitality and innovation of urban grassroots; on the other hand, unregulated spontaneous use can lead to safety hazards and disorder in land functions. How to respect grassroots innovation while building a more systematic and legalized management framework is a key issue that urban management must urgently address.

The temporary guidance zones, as a policy experiment, combine elements of the "testing phase mode" and the "pop-up project mode," providing a flexible governance solution for managing mobile vendors. This strategy offers legal operating spaces for low-income groups, reflecting the inclusiveness of policy and the flexibility of urban management. However, this mode relies on short-term land use, and if operated long-term, it may result in land-use conflicts and management complications. Therefore, while promoting temporary guidance zones, further optimization at the policy level is required to ensure that these temporary facilities meet short-term needs without affecting long-term urban planning.

In summary, although Guangzhou's temporary use phenomena demonstrate the successful application of various modes, the practice still lacks a systematic and standardized management framework. In the future, Guangzhou needs to more deeply consider how to institutionalize and standardize temporary use to ensure that it stimulates urban vitality while avoiding negative impacts on long-term planning and public interests. Temporary use is certainly an effective tool for addressing space shortages and flexible demands, but it must be

integrated into a broader urban management framework to achieve sustainable development goals.

4.2 Discussion on the Applicability of Temporary Use

General categories	More appropriate for temporary uses	Less appropriate for temporary uses
Ownership of land	Public ownership	Private ownership(*unless vacant too long)
Role/influence of the city	Lack of (or poor efficacy of) public investment or incentives	Traditional planning tools successfully encouraging private investment
	Slow-growth/declining cities	Growing/vibrant cities
	Trial and error, flexible approach embraced	Top-down, master-planning
	Socially progressive goals (inclusion, diversity, access)	Pragmatic, financial/economic goals only
General economic climate	Low private development interest	High private development interest
	Times of “disruptive, stressful, social and urban change"	More stable, predictable times
	Exploit uncertain transitional period	Immanent redevelopment likely
Development potential of the space	Long-vacant land or structures	Recent vacancy; likely to redevelop quickly
	Vacant land/abandoned structures	“Underutilized land"(awaiting planned development)
	Areas with high risk of decline and “contagion effect"	Areas of stability
	Non-corporate,low-capital businesses or investors likely	Corporate developers, big business, municipal"growth regimes"
	Smaller scale	Larger scale
	Leftover/remnant parcels, small, fragmented spaces	Larger, continuous spaces
	Higher use value	Higher exchange value
	Areas seeking redevelopment, attraction of new residents and businesses	High-profile, central tourist areas
	Active community/residents/non-profits/small investors	Top-down, corporate interests
Potential uses of the space	Events/programmatic uses	Fixed infrastructure, buildings
	“Soft content"	Inflexible built form
	Desire/need to break from mono-functional environments	Already diverse, multi-use environments
	Desire to encourage/create new meanings, functions, identities, and relationships for/of a space	More stable, secure areas
	Test unfamiliar or potentially controversial ideas	“Proven" solutions, uses
	Educational tool to prove investment potential of certain uses/spaces	
	“Tactical" unsanctioned and transgressive uses, frequently by marginalized demographics, subcultures (e.g.squatting, skateboardi ng, emergent artists...)(De Certeau,1984)	“Strategic" sanctioned uses catering to preferred)privileged/mainstream demographics (De Certeau,1984)

Table 4-1Conditions for the Applicability of Temporary Use
Source: Reference [56]

As a flexible urban planning tool, the applicability of temporary use is influenced by multiple factors. In the process of urban renewal in China, temporary use has a wide range of application scenarios, especially when there is a need to flexibly respond to economic, social,

and spatial changes. Factors such as land ownership structures, the role and influence of the city, current economic conditions, the development potential of the space, and its potential uses all affect the specific implementation of temporary use [56]. Depending on the background and characteristics of different conditions and spaces, temporary use can bring innovative solutions to urban development and the revitalization of historic districts.

(1) Land Ownership

Temporary use is typically suitable for public land or long-term vacant private land. In China, land ownership and land use rights are separated, with urban land owned by the state, while land use rights can be transferred to enterprises or individuals on a paid, limited-term basis [57]. Temporary use is generally more suitable for publicly owned land because public land is more flexible in allocation, reducing the restrictions and complexities associated with private land ownership. For long-term idle collective or private land, if the owner is willing to explore potential commercial or social value, temporary use can also be an effective option.

(2) The Role and Influence of the City

Temporary use is highly applicable in areas where urban renewal has lagged or where economic growth has slowed. Such cities can use temporary use to enhance spatial vitality and drive social and economic revitalization, especially when public investment or incentives are lacking. The revitalization of historic districts, particularly when funds or policy support are limited, can be facilitated by temporary use through cultural events or short-term commercial projects, attracting public attention and stimulating social vitality. However, in areas with clear planning and rapid development, traditional top-down planning approaches may be more effective, and the flexibility of temporary use may be less applicable in these situations.

(3) Urban Economic Environment

When a city is undergoing economic changes or facing a sluggish market, temporary use can offer a short-term activation solution. In the context of the pandemic, cities worldwide faced severe disruptions in production and daily life, making the recovery of urban vitality a top priority [58]. Temporary use, as a flexible urban governance tool, can support the transitional use of land and alleviate government fiscal pressures.

(4) Development Potential of Space

Temporary use is most suitable for long-term idle or fragmented plots and buildings, especially in old urban areas or historic districts. In the process of rapid urbanization and the transition from secondary to tertiary industries, cities have accumulated idle or inefficient stock spaces, such as obsolete industrial spaces, old residential areas lacking public services, and vacant land paused or awaiting development for various reasons [5]. Long-term vacant land or buildings, particularly those unlikely to undergo large-scale development in the short term, are ideal for temporary use. Such spaces can generate short-term economic or social benefits through temporary use. Additionally, small and fragmented plots can also be utilized in a flexible manner.

(5) Potential Uses of Space

Temporary use is well-suited to flexible and varied uses, especially for testing innovative or controversial ideas as a trial platform. Through temporary use, space can break free from traditional single-function frameworks, creating new spatial meanings and models for social interaction. Additionally, temporary use can serve as an educational tool, demonstrating the potential uses or investment value of a space. In historic districts, temporary use can test new business models or public space design schemes, accumulating valuable experience and data for future long-term development. However, the value of temporary use is mainly reflected in spaces with uncertain or transitional uses. For areas that have already achieved multifunctional development and stable growth, the necessity and effectiveness of temporary use are relatively low.

4.3 Existing Regulations on Temporary Use

4.3.1 National Level

Temporary Land Use: China's current land laws and regulations include provisions on temporary land use. Temporary land use refers to situations where any unit or individual occupies or uses land owned or managed by others for a short period, with reasonable compensation generally required unless for emergency rescue. After the period ends, the land must be restored to its original state and returned[59].

Temporary land use is typically applied for construction, geological exploration, or emergency tasks, with a usage period not exceeding two years. The user must sign a contract with the landowner, specifying fees and the usage period, and obtain administrative approval from land and planning authorities. Although temporary land use is restricted to specific situations, it can serve as a legal and regulatory reference for temporary use in vacant land and public spaces[60].

4.3.2 Local Level

Idle Land: Idle land refers to state-owned construction land that has not been developed[61].

The Guangzhou government has implemented classification measures for different types of idle land, achieving some success. For land that has been cleared but not yet developed, commercial projects are required to use the land for temporary greening, beautification, or building high-standard temporary shops before construction starts. For idle land created by municipal construction projects, the planning department may adjust the land's use to allow for high-standard temporary commercial buildings, as long as they comply with urban planning regulations[62]. These measures have improved land utilization rates by addressing temporary greening and temporary commercial construction.

Temporary Use of Reserve Land: Reserve land refers to land acquired by the government following the national reserve land management regulations[63].

The Guangzhou Land Reserve Management Measures stipulate that reserve land can be used temporarily after approval by the land planning and financial departments[64]. Temporary users of reserve land must pay a temporary use fee. The temporary use of reserve land can be for construction sites, public sports venues, or parking spaces, with a maximum usage period of two years. During this period, no commercial or non-temporary facilities can be constructed. The temporary use of reserve land prevents land from lying idle and meets short-term land demand, increasing land revenue. For example, from 2015 to 2017, Wuhan's reserve agencies generated an average annual income of approximately 6 million yuan from temporary use of reserve land[65]. From 2019 to 2022, Nanning generated 18.35 million yuan in revenue for the city through temporary use of reserve land[66].

In general, existing regulations provide basic guidelines for temporary use, but they lack a complete and systematic workflow[67]. In practice, more flexible policy tools are needed to implement temporary use based on local conditions.

4.4 Framework Construction for Temporary Use

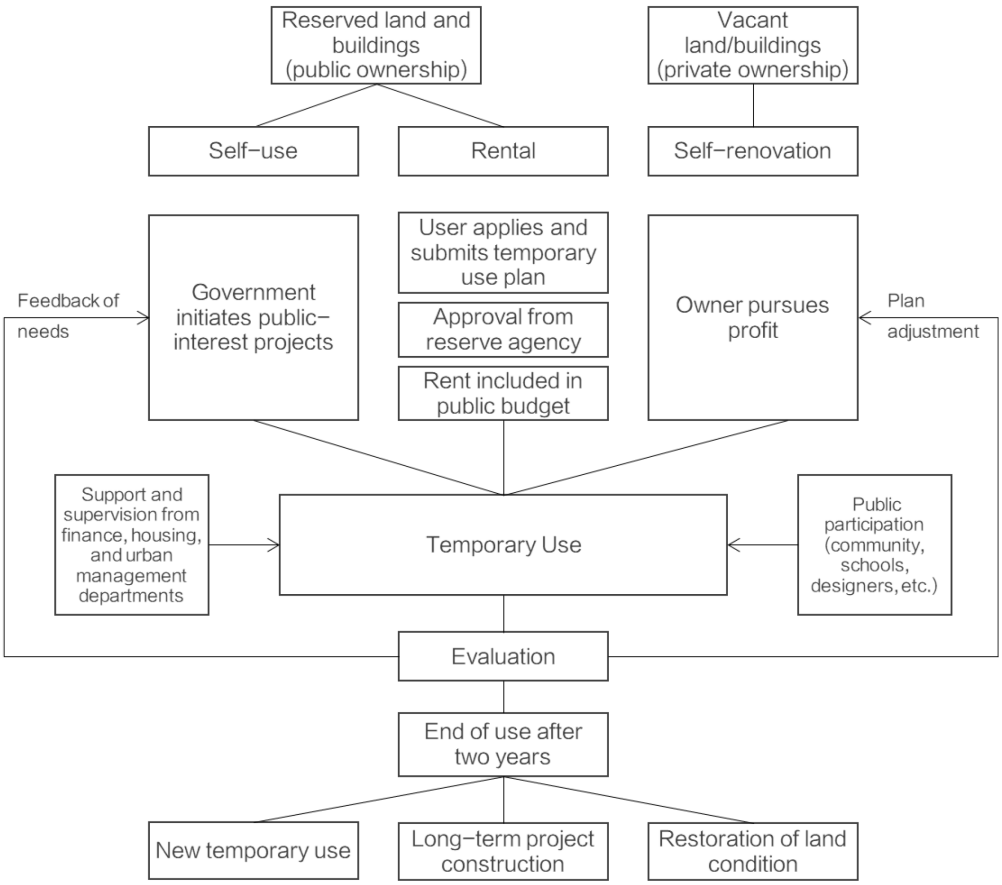


Figure 4-13 Implementation Framework Diagram for Temporary Use
Source: author

The framework for temporary use is designed based on existing laws and regulations, taking into account actual needs and land resource conditions. As shown in the framework above, temporary use can be divided into three core stages: land issues, responsibility allocation, and project initiation and promotion.

First, it is essential to clarify which types of land can be used for temporary use. The implementation of temporary use on reserve land or idle land involves different methods of land utilization. For reserve land and its buildings, the government can initiate public welfare projects without affecting long-term plans, following an open evaluation and approval

process. For idle land or buildings, private enterprises or individuals may seek economic benefits and can implement temporary use through independent renovation.

Responsibility allocation is particularly important in the temporary use framework. Reserve land can be temporarily used by leasing. The user (social organizations, charities, etc.) must apply to the reserve agency or landowner and provide a specific temporary use plan. Relevant departments (such as finance, housing, and urban management) are responsible for reviewing and supervising the project to ensure its legality and feasibility. Rental fees and related costs should be included in the public budget to ensure fiscal transparency and the social welfare nature of the project.

In the project initiation and promotion process, an evaluation and adjustment mechanism needs to be established. The implementation of the project depends not only on the applicant's request and government support but also requires broad public participation, including communities, schools, and designers. Temporary use projects usually terminate after two years. Depending on the actual situation, the user may apply for a new temporary use permit, transition to long-term development, or end the project, restoring the land to its original state.

4.5 Summary

This chapter focuses on discussing the applicability and practice of temporary use in China. First, it analyzes the phenomenon of temporary use in Guangzhou, including the formalization of temporary buildings, the transformation of health stations, cultural activities in historic districts, spontaneous space utilization, and the experiment with temporary guidance zones, demonstrating the diversity of temporary use in urban renewal. Then, it explores the applicability of temporary use, pointing out how factors such as land ownership, the role of the city, economic environment, and spatial potential influence the implementation of temporary use. Following that, the chapter reviews relevant national and local regulations, finding that while existing regulations provide some guidance, they lack systematic coherence. Finally, a framework for the implementation of temporary use is proposed, offering guidance for applying temporary use strategies within the context of China.

Chapter 5 Analysis of the Daxiaomazhan Academy Cluster

5.1 Site Selection Criteria

5.1.1 Location

Figure 5-1 Location Map of Daxiaomazhan
Source: author

Guangzhou, a national historic and cultural city with over 2,200 years of history, has 26 historic and cultural districts. The Daxiaomazhan Academy Cluster is located on the right side of Guangzhou's traditional cultural central axis, within the Beijing Road business district. The site extends from Zhongshan Fifth Road in the north to Xihu Road in the south, from Jiaoyu Road in the east to Dama Zhan in the west, covering an area of about 5.7 hectares. As one of the most famous academy districts in Guangzhou during the Qing Dynasty, this area was home to the largest number of academies nationwide, boasting rich cultural resources and

geographic advantages[68]. In the Qing Dynasty, academies were not only educational institutions but also important venues for clan activities, functioning as both ancestral halls and educational spaces.

5.1.2 Why Choose Daxiaomazhan?

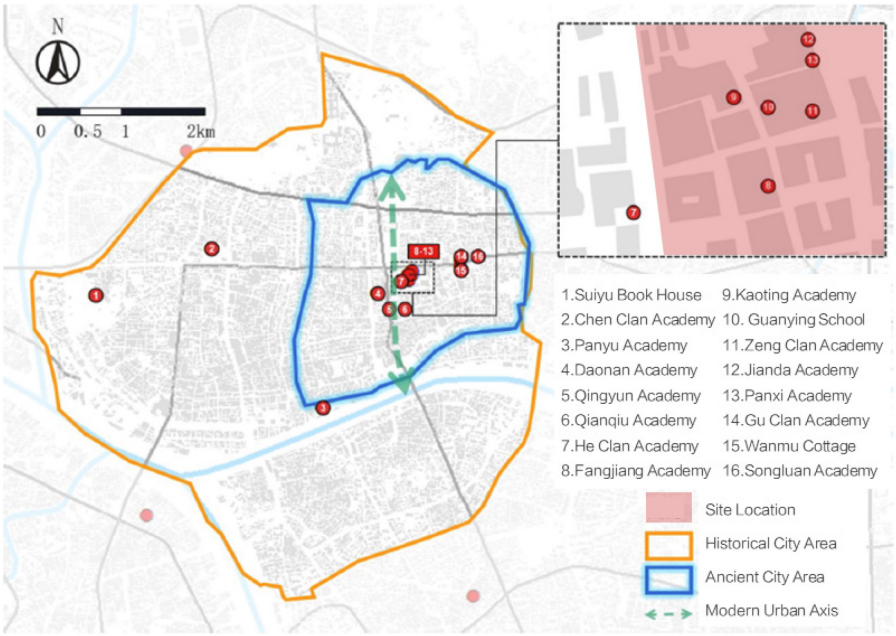


Figure 5-2 Distribution of Traditional Academies in Guangzhou's Historic Ancient City
Source: Reference [68]

The choice of Daxiaomazhan for temporary use is due to its representation of the challenges historical districts face due to long-term delays in planning and preservation[4]. As a significant historical and cultural site in Guangzhou, the Daxiaomazhan Academy Cluster has faced challenges since its renovation efforts began in 1999. Complex property rights and lengthy preservation application processes have prevented many buildings from receiving legal protection in time, leading to the demolition or improper use of some historic structures. This has resulted in a decline in the district's vitality, a breakdown in cultural heritage transmission, and a gradual fading of the area's presence.

The challenges in this area highlight shortcomings in the current preservation and planning systems, particularly in maintaining the integrity and functionality of historical districts over extended planning cycles. The long-term vacancy and damage have created an

urgent need for a flexible strategy to maintain the cultural vitality of the district, making it an ideal site for the application of temporary use strategies.

5.2 Site Background

5.2.1 Location Analysis

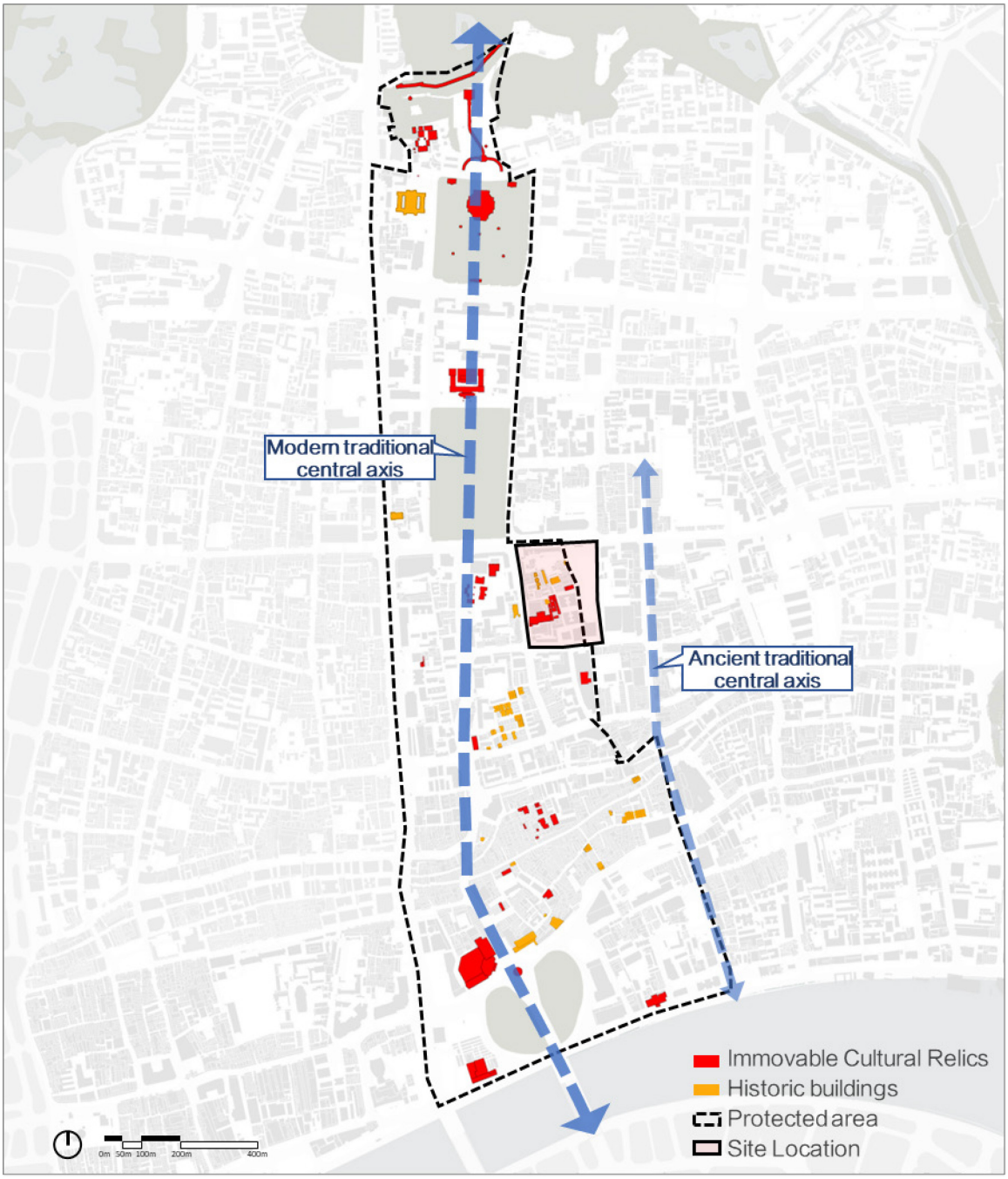


Figure 5-3 Analysis of Cultural Heritage Buildings and Historical Buildings
Source: author

(1) Historical Buildings

The Daxiaomazhan area is located within a historic and cultural preservation district along Guangzhou's traditional central axis, and it contains important historical architectural resources. The site includes three immovable cultural relics and four historical buildings, reflecting the rich history of Cantonese culture. Preserving and protecting these historical buildings is crucial for maintaining the cultural identity of the area.

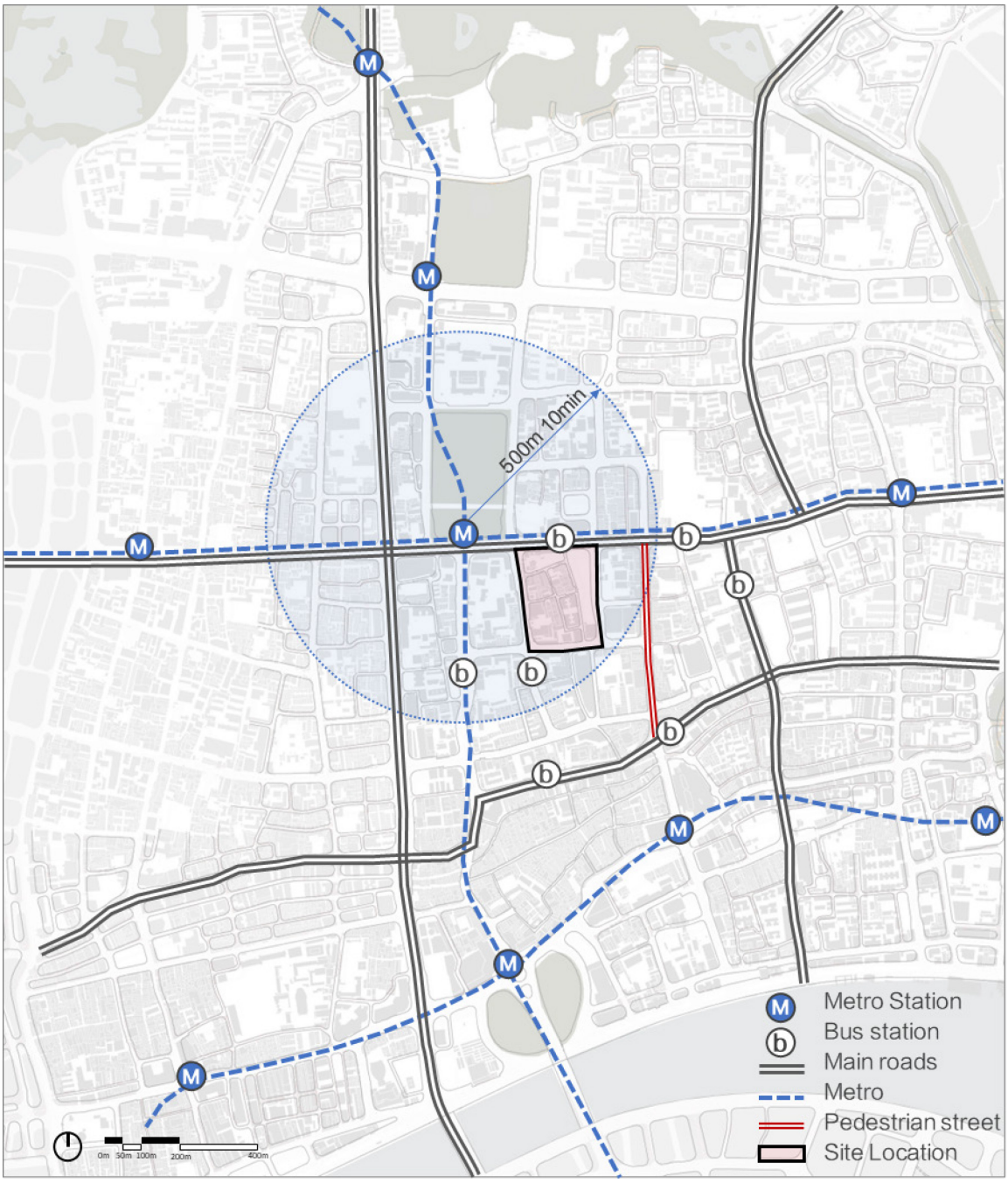


Figure 5-4 Traffic Analysis
Source: author

(2) Transportation

Situated in the city center, the area enjoys convenient transportation. Metro lines 1 and 2 run along the northern and western sides of the site, with the "Gongyuanqian Station" being the closest metro station. Additionally, several bus stops are located around the site, further enhancing its accessibility and meeting the travel needs of residents and visitors.

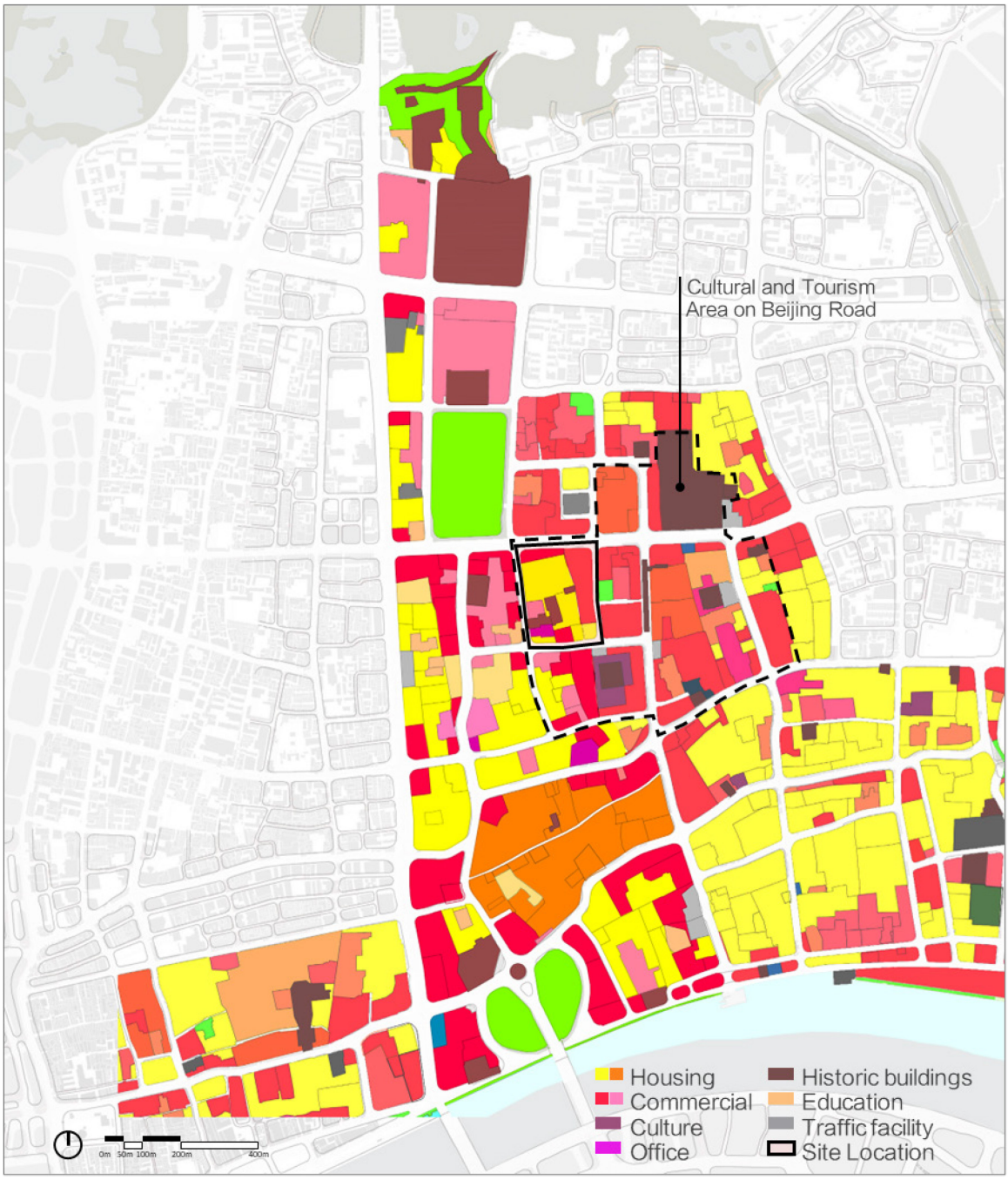


Figure 5-5 Current Land Use Analysis
Source: author

(3) Current Land Use

The outer areas of the site are primarily commercial, while the inner areas are residential and cultural preservation zones. However, the current residential functions and architectural conditions of the academy cluster no longer meet the needs of modern urban development. This provides a direction for future urban renewal and planning, where reasonable renovation could preserve historical and cultural value while aligning with modern development requirements.

The Daxiaomazhan Academy Cluster has rich historical and cultural resources, excellent transportation links, and significant potential for redevelopment. Future planning should focus on preserving historical buildings and cultural relics while optimizing space functionality to revitalize the area.

(4) Public Opinion Report

A local public participation service organization conducted a survey on the development of the Beijing Road cultural and tourism district, collecting 289 valid questionnaires. The survey highlighted public dissatisfaction with the area and revealed core challenges and needs for future development[69]. As part of the district, the Daxiaomazhan area faces issues such as limited space and traffic congestion. The public generally perceives the area as having limited development space, lacking commercial uniqueness, and insufficient public facilities.

The survey showed that despite the strong cultural and commercial vitality of Beijing Road and its surrounding areas, commercial activities are mostly focused on shopping and dining, with a lack of spaces for cultural exhibitions and social interaction. The district has not effectively integrated functionality with cultural elements, leading to an underrepresentation of its cultural characteristics. The public called for more cultural exhibition spaces, public green areas, and recreational facilities. Additionally, transportation difficulties and inadequate parking were seen as key factors reducing satisfaction with the area.

Future renewal strategies should focus on improving the quality of public spaces and enhancing cultural displays to meet the public's demand for diverse cultural experiences and public services[3].

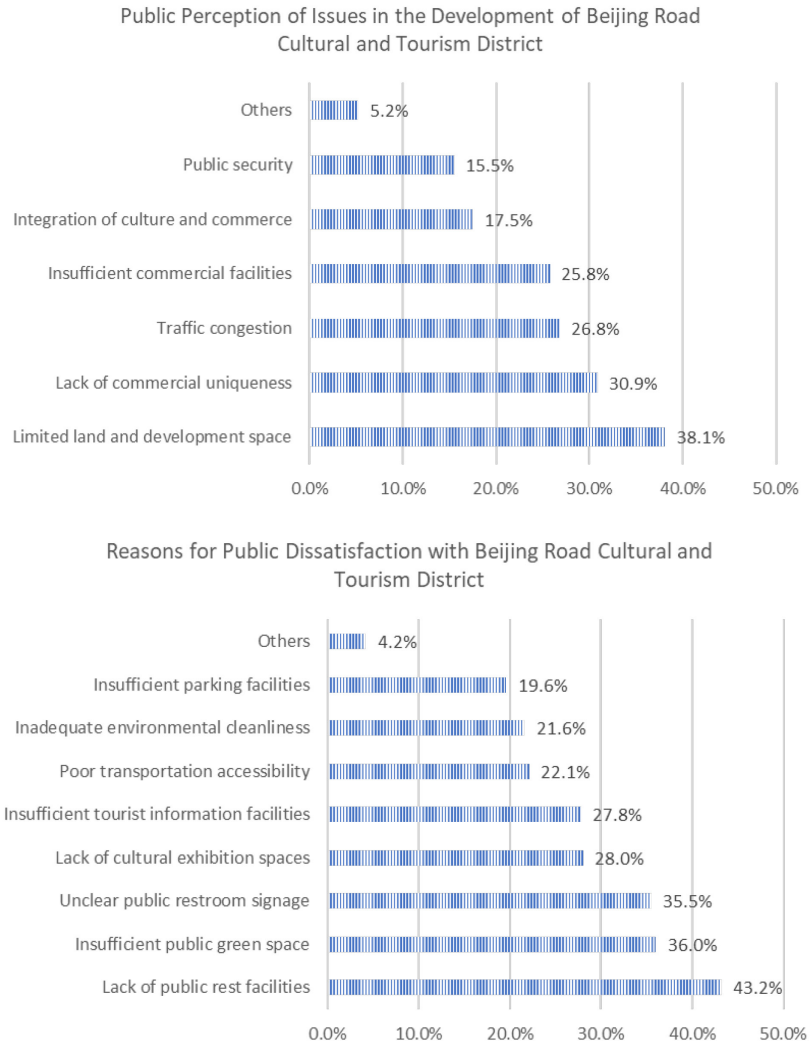


Figure 5-6 Survey Results of Public Opinion on the Beijing Road Cultural and Tourism District
Source: Reference [69]

5.2.2 Historical Evolution

(1) Renewal Process

The renewal of the Daxiaomazhan Academy Cluster began in 1999 when representatives from Yuexiu District proposed a motion to protect the academy cluster at the 11th Guangzhou People's Congress. The municipal government quickly listed it as a historical and cultural preservation area. The initial plan aimed to renovate the area while preserving the original buildings. However, with the construction of the Beijing Road Pedestrian Street in 2001, large-scale demolitions occurred in the Xiaomazhan Academy Cluster to widen the road, leaving only six ancient academies, with only a boundary stone remaining from the Lianxi

Academy. This significantly deviated from the original preservation goals, resulting in the loss of a large amount of historical heritage.

Although a preservation plan was introduced in 2003, and the "Daxiaomazhan Academy Cluster Protection Plan" was approved in 2004, the project made little progress over the next decade due to the difficulty of demolition, lack of clear leadership, and complex property rights. Most of the academies remained vacant. It wasn't until 2011, when the “Protection and Renewal Plan” was introduced, that the renewal efforts resumed. The plan included the "Moonlight Project," which aimed to turn the academy cluster into a museum for intangible cultural heritage and create a cultural, commercial, and tourism district showcasing Cantonese culture. Although the Lujia Academy was restored in 2014, and some land use rights were reclaimed in 2015, progress in land acquisition and revitalization has remained unclear, and the renewal process continues to face challenges[4].

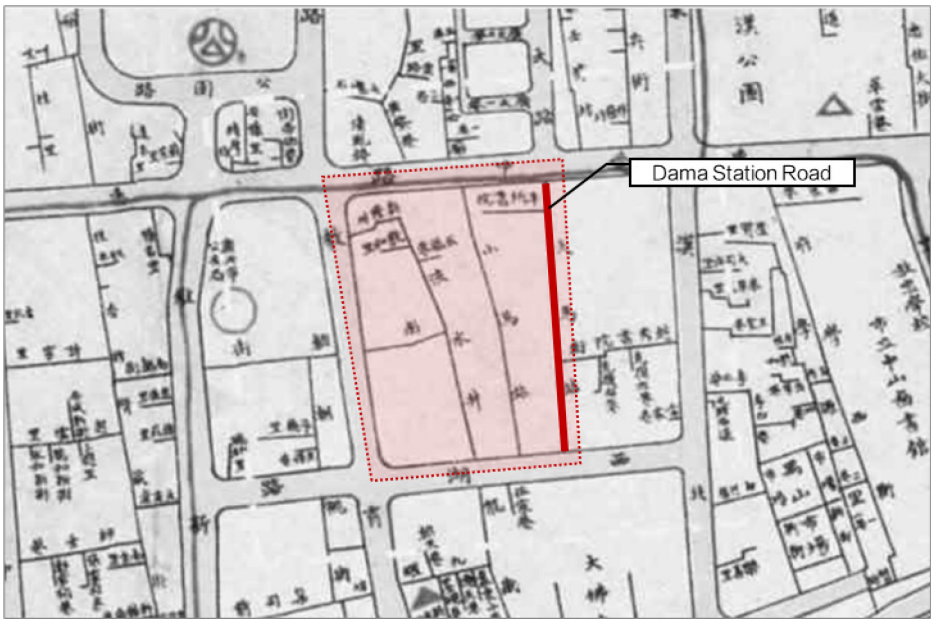


Figure 5-7 Schematic Diagram of Dama Station Street Before It Was Widened into Dama Road
Source: Internet

(2) Historical and Cultural Clues

The historical and cultural clues of the Daxiaomazhan Academy Cluster can be divided into three parts. First, there is the commercial wasteland section, which was once home to the Six Clans Academies. As the city developed, these academies were demolished, and the area is now a temporary parking lot. In future planning, this site is set to be transformed into a 100-

meter-tall commercial center. Second, the core academy cluster represents the combined clan ancestral hall and academy function from the Qing Dynasty, where the primary purpose was to provide lodging and education. The academies functioned similarly to temples, primarily focused on educating students, and were spontaneous educational organizations[70]. Today, most of these academies are used as residences, but despite the functional decline, they still retain significant cultural value. The future plan will involve restoration and functional transformation, turning the academies into spaces for intangible cultural heritage experiences and cultural dissemination, such as Cantonese craft courtyards and storytelling venues, revitalizing them as key cultural exhibition spaces. Lastly, other historical and cultural remnants in the area, such as the remnants of city walls, waterways, and gardens, record the district's historical transformations. Some of these sites are currently under archaeological excavation or preservation, and in the future, these historical relics will be reconstructed and restored as cultural exhibition spaces, further promoting cultural and tourism development in the region.

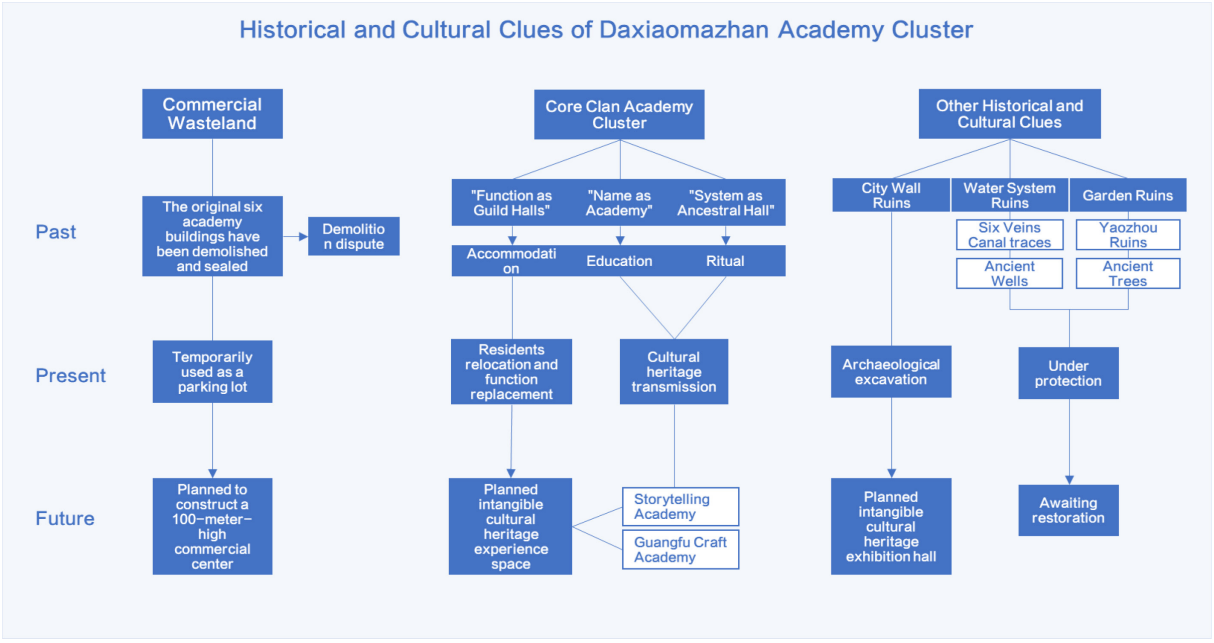


Figure 5-8 Historical and Cultural Clue Framework of Daxiaomazhan
Source: author

5.2.3 Current Planning

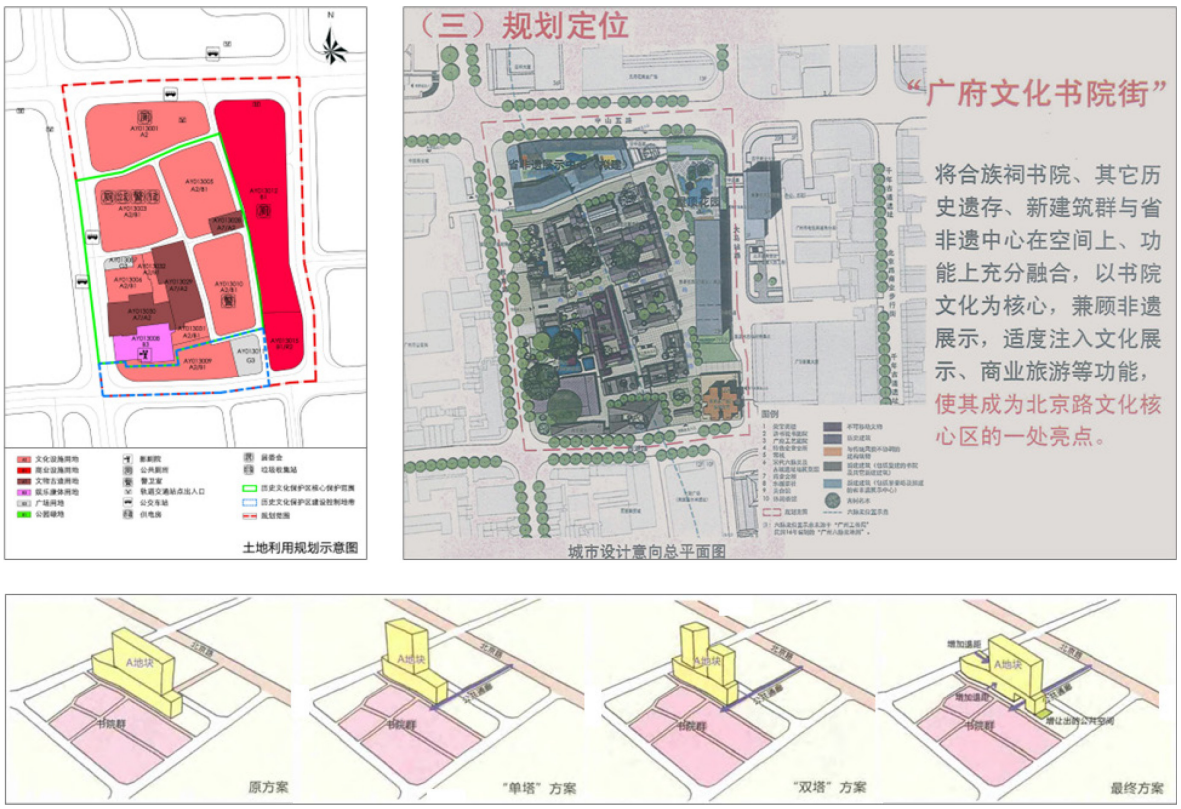


Figure 5-9 Current Planning Map of Daxiaomazhan
Source: Reference [71]

The "Daxiaomazhan Academy Cluster Protection and Renewal Plan," released in 2012, outlined the requirements for the protection and renewal of the district, particularly regarding the street layout, reconstruction of historical buildings, and activation of functions[71]. The plan requires the restoration of the "one vertical and one horizontal" street layout to maintain the continuity of the district’s historical texture. Existing academies and historical buildings must not be demolished, and their appearance, volume, and height must be preserved in their original form. For demolished buildings, the plan calls for reconstruction based on original layouts and archives to restore the historical landscape as much as possible. Additionally, the plan allows for the introduction of cultural or commercial functions into the area without damaging the buildings, injecting new vitality into the district and achieving a balance between historical preservation and modern utilization.

Although this plan was approved in 2013 and was expected to be completed by 2015, progress has been slow due to funding shortages, conflicting interests, and unresolved surrounding issues. Although Lujia Academy was restored in 2014 and now serves public

cultural functions, most of the other academies remain residential properties, facing challenges in renovation and protection. Furthermore, the construction of high-rise buildings in the surrounding area has diminished the historical appearance of the academy cluster, gradually overshadowing its cultural significance within the modern urban context.

5.3 Current Condition of Buildings

The current condition of buildings in the Daxiaomazhan area is complex, reflecting a dual need for both historical and cultural preservation and modernization. The site contains important provincial and municipal cultural heritage buildings, as well as other historical relics, but some of the historic buildings have been inappropriately renovated or demolished, resulting in damage to the original landscape. With the advancement of urbanization, the functions, ownership, quality, and appearance of the buildings in the area have shown clear differences, necessitating protective and renewal measures. In this context, systematically cataloging and analyzing the existing buildings in the area to clarify their cultural value and structural condition is the foundation for subsequent planning, restoration, and temporary use interventions.

5.3.1 Cultural Heritage Buildings and Other Historical Clues

The existing historical relics include three cultural heritage buildings, six historical buildings, and other historical and cultural clues. The Yaozhou Ruins, a provincial-level protected site, is an important historical relic from the Southern Han period. After multiple renovations, the overall condition is well-preserved, and it is currently an open tourist site. The Lujiang Academy and Zeng Academy are municipal-level protected cultural sites. These two academies from the Qing Dynasty are important witnesses to Guangzhou’s historical and cultural heritage. The Lujiang Academy has been transformed into the Lingnan Financial Museum, while the Zeng Academy has been renovated but is not yet in official use.

The preservation condition of other historical buildings varies; some still retain relatively complete layouts and architectural forms, while others only have remaining foundations or walls. Some historical buildings have suffered inappropriate renovations, expansions, or demolitions, leading to the loss of their original appearance and historical value. Due to the

long-term lack of effective protection and renovation, some building components from the original Dama Station Road, which were dismantled and stored, have also experienced corrosion and are in urgent need of restoration and maintenance [4]. Additionally, the ancient wells, trees, and some traditional-style buildings and modern residential houses in the area are relatively well-preserved to varying degrees, showcasing the rich historical and cultural value of the area. These buildings are under increasing pressure for protection, and further restoration measures are urgently needed to prevent the continued loss of historical and cultural heritage.

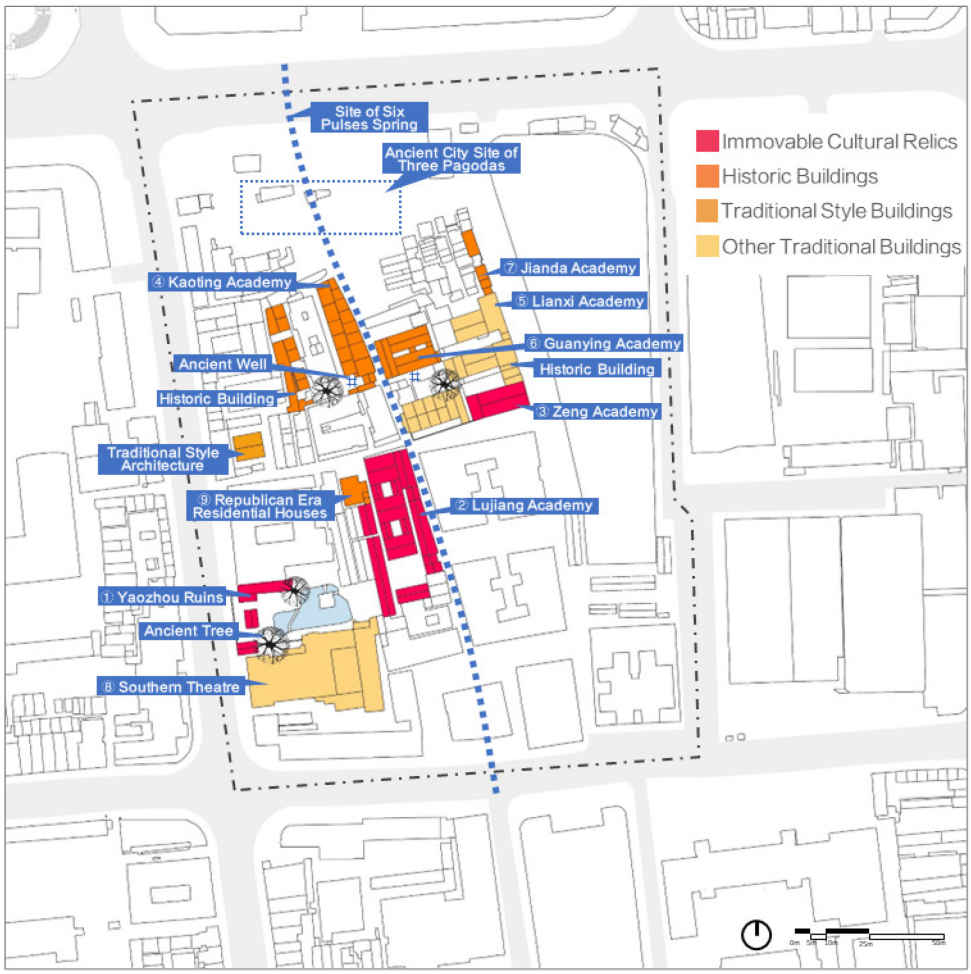


Figure 5-10 Cultural Heritage Buildings and Other Historical Clues
Source: author

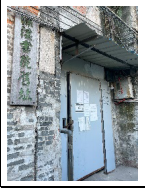
Name	Type	Status	Picture	Name	Type	Status	Picture
① Yaozhou Ruins	Provincial Heritage	Post-Ming dynasty, lake gradually silted up		⑥ Guanying Academy	Historical Building	Layout well-preserved; building condition is average	
② Lujiang Academy	Municipal Heritage	Building, layout, and decoration well-preserved, but many open courtyards have been damaged		⑦ Jianda Academy	Historical Building	Current left building two courtyards are generally preserved	
③ Zeng's Academy	Municipal Heritage	First two courtyards no longer exist; third courtyard's protection is average		⑧ Southern Theatre	Historical Building	Well-preserved after multiple renovations	
④ Kao Ting Academy	Historical Building	Middle building no longer exists; left and right buildings are generally preserved		⑨ South Street No. 1 Residence	Historical Building	Good protection after renovation	
⑤ Lianxi Academy	Historical Building	Only part of the foundation and wall remains					

Table 5-1 Cultural Heritage Buildings and Historical Buildings
Source: author

5.3.2 Building Function

The Daxiaomazhan Academy Cluster area is primarily residential, especially in the center of the site, where a large number of residential buildings coexist with scattered historical academy relics. These relics hold potential for future conversion into cultural dissemination and educational spaces. The process of land acquisition is still underway, and as the acquisition of collective land is gradually completed, the area will be converted to state-owned land, providing conditions for subsequent preservation and development. Additionally, Jinghao Fang on the eastern side is an unfinished commercial building that has been abandoned for a long time, urgently needing further renewal and utilization planning.

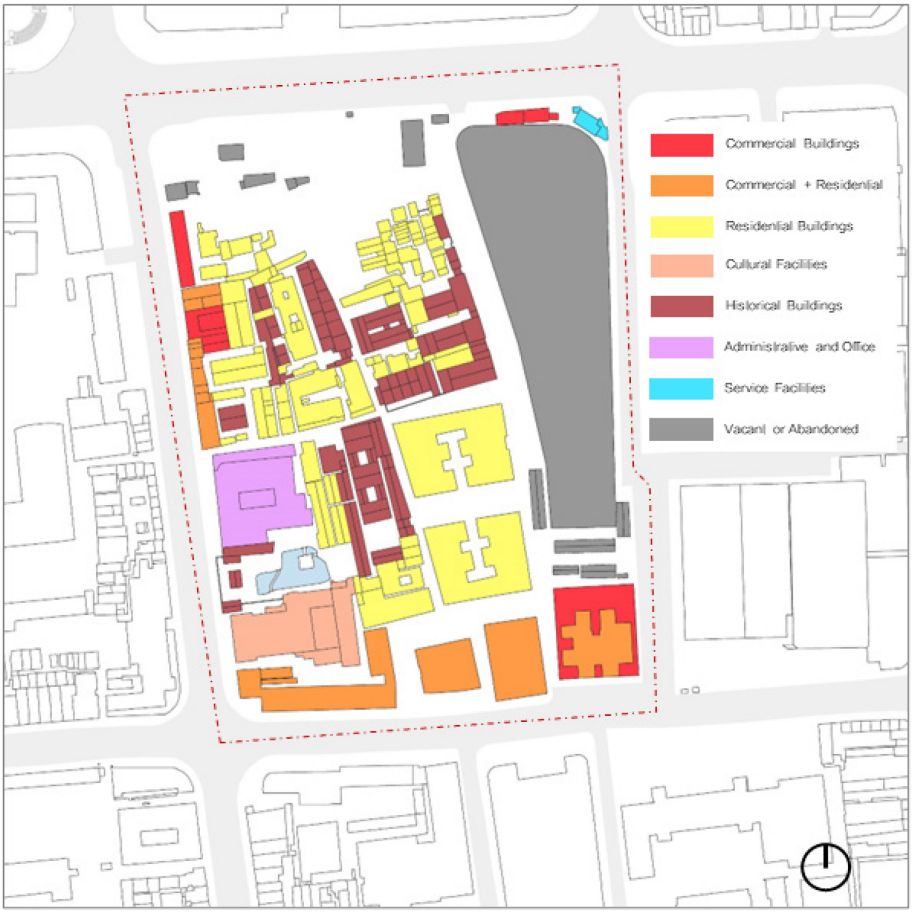


Figure 5-11 Current Condition of Building Functions
Source: author

5.3.3 Ownership and Acquisition Status

The Daxiaomazhan site primarily consists of the combined clan ancestral halls and academies. These academies were historically funded and built by multiple families or clans for the purposes of worship, education, and cultural transmission. Traditionally, these academies were collectively owned and managed by the family or clan. However, over time, some academies have been damaged or demolished due to unauthorized extensions and urban development. In terms of ownership, some of the clan ancestral academies have been transferred to public ownership and are managed by the government or public institutions, serving as museums or cultural centers for public use. Others have become privately owned, used for residential or commercial purposes. Some academies remain under shared ownership among multiple families or organizations, with co-owners jointly holding ownership rights and assuming corresponding responsibilities and obligations under agreements or laws.

Ownership within the Daxiaomazhan site is relatively complex, and the land acquisition process is being carried out in three phases, as shown in the accompanying diagram. Phase 1 began in 2012 and involved approximately 70 households. After the latest compensation plan was made public in July 2016, the acquisition process officially commenced, and Phase 1 has now been fully completed, with the properties acquired and demolished. The acquisition work for Phases 2 and 3 is currently ongoing.

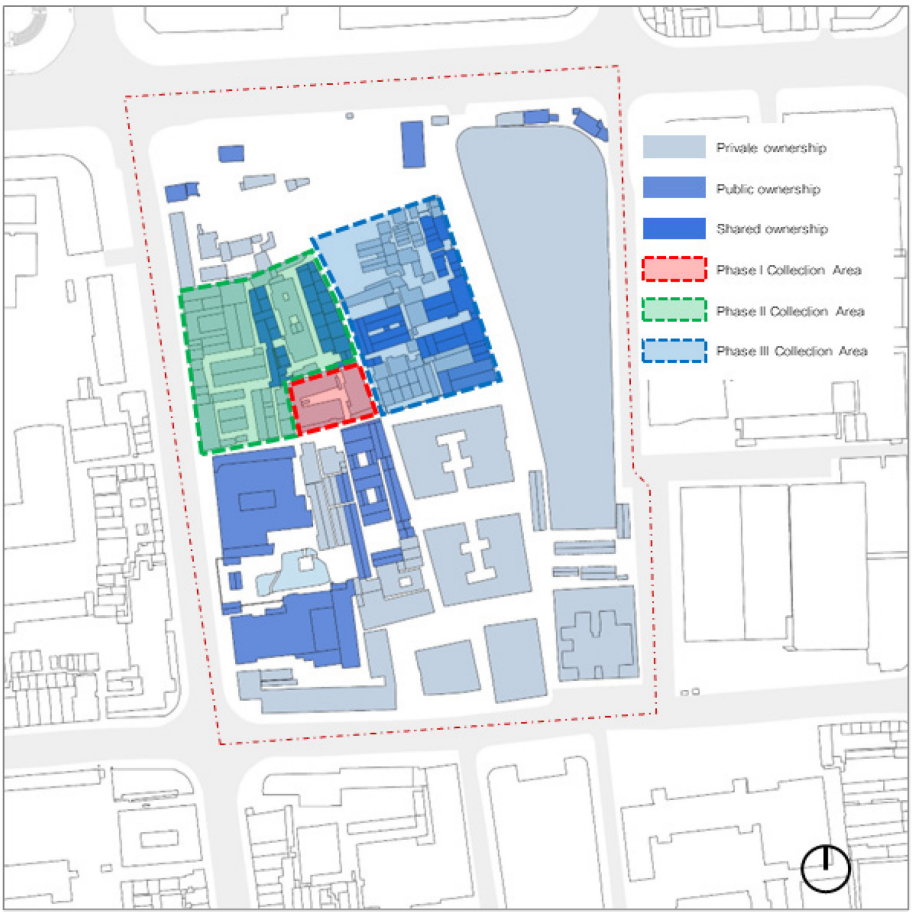


Figure 5-12 Property Rights and Expropriation Status
Source: author

5.3.4 Other Conditions

(1) Building Quality

There is a noticeable disparity in the quality of buildings within the site. Generally, the buildings in the western part of the site, particularly in the southern and central areas, are in poorer condition, reflecting years of neglect. In contrast, the eastern part of the site features better-quality buildings. These higher-quality buildings are concentrated in the southeastern

section, closer to major urban roads, suggesting that these structures may have been better maintained or built later.

(2) Building Aesthetic Condition

The Daxiaomazhan site contains various architectural styles, including immovable cultural relics, historic buildings, and traditional style buildings. The immovable relics are primarily located in the eastern and northern parts of the site, while historic and other traditional-style buildings are scattered throughout. A number of traditional buildings with good architectural coherence are present, closely related to the immovable relics and historic buildings, reflecting a strong focus on cultural heritage preservation in these areas. However, some areas display poor architectural harmony, and several buildings have been demolished, indicating aesthetic degradation during the urbanization process.

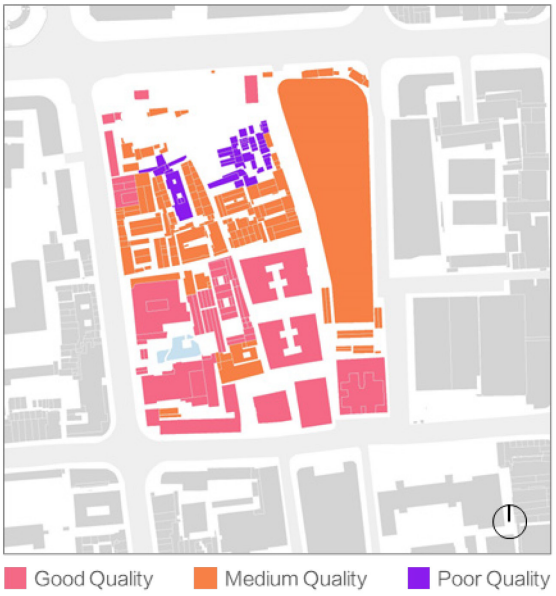


Figure 5-13 Current Condition of Building Quality
Figure 5-14 Current Condition of Building Appearance
Source: author

(3) Building Structural Condition

The buildings within the site feature a variety of structural types, including reinforced concrete, brick-concrete structures, brick-wood structures, and a few wooden temporary structures. Reinforced concrete buildings are primarily concentrated in the eastern part of the site, while brick-concrete structures are distributed across the entire site. Some areas still

retain brick-wood and wooden temporary buildings, indicating their age and the possible inadequacy of these structures for modern usage, suggesting the need for renovation or redevelopment.

(4) Building Height Condition

The building height distribution map shows that most buildings are between 1 and 6 stories tall, particularly in the southern and eastern parts of the site, where low-rise buildings (1-3 stories) predominate. This is aligned with the area's historical preservation requirements, as lower buildings better retain the traditional aesthetic. However, in the northwest corner of the site, there are a few taller buildings ranging from 7 to 10 stories and one 21-story building, reflecting some degree of modern development and significant changes to the urban skyline.

The building conditions in Daxiaomazhan are complex, balancing the need for historical cultural preservation with the challenges of urban renewal and architectural adaptation.

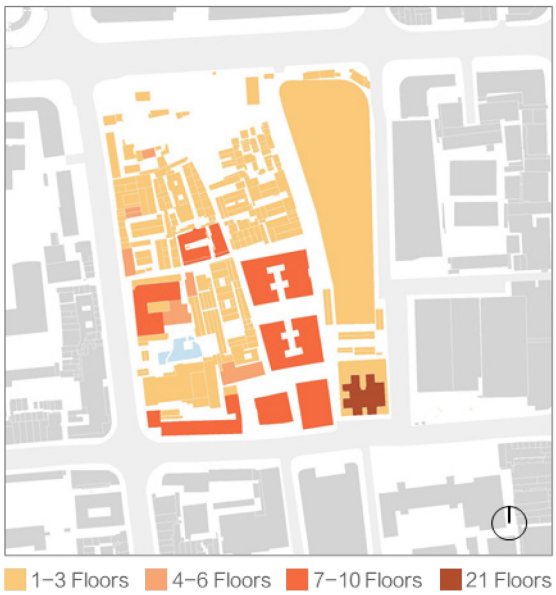


Figure 5-15 Current Condition of Building Structure
Figure 5-16 Current Condition of Building Height
Source: author

5.4 Traffic Condition

5.4.1 Road Accessibility and Cross-Section

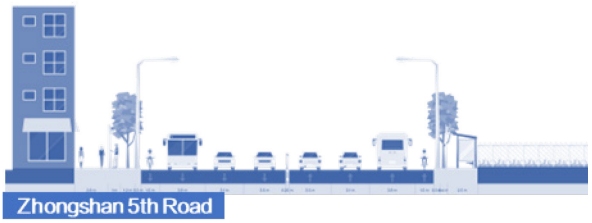
Figure 5-17 Current Road Accessibility Analysis and Cross-Section Location
Source: author

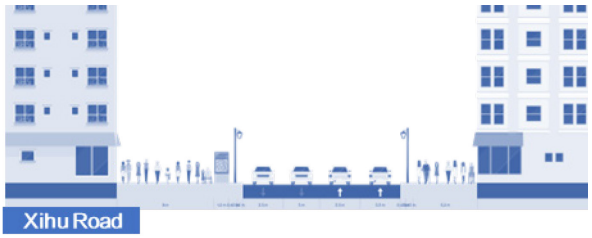
Road accessibility and traffic issues within the site are prominent. External roads like Dama Zhan Road and Xihu Road, although equipped with two-way lanes and sidewalks, suffer from severe mixed traffic conditions, particularly at taxi drop-off points on Xihu Road, which often leads to congestion. Dama Zhan Road also experiences issues with vehicles and non-motorized vehicles parked haphazardly on both sides, further narrowing the road space and exacerbating mixed traffic problems, affecting pedestrian safety.

The pedestrian experience on internal roads is poor. One side of Xiaoma Zhan Road is occupied by construction sites for academy acquisition, while the other side is bordered by the ruins of an abandoned building, making the street narrow and visually unappealing. Liushuijing Street is a dead-end street where pedestrians can easily get lost and have to turn back, lacking a proper walking guidance system. Additionally, smaller roads like Nanchao

Street suffer from the random parking of non-motorized vehicles, further taking up the limited road space and causing traffic disorder.

Cross-sectional analysis shows that main roads like Xihu Road and Dama Zhan Road experience heavy traffic pressure, while internal roads like Xiaoma Zhan and Liushuijing streets offer poor pedestrian experiences due to inadequate facilities and poor conditions. The overall road system needs to be optimized to improve traffic flow and pedestrian comfort.





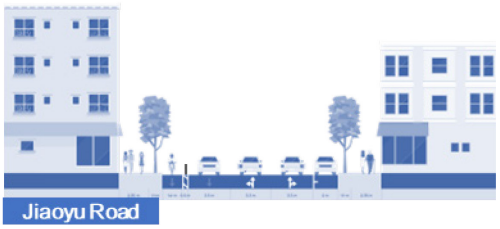


Figure 5-18 Road Cross-Sections
Source: author

5.4.2 Traffic Flow Observations

Traffic flow observations on seven main roads in the Daxiaomazhan district revealed the following conclusions:

Main roads like Zhongshan Fifth Road and Xihu Road bear heavy traffic pressure, especially during evening peak hours when both motor vehicle and pedestrian flow increase significantly.

Secondary roads like Xiaoma Zhan Road and Liushuijing Street serve primarily pedestrians, with a marked increase in pedestrian flow on weekends and evenings, reflecting the area's role as a community living corridor.

Evening pedestrian flow increases significantly on several secondary roads during peak hours, particularly on Xihu Road and Liushuijing Street, indicating strong night-time travel demand.

Non-motorized vehicle traffic is concentrated on main roads, while secondary roads see fewer non-motorized vehicles. Motor vehicle traffic patterns differ on weekdays and weekends, with a significant increase in traffic during weekend evening peak hours, indicating frequent night-time activities in the district.

The Daxiaomazhan district's traffic flow shows clear differences in time periods and road functions. Weekday evening peaks see heavy traffic pressure, particularly with significant increases in motor vehicle and pedestrian flow on main roads, while weekend

pedestrian flow rises markedly on secondary roads, reflecting the concentration of evening activities. Future traffic planning should focus on optimizing main road traffic management and improving pedestrian and non-motorized vehicle conditions to enhance the area's traffic environment. For secondary roads like Liushuijing Street and Nanchao Street, improving the pedestrian environment will be crucial to meet the travel needs of residents and enhance overall traffic service levels in the district.

Table 5-2 Traffic Flow Observations

Source: author

5.5 Current Condition of Open Spaces

Open spaces in the district are primarily characterized by a lack of rest areas and insufficient space for resident activities. Although there are some open courtyards and community spaces within the site, their distribution is uneven, failing to adequately meet the daily needs of residents for recreational activities.

Some spaces are in a state of abandonment, overgrown with weeds and left unused (Figure 2). These areas lack maintenance and effective utilization. Additionally, the ruins of demolished buildings (Figure 6) and leftover underground parking lots (Figure 3) negatively impact the use and landscape of these spaces. Some public areas are occupied by shared bicycles (Figure 5), and in some cases, non-motorized vehicles and seating have taken over roadways and open spaces (Figure 7), further tightening the already limited pedestrian and rest areas.

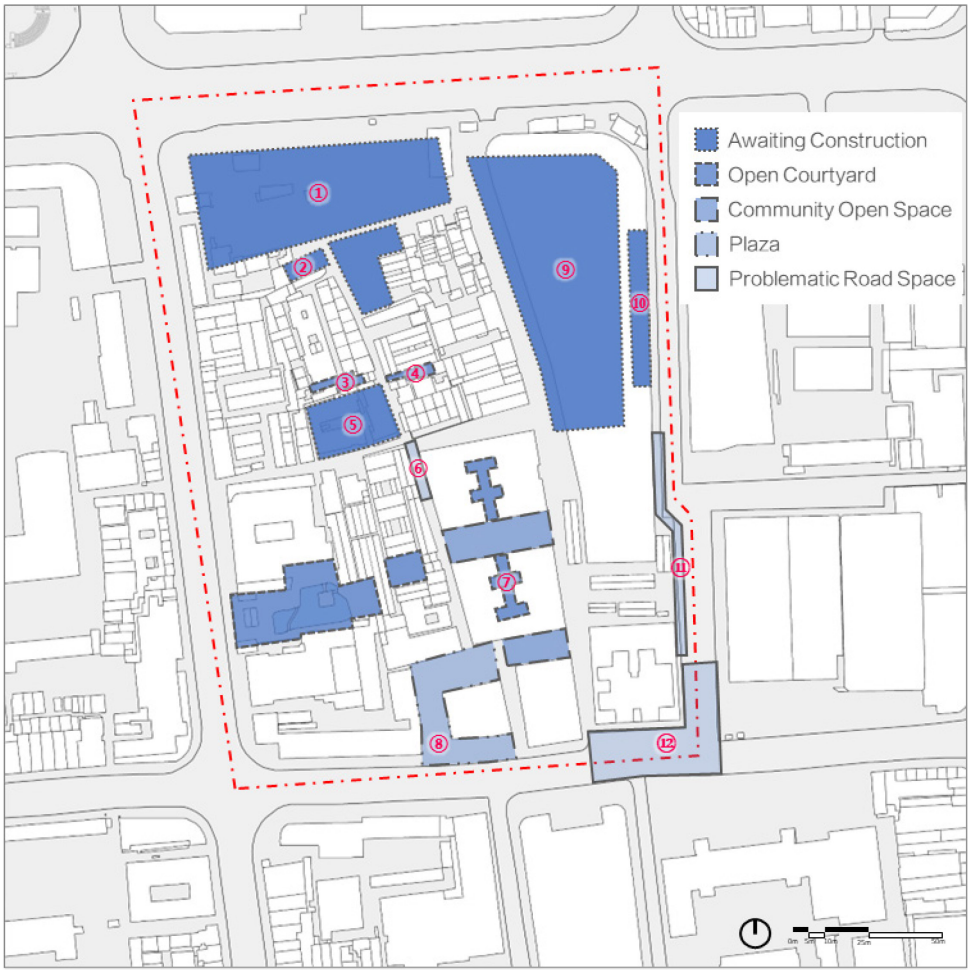


Figure 5-19 Current Condition of Open Spaces
Source: author

In historical academies like Kaoting Academy and Guanying Academy, courtyard spaces exist but vary in preservation quality. Kaoting Academy's courtyard is well-preserved (Figure 3), but Guanying Academy's courtyard is in poor condition, with deteriorated buildings affecting the overall historical experience (Figure 4). Additionally, there are some inner courtyards of abandoned buildings filled with construction debris (Figure 10), further detracting from the quality of open spaces in the area.

Although there are some open spaces in the district, many are either abandoned or improperly used, lacking systematic planning and maintenance. Existing plazas and community open spaces are limited, and the crowding of people near commercial areas and transportation hubs further squeezes available space for movement.

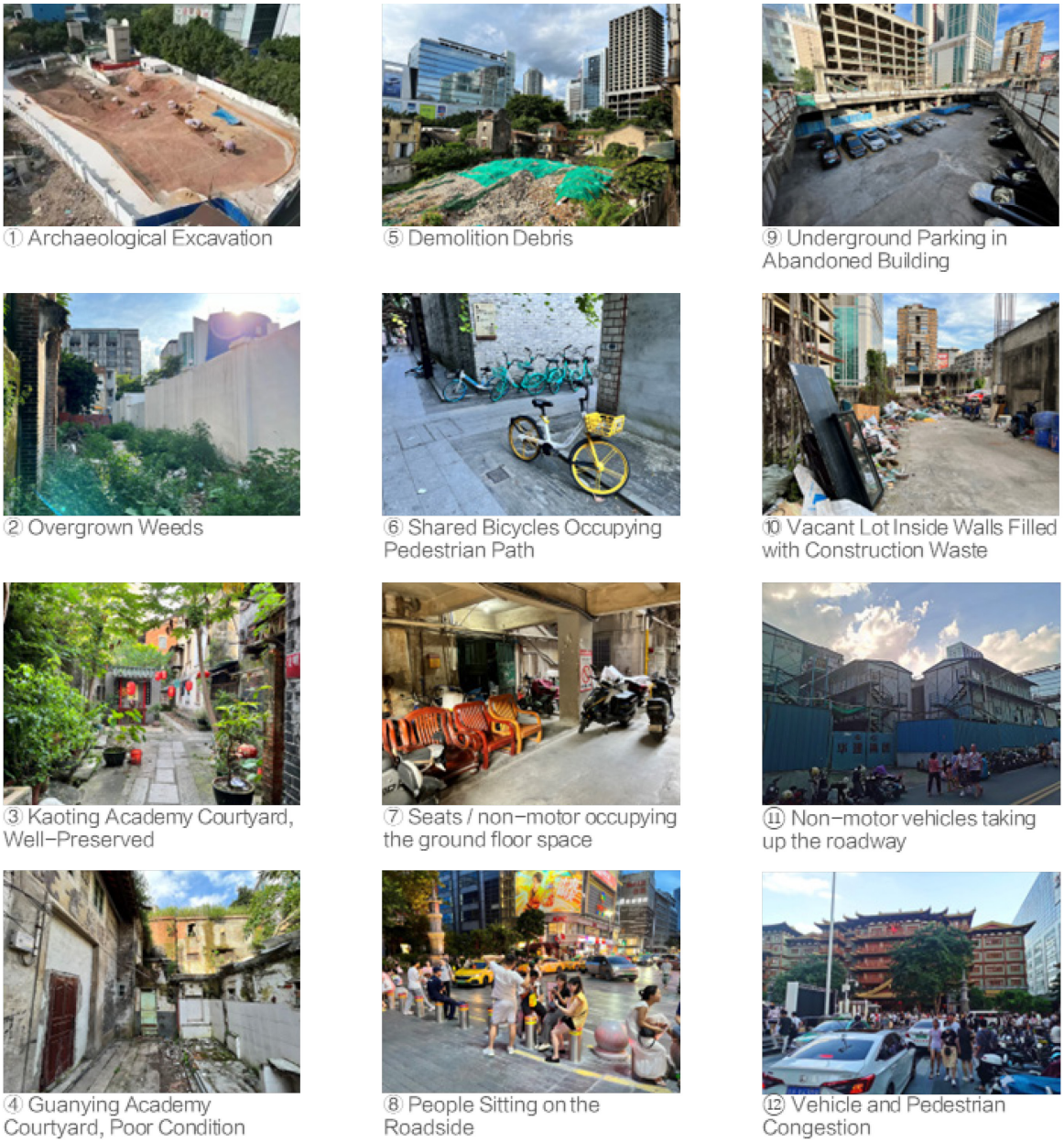


Figure 5-20 Photos of Open Spaces
Source: author

5.6 Questionnaire and Interviews

To promote an inclusive design process, a cognitive survey using questionnaires and interviews was conducted in July 2024. The aim was to investigate the usage of space within the district and gather different groups' attitudes toward Daxiaomazhan. A total of 47 valid questionnaires were collected. Through data statistics and analysis, a broad view of the current usage of public spaces in Daxiaomazhan can be observed. The composition of the respondents and some key data are as follows.

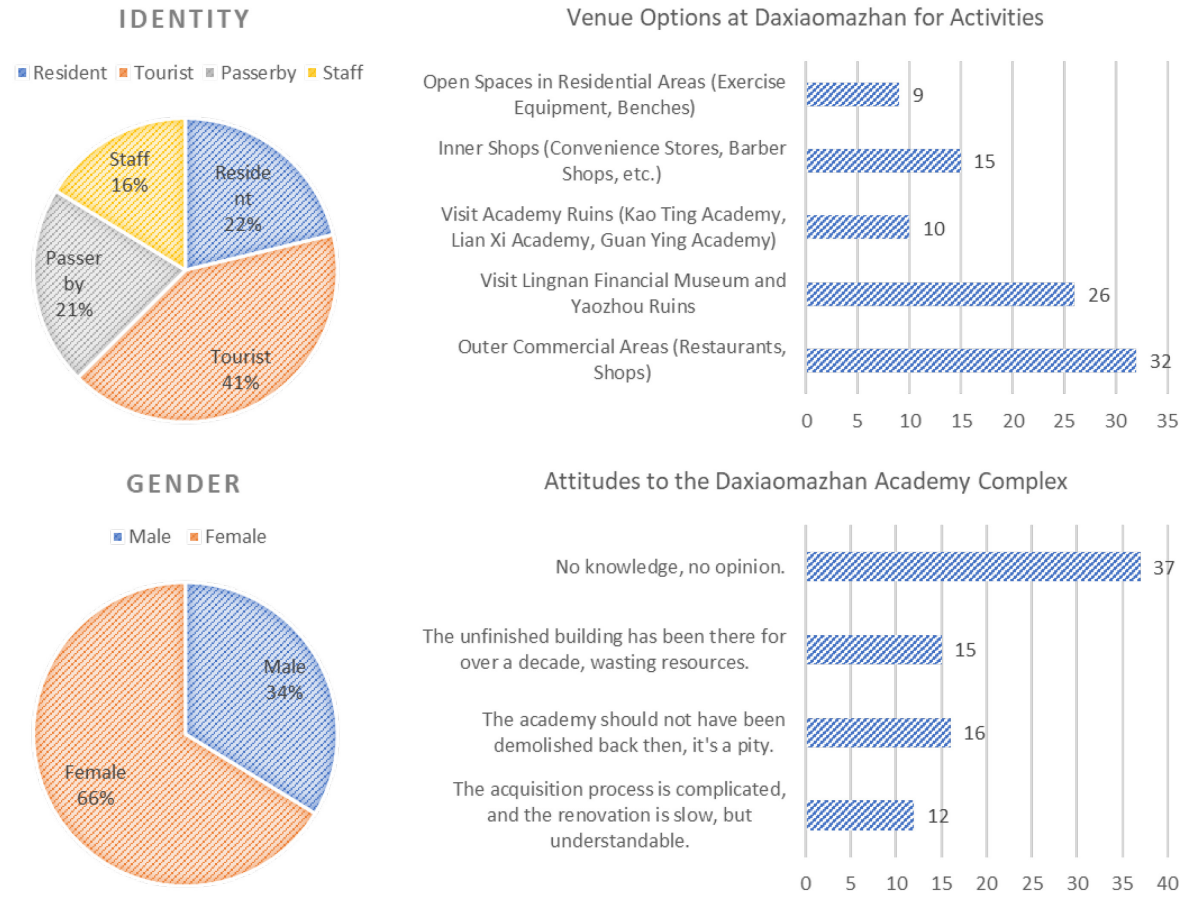


Figure 5-21 Survey Data
Source: author

Although the questionnaire and interviews were conducted randomly, the research data provide a relatively broad overview of the current public space usage in Daxiaomazhan. Based on the survey and interviews, the following conclusions were drawn:

Regarding the identity of the respondents, 41% were tourists, 22% were residents, 21% were passersby, and 16% were staff. In terms of gender, 66% of respondents were female, and 34% were male.

Concerning the activity spaces within the area, 64% of respondents selected external commercial areas (such as restaurants and shops), and 52% selected cultural sites such as the Lingnan Financial Museum and the Yaozhou Ruins. This indicates that commercial activities and cultural tourism are the main attractions of the Daxiaomazhan district. In contrast, only 20% of respondents chose open spaces within residential areas, and 20% selected academy ruins (such as Kaoting Academy and Guanying Academy), showing that historic sites have

lower public appeal, possibly due to the district not being fully developed or utilized effectively.

As for attitudes toward the Daxiaomazhan Academy complex, 74% of respondents expressed insufficient knowledge of the current situation and had no clear opinion; 32% believed the academies should not be demolished due to their historical and cultural value; 30% thought the long-term abandonment and lack of effective use of the academies was a waste of resources; and 24% understood the complexity and slow progress of the restoration work. This result indicates that, although there are significant differences in public opinion regarding the protection and use of the academies, there is generally a positive attitude toward their development and reuse.

Combining the interview results, further analysis of space usage from the perspective of different groups was conducted. Local residents generally expressed dissatisfaction with the district's prolonged state of expropriation and demolition, noting the lack of activity spaces and public facilities in the community, with no improvement in living conditions. Some residents also mentioned that the conversion of academies into tourist attractions conflicts with their daily lives to some extent.

Tourists primarily enter the district to visit the Lingnan Financial Museum and the Yaozhou Ruins. Most of them support the idea of converting other academies into cultural sites, believing that this would help enhance the city's cultural atmosphere and tourism appeal. On the other hand, passersby mainly use the commercial facilities on the outer circle of the district, with most only passing through the inner district during the day without the need for a long-term stay. Staff members showed little concern for the area, indicating that the commercial benefits are limited and that there are insufficient commercial activities and venues to attract more consumers.

Combining the survey and interviews, it becomes clear that different groups have varying needs for the district. Tourists have higher expectations for cultural and commercial facilities, while residents are more concerned with the improvement of living conditions and public facilities. These insights provide important references for future temporary use and space planning, emphasizing the importance of balancing the protection of historical and cultural heritage with meeting the diverse needs of various stakeholders.

5.7 Challenges of Renovation

The renovation of the Daxiaomazhan Academy Cluster has faced significant delays, primarily due to the following challenges:

Funding Shortage: Funding is the core issue. The government relies mainly on a "local balance" model, raising funds through land transfers or commercial development. However, due to limitations, it has been unable to secure sufficient financial support, leading to long-term project delays[4].

Low Public Awareness: Another barrier is the low public awareness of the historical and cultural value of the academies. This has led to limited public attention and support for the project. Although some historical research organizations and cultural groups have tried to advocate for the project, their influence has been limited, failing to garner widespread social consensus necessary to drive the renovation forward.

High Business Investment Risks: The renovation of historical districts involves high policy risks, making the return on investment uncertain. Businesses find it difficult to assess the long-term profitability of the project, increasing investment risks.

Complicated Ownership and Planning Implementation: Although a renovation plan exists, progress has been slow due to unclear leadership, the difficulty of land acquisition, and complex property ownership. Ownership disputes and demolition issues concerning some historical buildings have further hindered preservation efforts[71].

These challenges have created multiple obstacles for the renovation of the academy cluster, and there is an urgent need for funding security, greater public awareness, policy support, and the implementation of a reasonable planning framework to move the project forward.

5.8 SWOT Analysis and Problem Summary

	Strenghts	Weaknesses	Opportunities	Threaths
Society	Rich cultural heritage. Potential for cultural tourism and education.	Weak public awareness of preservation. Low community participation.	Cultural events and tourism can revitalize the area.	Loss of community atmosphere due to resident departure. Cultural continuity breaks.
Tecnology	Digital archiving of demolished historical buildings.	Outdated infrastructure. Lack of modern facilities.	Digital guides offer immersive tourist experiences.	Over-reliance on tech may harm historical authenticity.
Environment	Some green space and open areas.	Poor maintenance. Insufficient open spaces. Deteriorating environments.	Temporary use can enhance cultural and ecological displays.	Pollution affects living and tourism.
Economics	Located in a commercial core.	High restoration costs. Funding shortages.	Temporary use attracts small creative projects.	Uncertain returns. Commercialization may harm cultural atmosphere.
Policy	Strong government focus on urban renewal.	Slow policy execution.	Incentives can attract more investment.	Complex property rights, difficult demolition.
Mobility	Well-developed transit and road network.	Narrow roads, poor pedestrian experience. Limited parking.	Improved traffic and pedestrian systems can boost accessibility.	Traffic congestion and parking issues.

Table 5-3 SWOT Analysis
Source: author

In the SWOT analysis, the site's strengths mainly lie in its rich historical and cultural heritage and its potential as a cultural tourism and educational base. Its weaknesses include the public's weak awareness of preservation and outdated infrastructure. The introduction of cultural activities and tourism presents opportunities, but the threats of excessive commercialization and loss of cultural continuity are also significant. Based on the previous analysis, the main issues faced by the site are summarized as follows:

(1) Inadequate Protection of Historical Buildings

Existing historical buildings, such as the academies, have suffered damage due to a lack of long-term and effective protection and restoration. Additionally, inappropriate renovations and expansions have not only failed to protect the historical and cultural value of these buildings but have also damaged their original appearance and structure, resulting in irreversible harm to the historical relics.

(2) Slow Implementation of Plans and Long-Term Vacant Buildings

The progress of implementing renovation plans has been slow, with historical buildings and land remaining vacant and not being utilized effectively. On the eastern side of the site,

long-term vacant commercial buildings waste valuable urban resources and detract from the overall landscape of the area.

(3) Mixed Traffic on External Roads, Poor Pedestrian Experience Inside

Pedestrian and vehicle traffic is mixed on external roads, particularly along Dama Station and Xihu Road, where traffic congestion is severe, especially during peak hours. Parking for non-motorized vehicles occupies roads, while dead-end roads near Liushui Well and abandoned buildings at Xiaoma Station contribute to a poor pedestrian experience, with a lack of proper walking paths.

(4) Insufficient Open Space and Lack of Activity Spaces for Residents

The site lacks sufficient open spaces and resting areas, limiting the space available for residents' daily activities. Street-side commercial areas and taxi drop-off points create congestion in high-traffic areas, particularly at the entrance plaza to Liushui Well. The limited distribution of internal open spaces fails to meet the leisure and activity needs of the community’s residents.

(5) Policy Limitations and Weak Public Awareness

The renovation process has been hindered by policy limitations and financial pressures, leading to slow progress. Public awareness of the importance of protecting historical buildings and cultural heritage is low, with a lack of attention to cultural preservation. This has further impacted the progress and implementation of the renovation.

In summary, existing renovation efforts, particularly low-quality renovations, have not only failed to effectively protect cultural relics but have caused permanent damage, representing a negative form of "temporary use." Future renovation and renewal efforts must prioritize historical preservation, avoiding long-term damage from short-term actions, and ensuring the continuation and transmission of historical and cultural value.

5.9 Summary

This chapter conducted a detailed site analysis of the Daxiaomazhan Academy complex in Guangzhou, clarifying the reasons for selecting this site as the research subject. Through location analysis, historical evolution, current planning, building conditions, road traffic, open spaces, and survey and interview data, the current situation and issues of the site were

comprehensively revealed. The SWOT analysis summarized the strengths, weaknesses, opportunities, and threats of the site, identifying the challenges in renovation, including inadequate protection of historical buildings, slow implementation of plans, inconvenient traffic, and insufficient public spaces. This chapter provides the necessary background information for the design strategies in Chapter 6, helping to identify potential spaces and formulate targeted temporary use plans.

Chapter 6 Design Strategies and Application Plan

6.1 Design Intentions

1. Site Issues	2. Advantages of Temporary Use	3. Achieved Effects
① General: Slow planning; long-term vacancy. ② Buildings: Academies heavily damaged; commercial building is abandoned. ③ Roads: Traffic congestion and poor pedestrian experience. ④ Open spaces: Few rest and activity areas. ⑤ Root causes: Policy limits, funding pressure, low public interest.	No need to wait for large-scale projects. Temporary use can introduce targeted activities through lightweight and specific modifications, test new uses, and meet current needs, sparking innovation. ① Flexibility: Low cost, fast implementation. ② Experimentation: Explore new development opportunities. ③ Revitalization: Activate the site and restore cultural connections.	① Preserve culture and improve image. ② Enhance public spaces and pedestrian experience. ③ Generate revenue. ④ Explore site adaptability.

Table 6-1 Design Intentions
Source: author

After a detailed investigation of the site, several key issues have been identified. The slow progress of planning and prolonged vacancy of the site have led to wasted resources and lost potential value. Existing academy buildings are severely damaged, and abandoned buildings like Jinghao Fang have remained vacant for years, failing to protect or utilize architectural aesthetics and cultural value. External roads suffer from mixed traffic, leading to severe congestion, especially during peak hours. Meanwhile, internal roads offer poor pedestrian experiences due to outdated infrastructure. The site lacks open spaces and rest areas, and there are insufficient areas for residents' activities, resulting in low community vitality and underutilization of public spaces.

Temporary use, as a flexible urban renewal strategy, can bring many benefits to the site. Unlike waiting for long-term projects, temporary use allows for lightweight modifications that quickly introduce specific activities and make use of the site within a limited timeframe. It has a highly experimental nature, exploring innovative possibilities for future development through flexible site layouts and functional adjustments. Temporary use also offers significant flexibility, enabling low-cost, short-term interventions to meet the site’s current needs.

Moreover, it can play a restorative role by temporarily enhancing the environment and cultural aesthetics of the site.

Several positive effects can be generated through temporary use. First, cultural preservation is strengthened, with the introduction of restoration and short-term activities improving the overall image of the site and transforming it into an important cultural node within the city. Temporary use also enhances public spaces and pedestrian experiences, increasing residents' sense of participation and comfort. Temporary activities such as creative markets or exhibitions can bring economic benefits by increasing foot traffic to the site and generating funding for long-term development. Furthermore, temporary use provides an opportunity to test adaptive functions, showcasing the multifunctionality of the site through various activities and improving urban space utilization efficiency.

6.2 Design Principles

(1) Protection as a Prerequisite

In the temporary use of historic districts, protection should always be the primary prerequisite. All temporary installations and renovations must avoid causing irreversible damage to the ground, building structures, and overall landscape. It is essential to ensure that the design is removable and reversible. Some past inappropriate renovations have resulted in damage to cultural heritage, and current temporary use strategies should distance themselves from these mistakes, serving as a means of correction and remediation. Through proper temporary use, cultural values can be effectively protected and extended, meeting modern usage needs while ensuring that the original heritage remains intact.

(2) Material Recycling and Reuse

Prioritize the recycling and reuse of materials to improve resource efficiency. For instance, existing worker containers on-site can be repurposed as temporary office or commercial spaces after simple modifications. Scaffolding used during demolition can also be reused as temporary stands for cultural festival events. This approach effectively reduces construction costs, aligns with sustainable development principles, and minimizes environmental impact.

Figure 6-1 Reusable Containers and Scaffolding on the Site
Source: author

(3) Functional Integration and Flexibility

Functional integration is an important way to increase space utilization efficiency. By combining different types of functions and activities in the same space, multiple activities can take place simultaneously. This integrated design not only optimizes space use but also allows for flexible adjustments to meet the needs of different time periods and user groups, enhancing the adaptability and flexibility of the site.

(4) Quick Assembly, Disassembly, and Mobility

Temporary buildings should be quick to assemble and disassemble, ensuring that projects can be implemented swiftly and dismantled without affecting the site. Temporary structures typically use lightweight materials that do not cause permanent damage to the site. This approach allows activities to take place within a short timeframe while ensuring that the site can return to its original function afterward.

6.3 Identification of Potential Spaces

Based on the site analysis in Chapter 5, the following spaces have been identified as having potential for temporary use:

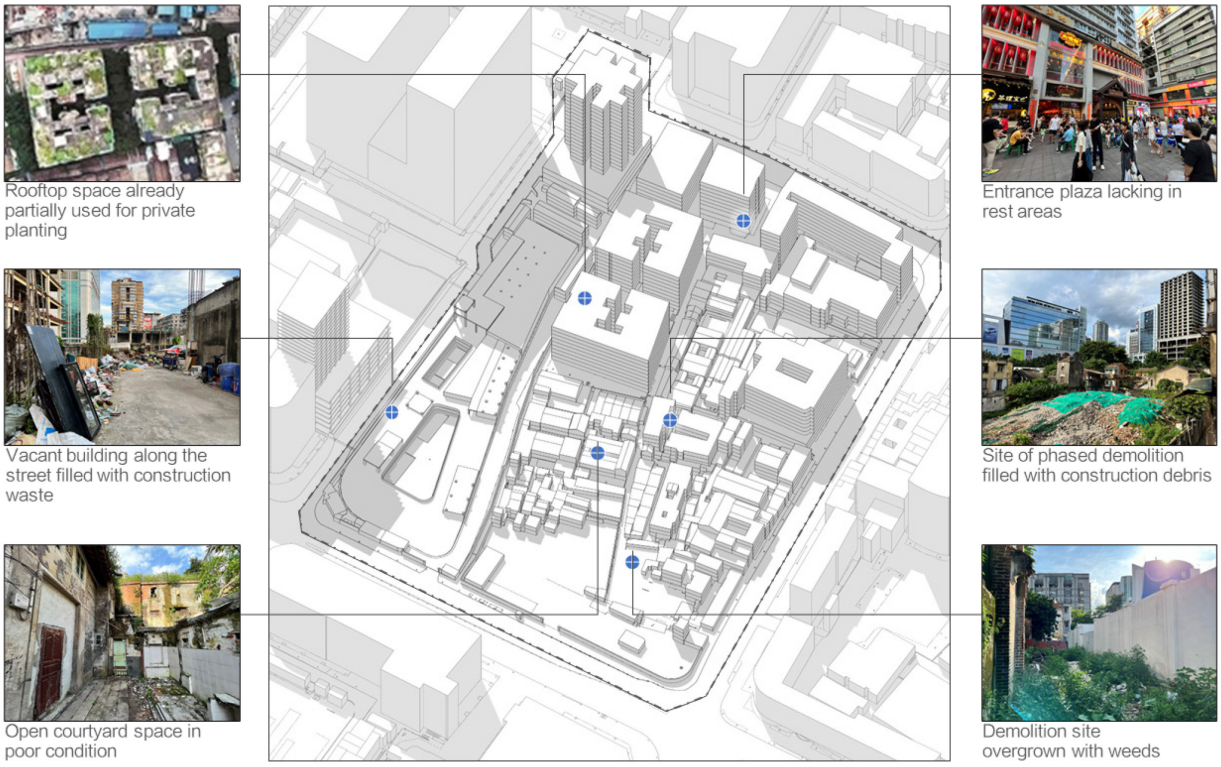


Figure 6-2 Distribution of Potential Spaces
Source: author

Demolition Vacant Lots: Vacant lots left after demolition often remain idle for extended periods, making them ideal for temporary use. After cleaning and simple modifications, these spaces can be temporarily used for community activities, urban green spaces, or small markets. Their flexible layout allows for various short-term events such as cultural festivals, exhibitions, or open-air markets. Without structural limitations, these spaces can be quickly adapted to suit different activities.

Community Rooftops: Some community rooftops are already being used as private gardens, showing their potential for broader use. Rooftops can serve not only as private green spaces but also as communal rest areas. By adding leisure functions and organizing planting activities, these rooftop spaces can become gathering places for residents, enhancing community cohesion.

Commercial Brownfields: These undeveloped commercial sites are located in prime areas near the city center and have high development potential. While long-term commercial development is not feasible in the short term, temporary transformation could turn these areas into commercial streets, creative markets, or office spaces. Temporary commercial activities

can attract foot traffic and generate economic benefits, while also providing entrepreneurs with low-cost experimental spaces, promoting effective urban space utilization.

Courtyards and Plazas: The site contains several open academy courtyards, but the quality of these spaces varies, with some areas being cluttered and unplanned. Entrance plazas lack rest areas, presenting an opportunity for temporary use. By installing pop-up structures in these courtyards and plazas, temporary greenery and seating can be added, providing residents and visitors with short-term recreational spaces.

6.4 Design Framework

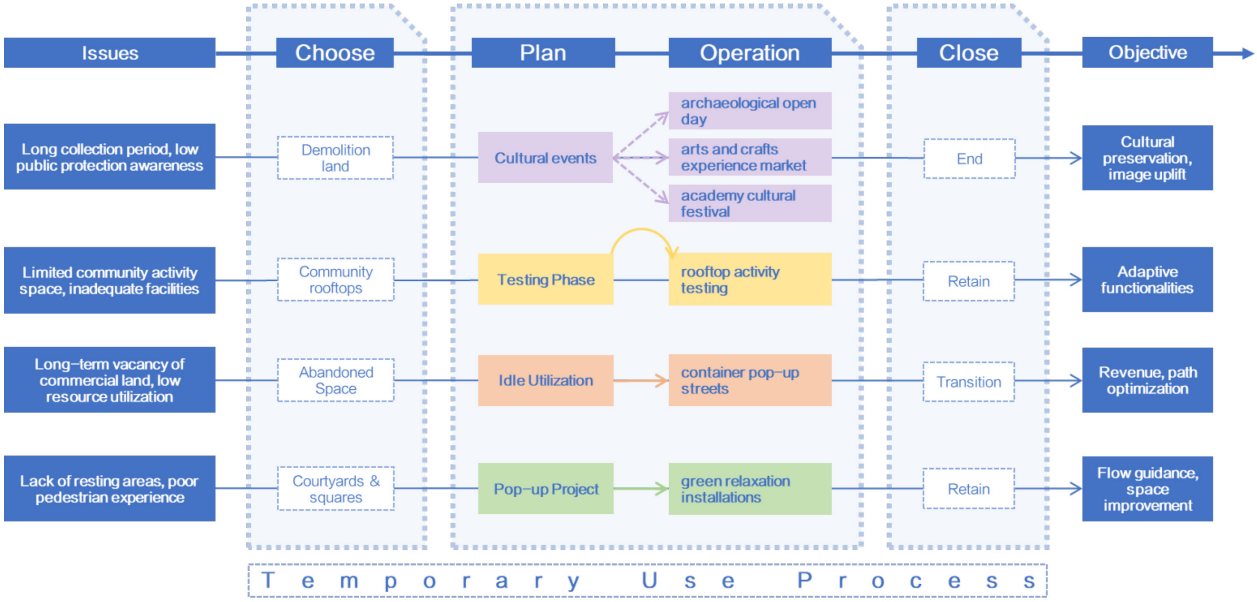


Figure 6-3 Strategic Framework Diagram
Source: author

Due to the prolonged land acquisition process, cultural heritage has gradually been lost. By utilizing demolition vacant lots for temporary activities such as cultural festivals or archaeological open days, public awareness of history can be raised, improving the site's image and achieving cultural preservation goals. Given the limited community activity spaces, community rooftops can be used for short-term activity testing, increasing resident participation. After testing, some spaces can be permanently retained, enhancing community functions and site adaptability. Commercial brownfields, left idle for long periods, can be temporarily activated by introducing container-style pedestrian streets and similar projects, generating economic benefits in the short term. After the project ends, site resources can be

further optimized for long-term commercial development. The poor pedestrian experience in the site can be improved by adding temporary greenery and rest areas, enhancing the quality of public spaces and improving the site environment. Some temporary installations can be permanently retained to optimize site functions and circulation.

By utilizing temporary use strategies, these site issues can be addressed quickly, activating the space and achieving multiple objectives simultaneously.

6.5 Overall Design

1. Archaeological excavation
2. Corporate office
3. Underground parking lot
4. Parking entrance driveway
5. Commercial pedestrian street
6. Handicraft experience market
7. Archaeological exhibition and stands
8. Academy culture stage
9. Green rooftop with planting
10. Yaozhou Garden ruins
11. Resting installation
12. Koting Academy Courtyard
13. Guanying Academy Courtyard
14. Zeng Family Academy Courtyard
15. Republican-era residence Courtyard
16. Lujiang Academy Courtyard
17. Community courtyard
18. Entrance plaza

Figure 6-4 Master Plan
Source: author

6.5.1 General Approach

(1) Environmental Improvement

The first task in site renewal is clearing the construction debris left on the vacant lots from previous demolitions, ensuring the site is clean and usable. This step quickly increases the site's usability and prepares it for subsequent temporary uses, preventing prolonged vacancy.

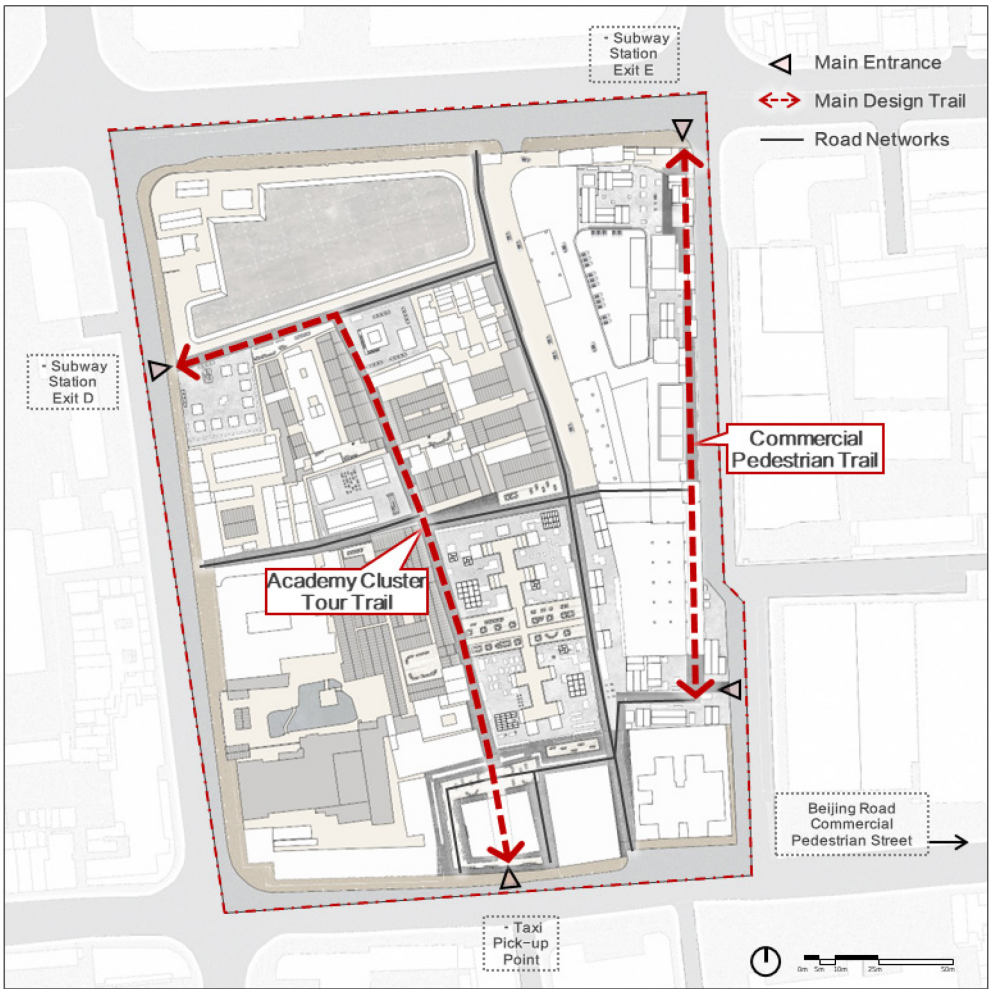


Figure 6-5 Road Flow Design
Source: author

(2) Road Addition Based on Planning

Planning the road system is one of the core aspects of site optimization. New commercial pedestrian pathways will connect the metro station to commercial areas, providing convenient and safe access, increasing foot traffic in the commercial district. Routes through the academy

cluster will offer clear guidance for visitors, facilitating cultural activities. The addition of these roads effectively resolves existing traffic congestion and enhances the pedestrian experience, supporting future temporary uses and long-term development.

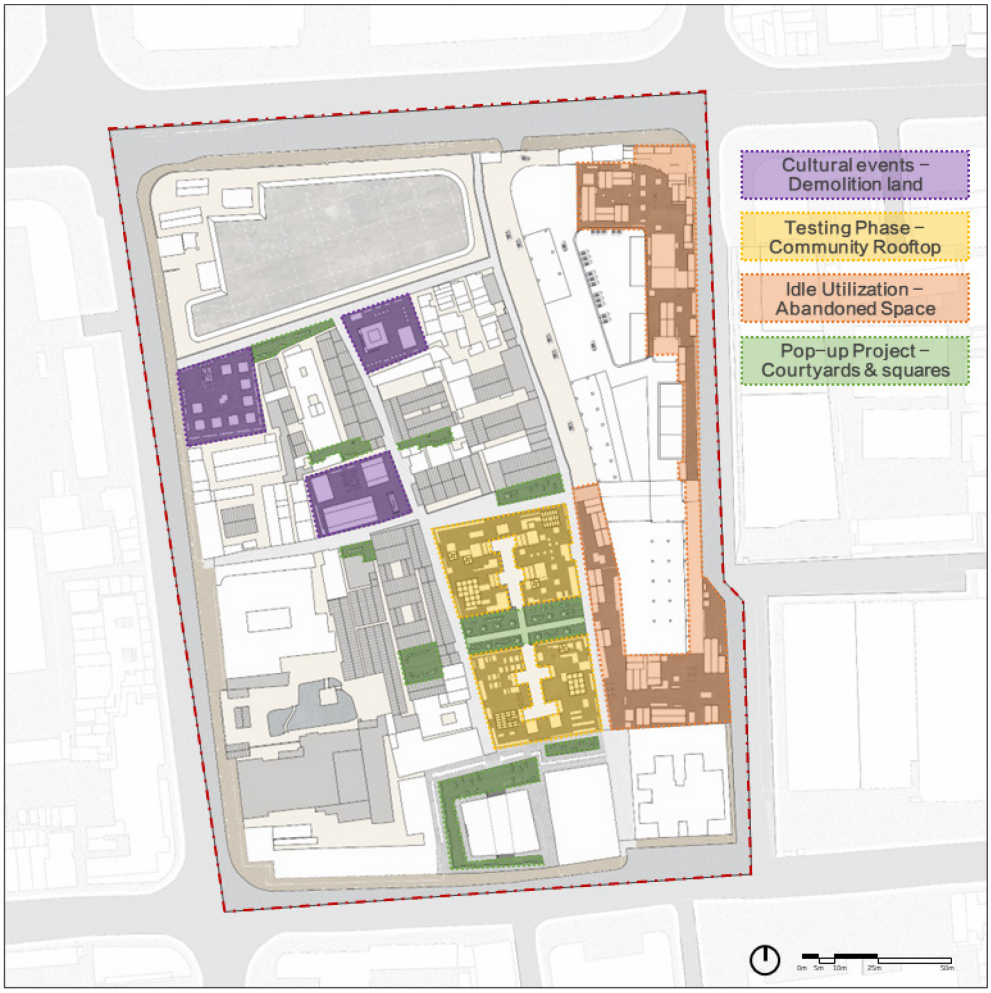


Figure 6-6 Temporary Use Distribution
Source: author

(3) Introducing Different Temporary Uses

As the road system is completed, various areas can be designated for different types of temporary use. Vacant lots from demolitions can host festivals, community rooftops can be used for functional testing, commercial brownfields can be transformed into container markets or other commercial projects, and courtyards and plazas can be equipped with greenery and rest facilities. This flexible space planning enables efficient utilization of the site in the short term while gathering valuable experience for future long-term development.

Figure 6-7 Overall Axonometric Diagram

Source: author

6.5.2 Temporal Distribution of Temporary Use

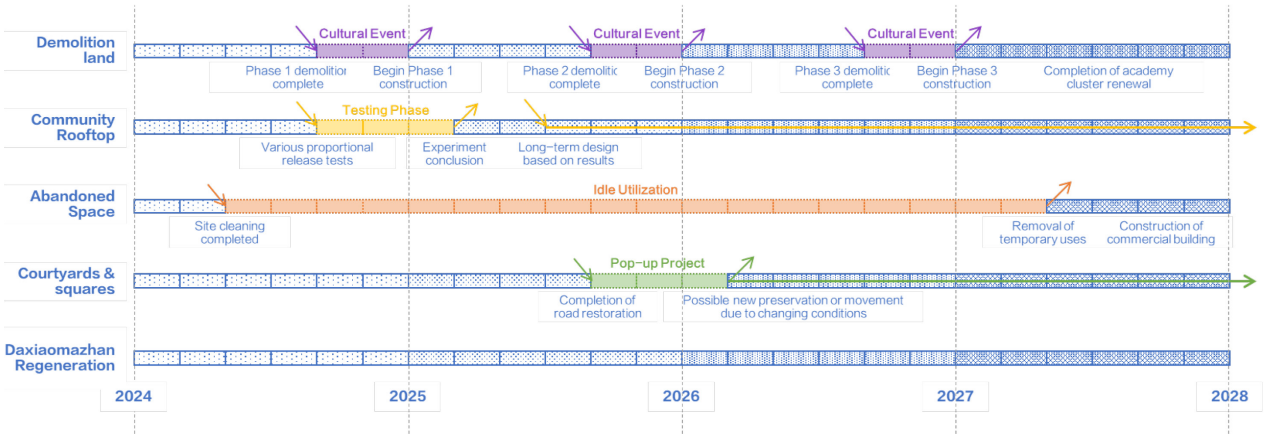


Figure 6-8 Temporal Distribution of Temporary Use
Source: author

Vacant Lots: Once demolition is complete, these lots will enter a phase of temporary use. They can host cultural activities in phases, such as archaeological open days, craft fairs, and academy cultural festivals, bringing cultural value to the community. As formal construction begins, the temporary use phase will end, gradually fulfilling cultural preservation goals.

Community Rooftops: The temporary use of community rooftops will involve a testing phase to assess residents' needs. Temporary rooftop activities could include flower gardens, vegetable gardens, and leisure functions. After testing, based on activity results and resident feedback, some functions will be retained and integrated into long-term development plans.

Commercial Brownfields: After clearing these areas, container pedestrian streets and start-up business spaces will be introduced to gather experience and funding for future commercial development. Before formal commercial construction begins, temporary commercial projects will withdraw, laying the groundwork for large-scale long-term development.

Courtyards and Entrance Plazas: These will be used for temporary greenery installations and rest facilities. Before formal planning is implemented, these facilities will enhance the pedestrian experience and community interaction, increasing the site's vitality. Some pop-up projects may be retained after the temporary use period, continuing to provide functional support for the area.

6.5.3 Roles in Temporary Use Projects

Role	Demolition land	Community Rooftop	Abandoned Space	Courtyards & square
Space Provider	Municipal Authority	Community	Developer	Municipal Authority, Community
Idea Generator	Municipal Authority, Cultural Associations	Residents	Developer	University
Promoter	Municipal Authority, Cultural Associations	Municipal Authority, Community Committee	Developer	Municipal Authority
Funder	Municipal Authority	Municipal Authority, Community Committee	Municipal Authority, Developer	Municipal Authority
Decision Maker	Municipal Authority	Municipal Authority, Community Committee	Developer	Municipal Authority
Beneficiary	Community, Tourists	Residents	Individual Businesses, Startups, Developer	Tourists, Residents
Coordinator	Municipal Authority, Cultural Associations	Municipal Authority, Community Committee	Municipal Authority, Developer	University, Community Committee

Table 6-2 Roles in the Design of Temporary Use Participation
Source: author

Vacant Lots: Municipal authorities will play the central role, providing space, leading the creation of ideas, driving the projects, and offering funding to ensure smooth execution. Cultural associations will act as supporting forces, helping coordinate resources to align the projects with the city's overall development strategy and community needs. The primary beneficiaries of such projects will be local residents and tourists, as temporary uses will enhance and sustain the area's vibrancy and cultural atmosphere.

Community Rooftops: These projects will be community-driven, with residents directly involved in generating ideas to ensure the project meets their actual needs. Municipal authorities and community committees will act as facilitators and coordinators, managing resources, providing financial support, and ensuring the projects comply with policy regulations. Residents will be the primary beneficiaries, gaining more public activity spaces and an improved living environment through the rooftop transformations.

Commercial Brownfields: Developers will play a leading role, providing space, spearheading the creation of ideas, and driving project implementation. The temporary use of

commercial brownfields will usually focus on economic benefits, with small business owners and start-up enterprises being the main beneficiaries. These businesses can lease space at low costs for commercial activities, while developers gain profits and the city experiences a boost in short-term economic vitality. Municipal authorities will supervise and coordinate to ensure that temporary use projects align with urban planning.

Courtyards and Plazas: These spaces will be developed through collaboration between municipal authorities and academic institutions. Municipal authorities will provide space and lead the implementation of projects, while universities will contribute by generating creative ideas through academic competitions and innovative perspectives. Tourists and local residents will be the direct beneficiaries of these projects, gaining access to vibrant and engaging spaces.

The four types of temporary uses in the district are designed through multi-stakeholder collaboration, balancing the interests of the government, residents, developers, and tourists. The government, as the core driver, aims to protect historical and cultural heritage while enhancing economic vitality. Through policy support and resource coordination, it guides project implementation, such as transforming academies into tourist attractions and initiating innovative projects in collaboration with universities, thereby strengthening the city’s cultural value and appeal. Residents focus on improving living conditions and public facilities, achieving participatory planning through community-led projects like rooftop renovations, which enhance their quality of life and sense of community. Developers prioritize the economic benefits of commercial spaces, attracting startups with low-cost leases to boost short-term revenues and regional commercial vibrancy. Tourists seek a blend of cultural and commercial functions, with their satisfaction improved through cultural exhibition spaces and distinctive commercial facilities. The overall strategy emphasizes protecting historical and cultural heritage while meeting diverse demands, fostering the integration of spatial functionality and cultural value, and injecting sustainable vitality into the district.

6.6 Area Design

6.6.1 Demolition Land

(1) Design Content

After the first phase of demolition is completed, the area can be developed into a temporary space for cultural and community activities. The vacant spaces from subsequent demolition phases can gradually be brought into use. Based on the actual availability of land during different stages, the use of the space can be adjusted flexibly.

Using scaffolding and wooden structures for quick construction, the site’s basic infrastructure can be set up in a short time, meeting the needs for various temporary activities and community functions. This method not only lowers construction costs but also allows high flexibility to adjust as the space's needs change.

Demolition land can serve basic urban needs while also revitalizing the community through cultural festivals. Events such as archaeological open days, Lingnan craft fairs, and academy cultural festivals can effectively utilize the vacant demolition land, drawing participation from community residents and tourists, thereby promoting cultural heritage and development. This pre-activation strategy provides a foundation for future permanent development, ensuring that demolition land retains some social, cultural, and economic value during the transition.

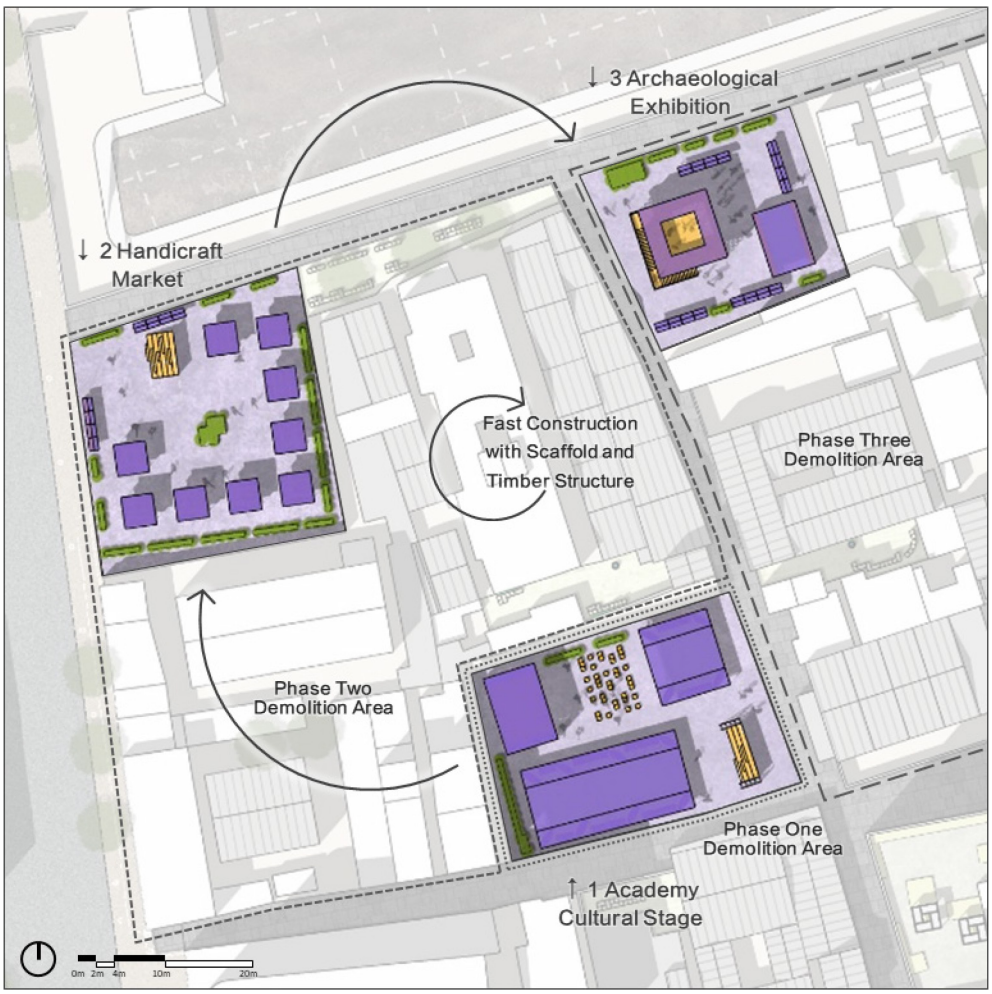


Figure 6-9 Plan of Demolition Vacant Land

Source: author

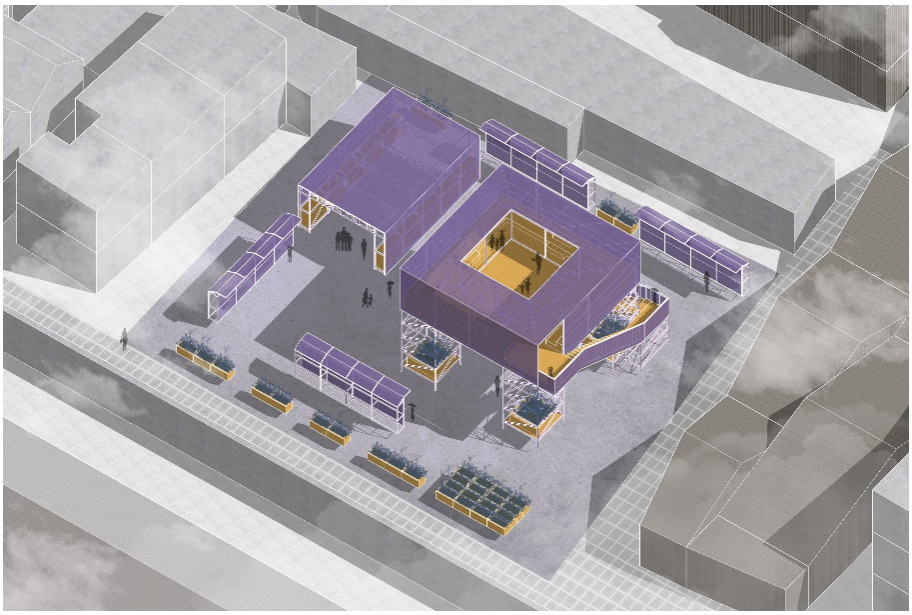


Figure 6-10 Axonometric View of Demolition Vacant Land
Source: author

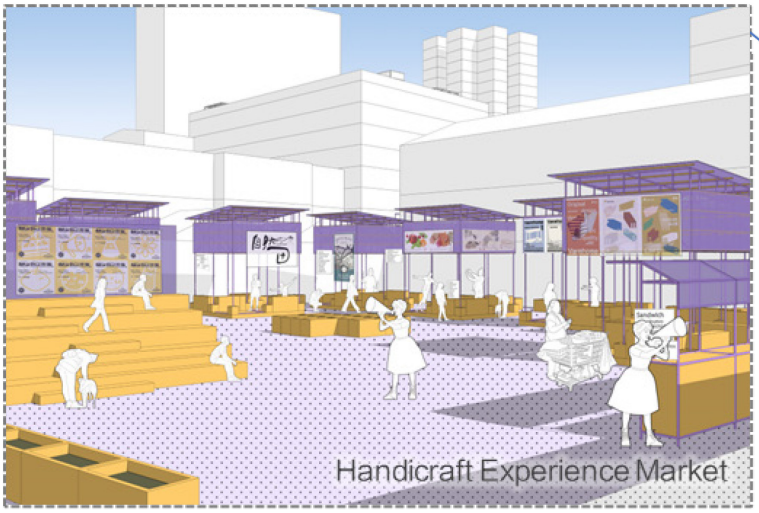
(2) Temporary Use Process

Demolition land is a type of temporary vacant space in urban areas that has potential for development. It can be quickly transformed into a venue for temporary cultural activities while addressing short-term community needs. The government and association organizations play critical roles in promoting temporary use of demolition land. The government provides funding support and oversees policies to ensure the project proceeds smoothly. Association

organizations plan and execute various cultural events, integrating festivals and the site to encourage participation from residents and tourists.

The primary objective of temporary use for demolition land is activation, where cultural festivals inject vibrancy into the space. The overall project cycle spans one year, ensuring that different phases of cultural events are held in the same location, maintaining a continuous interaction between the festivals and the community. Funding follows a hybrid model, primarily relying on government subsidies and commercial partnerships to initiate and sustain the project. The operational model follows a transfer of activities, ensuring flexibility in holding festivals, craft markets, and other events to adapt to changing site needs.

At the conclusion of temporary use, the project will close directly, making way for further development. Through these short-term cultural activities, the demolition land is utilized effectively, laying a foundation for long-term development. In the long run, the continuous hosting of cultural events increases the site's cultural value and contributes to future community heritage protection.



1 Temporary Use in Demolition land

Choose

Space Type：Vacant land

Participants：Government, Associations

Plan

Formation Purpose：Activate

Formation Mode：Cultural events

Project Duration：1 years

Operation

Funding Sources：Hybrid model

Operating Modes：Activity transfer

Activity Types：Cultural Festival, Craft Experience

Close

Exit Strategies：Direct end

Long-term Impact：Cultural Preservation

Figure 6-11 Rendering of Demolition Vacant Land

Table 6-3 Temporary Use Design for Demolition Vacant Land

Source: author

6.6.2 Community Rooftops

Figure 6-12 Community Rooftop Plan
Source: author

(1) Design Content

The temporary use of community rooftops is based on residents' feedback, incorporating flexible functional allocations such as resting areas, vegetable gardens, and flower beds. Different rooftop spaces are divided into resting zones, flower zones, and vegetable garden zones, with the proportions adjusted to suit the preferences of different groups.

The key to temporary use is utilizing space to quickly meet diverse community needs. Rest areas are designed with benches, sunshades, and other basic amenities, providing daily activity spaces for residents, while the vegetable and flower zones promote community interaction and participation. Through regular adjustments to the layout of these functional

areas, temporary use can swiftly respond to residents' feedback, optimizing space utilization efficiency.

Although the project is temporary, continuous resident feedback will shape a long-term solution that meets the community's needs. The temporary use of rooftops not only increases space utilization but also provides valuable data for future development, validating the effectiveness of different functions.

Figure 6-13 Axonometric View of Community Rooftop

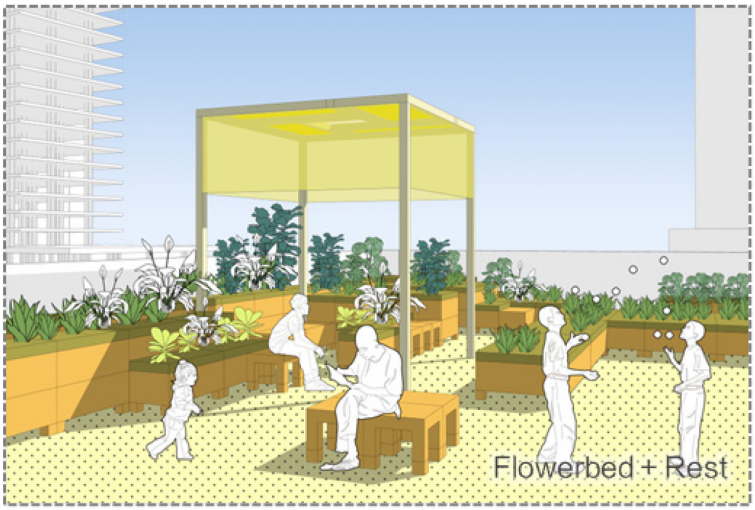
Source: author

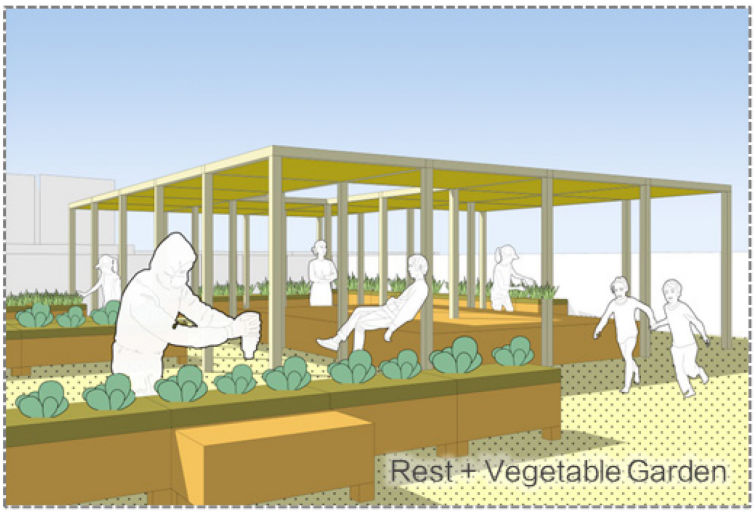
(2) Temporary Use Process

The temporary use of community rooftops is a public space project driven by the community, requiring the joint participation of the government and local residents. The government provides subsidies to support project initiation, while community residents play a key role in the rooftop activities, from planning to actual use. Residents' involvement ensures that temporary use better meets community needs.

The primary goal of this temporary use is testing, using short-term pop-up events to assess the potential long-term value of rooftop spaces. During the testing phase, rooftops will be converted into flower gardens, vegetable gardens, and resting areas to observe how the community interacts with these public facilities. The project's lifespan is six months, designed to provide short-term opportunities for community engagement and interaction while testing the effectiveness of different uses. Government subsidies provide the necessary financial backing for project initiation and operation. The operational model follows a one-time pop-up event format.

Upon project completion, these temporary facilities and usage patterns will be integrated into the community's long-term development plan. Feedback and experience gained from the testing phase will inform future public space planning. In the long term, the temporary use of community rooftops will significantly improve the quality of public spaces and foster a sense of community, encouraging more residents to participate in community building.





2 Temporary Use in Community rooftops

Choose

Space Type：Public space

Participants：Government, Community

Plan

Formation Purpose：Test

Formation Mode：Testing Phase

Project Duration：Half a year

Operation

Funding Sources：Grant-dependent

Operating Modes：Model incubation

Activity Types：Flower / Vegetable Gardening, Leisure

Close

Exit Strategies：Integration into development

Long-term Impact：Improving Space, Community Building

Figure 6-14 Rendering of Community Rooftop

Table 6-4 Temporary Use Design for Community Rooftop

Source: author

6.6.3 Commercial Wasteland

(1) Design Content

The temporary use design for abandoned commercial areas aims to quickly transform long-vacant land into a multifunctional space combining commerce, offices, and community activities. The first step is clearing debris and dismantling abandoned walls to create a clean and safe environment for temporary use.

Figure 6-15 Plan of Commercial Wasteland
Source: author

To rapidly activate the space, the design includes repurposing existing containers and wooden structures as temporary facilities. These lightweight structures can be assembled quickly and flexibly adjusted. The design provides low-cost venues for small businesses and start-ups while bringing economic benefits to the area. Temporary use also introduces pedestrian pathways, separating pedestrian and vehicle traffic on Da Ma Zhan Road, enhancing walkability. Underground parking and spaces for non-motorized vehicles are maintained to ensure convenient transportation.

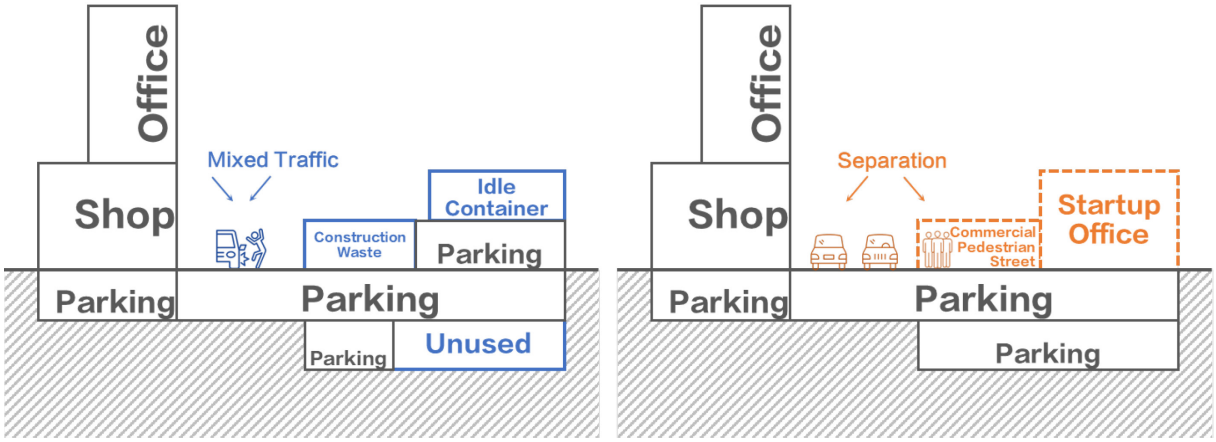


Figure 6-16 Before-and-After Cross-Section of Temporary Use
Source: author

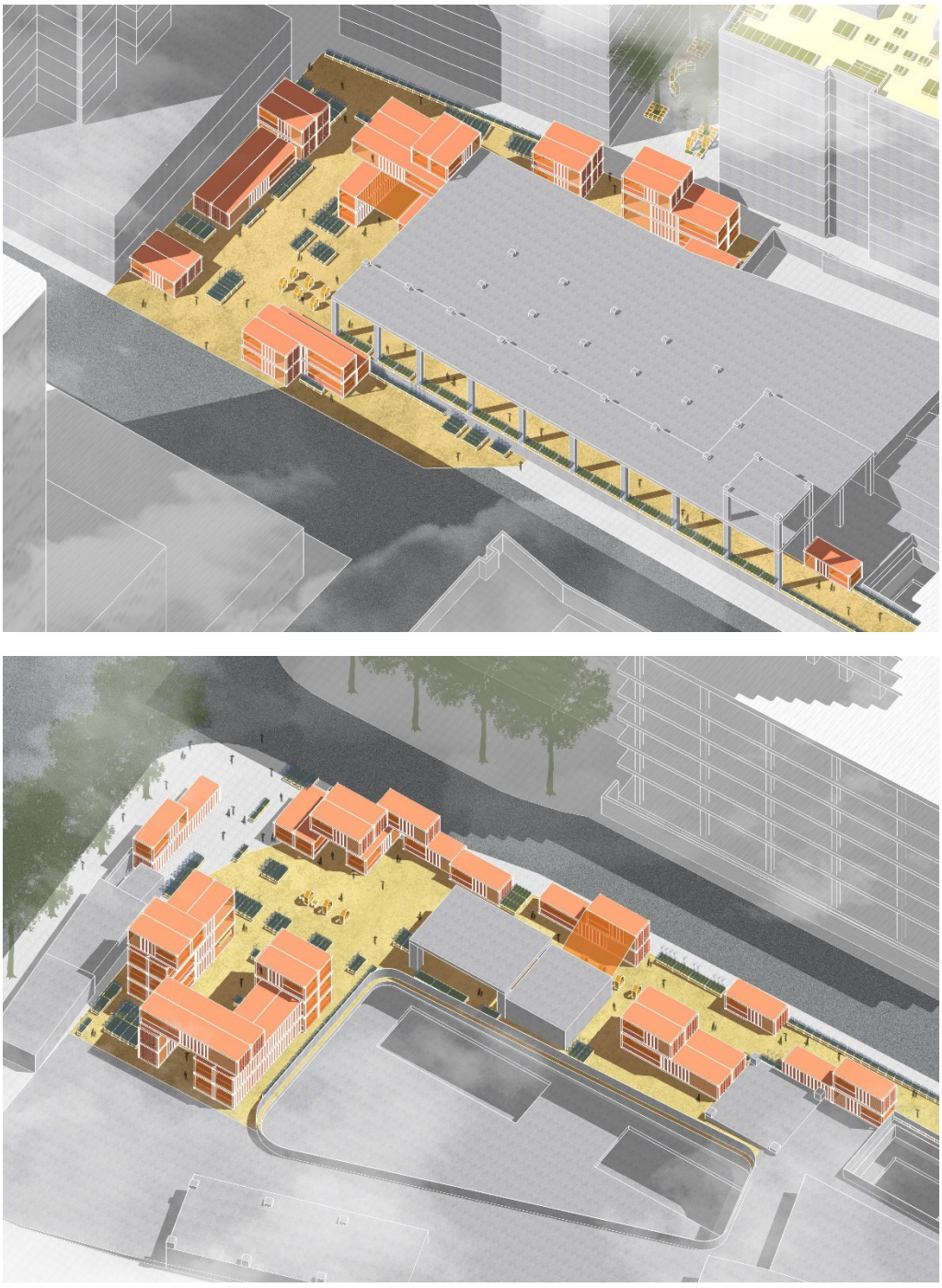
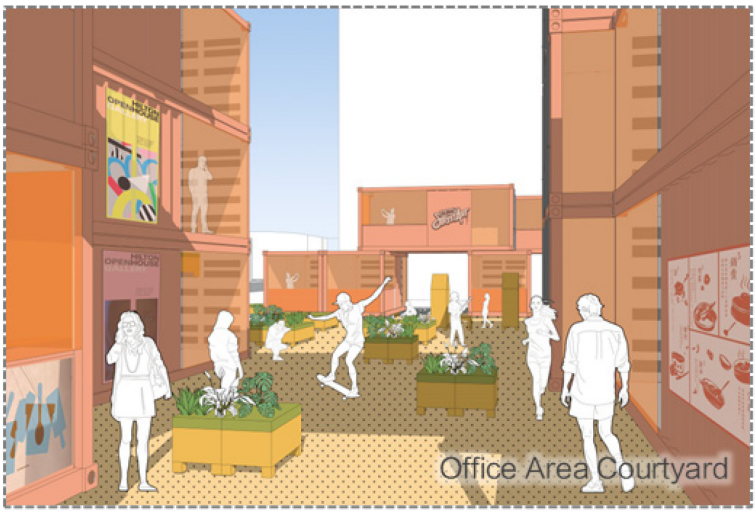


Figure 6-17 Axonometric View of Abandoned Commercial Area
Source: author

(2) Temporary Use Process

The temporary use of long-vacant commercial brownfields can quickly revitalize the space through short-term commercial activation. The government provides financial and policy support, developers participate in site renovations and facility construction, and start-ups use the space through short-term leases, temporarily reviving commercial activity.

The primary goal of this project is compensation, making up for the lack of utilization by temporarily providing commercial and office functions to the surrounding area. The project uses a "sowing" model with a three-year cycle, ensuring stability for long-term temporary use while giving developers time to raise funds for future development. The project relies on commercial revenue, introducing small businesses and start-ups to generate economic benefits for the site. The operational model uses a transfer of activities approach. The exit strategy involves relocation and reuse: at the end of the project, the structures will be dismantled or repurposed, and businesses can either move with the containers or remain in the future high-rise buildings on the site. Temporary use optimizes traffic flow and enhances the area's economic benefits.



3 Temporary Use in Abandoned Space

Choose

Space Type：Vacant buildings

Participants：Government, Developers, Startups

Plan

Formation Purpose：Supply

Formation Mode：Idle Utilization

Project Duration：3 years

Operation

Funding Sources：Commercial revenue

Operating Modes：Activity transfer

Activity Types：Commercial, Office

Close

Exit Strategies：Relocation and reuse

Long-term Impact：Optimizing Roads, Financial Income

Figure 6-18 Rendering of Abandoned Commercial Area

Table 6-5 Temporary Use Design for Abandoned Commercial Area

Source: author

6.6.4 Courtyards and Plazas

Figure 6-19 Plan of Courtyard and Plaza
Source: author

(1) Design Content

The design first identifies several open courtyards and plaza spaces and improves the environment by introducing movable wooden structures and greenery to provide resting and social spaces. The flexibility of the wooden structures allows for quick adjustments based on different activity needs, enhancing the multifunctionality of the space.

The temporary use plan combines diverse functions, giving each courtyard and plaza a unique spatial experience that meets the daily activity needs of residents and the expectations of visiting tourists. Pathways connecting these courtyards and plazas create a continuous flow for visitors, improving the site's cohesion and accessibility.

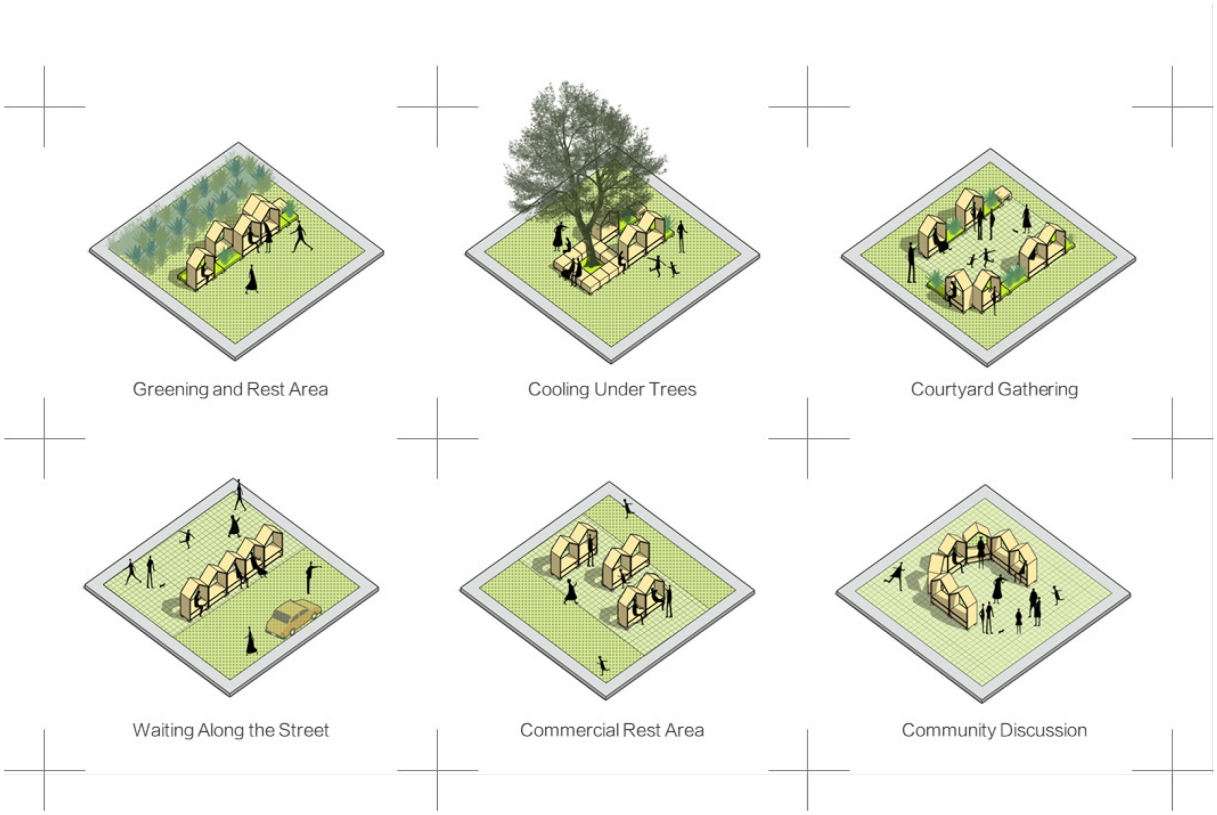


Figure 6-20 Pop-up Installation Combination Diagram
Source: author

4 Temporary Use in Courtyards & squares
Choose
Space Type：Underutilized space
Participants：Government, Universities
Plan
Formation Purpose：Activate
Formation Mode：Pop-up projects
Project Duration：Half a year
Operation
Funding Sources：Grant-dependent
Operating Modes：Multi-point network
Activity Types：Leisure, Greening
Close
Exit Strategies：Integration into development
Long-term Impact：Traffic Flow Guidance, Improving Public Spaces

Table 6-6 Temporary Use Design for Courtyard and Plaza
Source: author

(2) Temporary Use Process

Courtyards and plazas, as open public spaces, have been underutilized. The government supports project planning and implementation, while universities participate in the planning

and design stages, organizing academic events and competitions to optimize space functions for both the community and tourists.

The primary goal of temporary use here is compensation, injecting life into courtyards and plazas through movable pop-up installations and greenery. The flexible layout of rest areas and greenery provides temporary spaces for interaction and socialization for residents and visitors. The project's lifespan is six months, and it also has an experimental aspect. The project is funded by government subsidies, and the operational model uses a multi-point network approach, allowing courtyards and plazas to quickly switch functions based on demand, providing diverse user experiences.

The exit strategy is integration into long-term development, with some temporary installations and functions retained to continue serving the community. Temporary use of courtyards and plazas will enhance resting areas and improve pedestrian flow, optimizing the quality of public spaces at the site.

6.7 Advantages and Challenges

As a flexible urban renewal strategy, temporary use offers several advantages. First, it can quickly address the issue of resource waste caused by vacant spaces by providing temporary functions through low-cost, short-term interventions. Whether it is demolition sites, community rooftops, or long-term vacant commercial land, temporary use can breathe new life into these spaces. For example, the introduction of temporary markets or cultural events can quickly attract public participation and stimulate the cultural vitality and economic growth of the city. These projects, through light modifications and flexible layouts, demonstrate the potential of temporary use to activate spaces and provide valuable experience and data support for future long-term development. Additionally, temporary use can effectively promote cultural preservation, especially in historic districts, where temporary activities can raise public awareness of historical buildings and cultural heritage, fostering a sense of community identity.

However, temporary use also faces many challenges. Firstly, the short-term nature of temporary projects can lead to the space becoming vacant again after the project ends, failing to maintain long-term spatial vitality. This phenomenon is particularly evident when there are

no follow-up development plans or financial guarantees. Secondly, the uncertainty of funding sources and policy support poses a major obstacle to the promotion of temporary use. Many temporary projects lack long-term financial backing, making them dependent on short-term investments, which hinders sustainability. Furthermore, the policy framework for temporary use remains incomplete, with limited legal support in areas such as land use regulations, building safety, and urban planning, impeding the broader promotion of temporary use. A lack of resident participation is also a challenge, as some temporary projects struggle to engage the community, resulting in underutilized social benefits.

Therefore, while temporary use offers great flexibility and adaptability, its practical feasibility and effectiveness require more support from policies, funding, and the community to achieve sustainable long-term development.

6.8 Policy Recommendations

To better promote the effective implementation of temporary use, policy support and regulatory improvements are crucial. First, the government should simplify the approval process, particularly in historic districts, where temporary use projects should be planned and implemented with the support and supervision of heritage protection departments to ensure that historical buildings and cultural heritage are not damaged. By introducing specific regulations and project guidelines, the government can provide clear direction for temporary use projects and reduce uncertainties during the approval process. At the same time, the government should offer incentives such as land rent reductions and tax exemptions to attract private capital to participate in temporary use projects. Establishing special funds to support projects with cultural value and social benefits can ensure that economic and social benefits are combined.

Secondly, the implementation of temporary use projects should strengthen community participation mechanisms. The government can build community platforms to encourage residents and stakeholders to participate in project planning and implementation. Direct involvement from community residents can enhance the social benefits of projects and ensure that temporary use effectively responds to the actual needs of the community. In historic districts, the planning and implementation of temporary use require stronger cultural

recognition, ensuring that the protection and utilization of historical and cultural heritage are realized at the community level through participatory design.

In addition, temporary use should be closely integrated with the city's long-term development plans. Temporary projects should not only serve as a means of short-term space activation but should also provide empirical evidence for future long-term development through experimental projects. Especially in contexts of economic and planning uncertainty, the experimental and flexible nature of temporary use can provide valuable insights for the multifunctional development of urban spaces. Moreover, temporary use should incorporate green and sustainable development concepts, prioritizing the use of environmentally friendly materials and energy-efficient designs to promote the city’s green development. Ensuring that temporary structures are removable and recyclable will also provide more practical support for future long-term development.

Through policy optimization and active community participation, temporary use, as a flexible and effective urban renewal strategy, can provide strong support for the city’s long-term development.

6.9 Summary

Based on the research from the previous five chapters, this chapter presents design strategies and application plans for the temporary use of the Daxiaomazhan Academy complex. First, the design intentions and principles are clarified, emphasizing the rapid activation of the site through temporary use while preserving historical buildings. Then, four potential spaces were identified—demolition sites, community rooftops, commercial wastelands, and courtyard plazas—and a general design framework was established. Next, specific area design plans were developed, detailing the temporary use content, processes, and expected outcomes for different spaces. Finally, the advantages and challenges of the plan were analyzed, and policy recommendations were provided, highlighting the importance of government support, community participation, and sustainable development. This chapter offers feasible paths and methods for the practical implementation of temporary use strategies.

Conclusion

Research Summary

(1) The complete process of temporary use provides a systematic framework for the protection and renewal of historic districts

The operational process of temporary use can be summarized into four key steps: choose, plan, operation, and close. This complete process offers systematic guidance for the practice of temporary use in historic districts. During the identification phase, space types and stakeholder roles are analyzed to clarify suitable sites and interested parties for temporary use. In the design phase, temporary use plans are developed in accordance with the project's goals, mode, and lifespan, ensuring alignment with the characteristics of historic districts. In the operation phase, sustainability and social benefits are ensured through the selection of funding sources and operational models. Finally, the exit phase guarantees a smooth transition or integration into long-term development through appropriate exit strategies and impact assessments.

The systematic nature of this process ensures that temporary use is no longer a fragmented or random urban intervention but becomes a structured strategy that offers a new methodology for the protection and renewal of historic districts.

(2) Temporary use is based on not damaging the existing physical foundation, with protection as a prerequisite in historic districts

In historic districts, protection must be the primary premise for temporary use. Temporary use should follow the principles of "reversibility" and "light intervention," avoiding irreversible damage to historical buildings and spaces. This study emphasizes the coordination between temporary use and preservation goals, activating historical buildings in the short term through flexible, reversible designs and implementations while ensuring the integrity of cultural heritage.

In the design of the Daxiaomazhan Academy complex, temporary use strategies strictly adhered to the principles of not damaging existing buildings and the landscape, using detachable and recyclable materials and structures to ensure the reversibility of temporary use.

This protection-first approach to temporary use not only avoided damage to the historic district but also injected new vitality into it.

(3) The four temporary use modes have different positive and negative externalities, requiring corresponding regulatory mechanisms

This study divides temporary use into four modes: testing phase, cultural events, idle utilization, and pop-up projects. Each mode generates different positive and negative externalities during implementation.

The testing phase mode provides experimental data for future development, but its negative externalities may include heavy reliance on funding and project uncertainty. This needs to be regulated through government funding support and public participation.

The cultural events mode quickly enhances regional vitality and brings economic and cultural benefits, but it may also lead to environmental pressure and tendencies toward cultural commercialization. Regulation should include environmental impact controls and community feedback mechanisms.

The idle utilization mode brings positive externalities through resource reuse and community vitality but may increase investment risks due to uncertain long-term economic benefits. Policy support and clear long-term planning are needed to regulate this.

The pop-up project mode offers flexibility and efficient short-term utilization, but its temporary nature may lead to resource waste and lack of sustained benefits. Regulation should focus on material recyclability and maximizing short-term social benefits.

Establishing appropriate regulatory and compensation mechanisms to ensure the full realization of the positive externalities of temporary use projects, while effectively controlling the negative externalities, is key to the success of temporary use strategies.

(4) Existing regulations provide some guidelines for temporary use but lack systematization

The study finds that existing national and local regulations, such as the temporary land use provisions in the Land Management Law, provide some legal basis for temporary use. However, these regulations mainly target temporary land use for specific purposes and lack systematic guidance for temporary use in the protection and renewal of historic districts.

In practice, temporary use projects often face issues such as insufficient policy support and complex approval processes, limiting their promotion and application. To fully leverage the role of temporary use in the protection and renewal of historic districts, improvements are needed at the policy level. This includes establishing dedicated regulations and management mechanisms for temporary use, simplifying approval processes, providing financial and technical support, and encouraging participation from various sectors of society.

(5) Properly designed temporary buildings may be more beneficial to historic preservation than poorly permitted or poorly planned permanent structures

Unregulated or poorly planned permanent buildings in historic districts often cause irreversible damage to cultural heritage, disrupting the original spatial fabric and cultural atmosphere. In contrast, well-designed and implemented temporary buildings are reversible and flexible, avoiding damage to historic districts while meeting short-term functional needs and activating space.

In the case of the Daxiaomazhan Academy complex, the planning of high-rise commercial buildings demolished six academy buildings, destroying the site's original historical landscape, but the project remains unfinished and vacant. Temporary use, through the use of detachable light structures and recyclable materials, quickly enhanced regional vitality without damaging historical buildings. This demonstrates that temporary use, as a transitional form of space utilization, can strike a balance between preservation and use, providing an effective means for the sustainable development of historic districts.

The innovations of this study are reflected in several key aspects. First, it proposes a comprehensive operational framework for temporary use, consisting of four key steps: choose, plan, operation, and close, providing systematic guidance for the practice of temporary use in historic districts. Second, it establishes core principles that prioritize protection, emphasizing "reversibility" and "light intervention" to ensure the short-term activation of spatial functions while preserving cultural heritage integrity. Third, it differentiates four types of temporary use models—testing phase, cultural events, idle utilization, and pop-up projects—analyzing their positive and negative externalities and corresponding regulatory mechanisms, offering precise guidance for diverse contexts. Additionally, the study advocates for policy framework improvements, including simplifying

approval processes, providing financial support, and establishing accountability mechanisms to facilitate the promotion and application of temporary use. Finally, through case studies, it validates the positive role of temporary structures in historical preservation, demonstrating that their reversibility and flexibility effectively balance protection and utilization, offering innovative pathways for the sustainable development of historic districts.

In summary, temporary use, as a flexible and efficient urban renewal strategy, holds great significance for the protection and renewal of historic districts. Through a complete process system, protection-first implementation principles, externality regulation tailored to different modes, and an improved policy framework, temporary use can effectively revitalize historic districts, promoting cultural preservation and economic development. Properly implemented temporary buildings have been proven to positively contribute to historic preservation, potentially more than inappropriate permanent construction, and are worth promoting and applying on a broader scale.

Reflections and Outlook

After studying the application of temporary use in historic districts, it is necessary to reflect on its complexity and challenges in real-world practice. Temporary use, as a flexible urban renewal strategy, does indeed offer new possibilities for the revitalization of historic districts. However, issues related to multi-stakeholder coordination, policy and regulatory improvements, and long-term benefit guarantees still require further exploration.

First, the application of temporary use in historic districts must be approached with caution. Historic districts carry rich cultural heritage and urban memory, and any intervention may have far-reaching impacts. Although temporary use emphasizes reversibility and light intervention, without strict supervision and professional guidance, it could still cause irreversible damage to historical buildings and environments. Therefore, the participation of professional teams and scientific planning and design are key to the success of temporary use projects.

Second, the promotion of temporary use requires support and guidance at the policy level. Current regulations on temporary use are incomplete, resulting in difficulties with approvals and funding in practice. Governments should recognize the value of temporary use,

actively formulate relevant policies, simplify approval processes, provide financial support, and encourage societal participation. At the same time, a clear accountability and supervision mechanism should be established to ensure the legality and sustainability of temporary use projects.

Additionally, the social and economic benefits of temporary use need to be balanced. Excessive pursuit of commercial interests may lead to overdevelopment and loss of cultural meaning in historic districts, while overemphasis on cultural preservation may limit economic development. How to find a balance between preservation and utilization is a key issue that temporary use projects need to carefully consider. Community participation plays an important role in this, ensuring that projects meet the needs of cultural preservation while also promoting economic and social development by incorporating the opinions of residents and stakeholders.

Looking to the future, the prospects for applying temporary use in historic districts are promising. With the advancement of urbanization and increased public cultural awareness, temporary use is expected to become a bridge between history and modernity, and between culture and economy. However, its successful implementation will depend on multi-party collaboration, policy support, and scientific planning. It is hoped that more researchers and practitioners will focus on this field, continually exploring and innovating to contribute to the sustainable development and urban regeneration of historic districts.

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Appendix 1

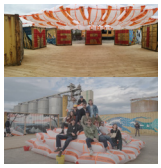
Mode	Case		Website
Testing Phase	City Lab		https://temparchitecture.com/architectuur/de-flexibele-stad-oplossingen-voor-leegstand-en-krimp/
	TEMPUS		https://certimac.it/newsroom/tempus-project
	Camden Collective		https://camdencollective.co.uk/
	PLACE Ladywell Housing		https://lewishamlondon.co.uk/regeneration-case-study-place-ladywell/
	Upgrading the street, Nørrebroga		https://www.arkilab.dk/wp-content/uploads/2016/06/4.pdf
Cultural Events	Hidden Door		https://hiddendoorarts.org/about/press/
	Shenzhen-Hong Kong Biennale		https://www.cafa.com.cn/cn/news/details/8331827
	Summer 2018		https://www.manifatturatabacchi.com/chi-siamo/
	Festival of Empty Shops		https://thecityateyelevel.com/stories/the-festival-of-empty-shops-in-budapest/
	Festival of Architecture		https://www.londonfestivalofarchitecture.org/

Table a-1 Websites for Testing Phase and Cultural Event Case Studies
Source: author

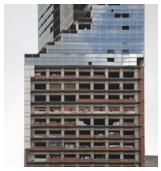
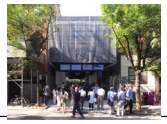
Mode	Case		Website
Idle Utilization	Canning Town Caravanserai		https://interimspacescreativeuse.wordpress.com/canning-town-caravanserai/
	Gaegeviertel		https://das-gaengeviertel.info/
	Ex-Vuoto		https://ateliercitta.com/
	Torre de David		https://architectureindevelopment.org/project/141
	Avanti c'è spazio		https://www.emiliaromagnanews24.it/avanti-ce-spazio-foto-202246.html
Pop-up Projects	Pop-up Town Hall		http://www.bmwguggenheimlab.org/
	Seating for Socializing		https://www.researchgate.net/figure/Details-and-specifications-of-the-place-making-intervention-Seating-for-Socializing_fig1_327328814
	Common Unit		https://www.archdaily.cn/cn/892986/gong-xiang-she-qu-huo-dong-zhong-xin-rozana-montiel-estudio-de-arquitectura
	The Proxy project		https://www.sfgate.com/bayarea/place/article/city-s-little-boxes-but-these-look-pretty-good-2298419.php#photo-1803449
	FLPP		https://tacticalurbanismguide.com/guides/tactical-urbanism-volume-5/

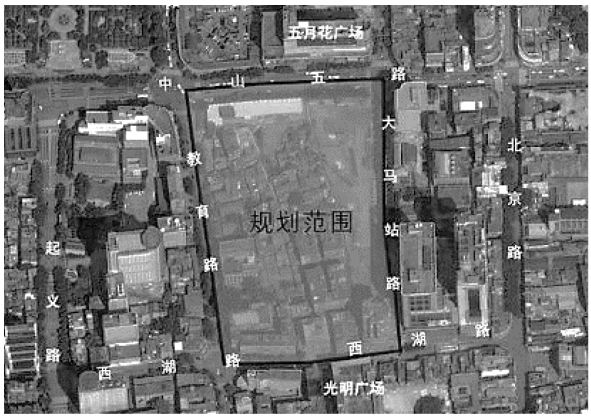
Table a-2 Websites for Idle Utilization and Pop-up Installation Case Studies
Source: author

Appendix 2

Public Perception Survey on the Daxiaomazhan academies cluster

Thank you very much for completing this questionnaire! The purpose of this survey is to study people's actual usage and perceptions of Daxiaomazhan. This questionnaire consists of 14 questions and takes 2–3 minutes to complete. The survey is anonymous, and there are no right or wrong answers. The data will be used only for scientific research in urban design and will not affect your daily life or work in any negative way. Thank you for your support and cooperation, and I wish you a pleasant day!

The area outlined in black on the right is the location of this survey:



1. You are a [Single Choice]
   ○ Tourist
   ○ Resident
   ○ Staff
   ○ Passerby

2. Your purpose/reason for entering the Daxiaomazhan area [Single Choice]
   ○ Sightseeing
   ○ Living
   ○ Working
   ○ Taking the subway
   ○ Avoiding crowds
   ○ Lost
   ○ Just passing by, no specific purpose

3. Areas where you engage in activities within Daxiaomazhan [Multiple Choice]
   ☐ Outer ring commercial area (restaurants, shops)
   ☐ Visiting the Lingnan Financial Museum
   ☐ Visiting the academy ruins (Kaoting Academy, Lianxi Academy, Guanying Academy)
   ☐ Inner shops (convenience stores, barbershops, etc.)
   ☐ Residential open spaces (exercise equipment, seating areas)

4. How many times have you entered the Daxiaomazhan [Single Choice]
   ○ 0/passed by without entering
   ○ 1–2 times
   ○ 2–5 times
   ○ More than 5 times

5. Reasons for rarely or never entering Daxiaomazhan [Single Choice]
   ○ Lack of activity venues and facilities
   ○ No time
   ○ Not interested
   ○ Not much content, lack of promotion

6. Frequency of using street shops and community stores [Single Choice]
○ Frequently
○ Occasionally
○ Barely

7. How many times have you visited the Lingnan Financial Museum or other academy ruins [Single Choice]
○ 0 times
○ 1 time
○ 2–3 times
○ More than 3 times

8. How well do you know the history of Daxiaomazhan [Single Choice]
○ Never heard of it
○ Heard of it, but not familiar
○ Know about it, but not in depth
○ Very familiar

9. Do you know about Hezu Ancestral Hall [Single Choice]
○ Never heard of it
○ Heard of it, know a little
○ Very familiar

10. Your attitude towards the Daxiaomazhan Academy Complex [Multiple Choice]
☐ The expropriation process is complicated, and the renovation is slow, but understandable
☐ The academies should not have been demolished back then, it's a pity
☐ The abandoned buildings have been left for over a decade, wasting resources
☐ It has no presence, no particular opinion

11. Your attitude towards ancient academies [Multiple Choice]
☐ Preserve the existing academies
☐ Rebuild demolished academies, restore them as they were
☐ Collect bricks and wood materials from the academies and relocate for protection
☐ Times have changed, academies are no longer needed, they can be demolished

12. How do you obtain information about the renewal and renovation of Daxiaomazhan [Multiple Choice]
☐ Posted notices
☐ News media reports
☐ Conversations with others
☐ Books and articles
☐ Not informed

13. Your gender [Single Choice]
○ Female
○ Male

14. Your age [Single Choice]
○ Under 18
○ 18–30
○ 31–45
○ 46–65
○ Over 65