Research on Design Strategies and Guidelines for the Renewal of 'Streetside' Spaces along the Western Section of Wenming Road by the Yudai Moat of Guangzhou

A Dissertation Submitted for the Degree of Master

Candidate：Guan Zifei

Supervisor：Mentor Group

Abstract

In Guangzhou's historic urban districts, streetside spaces serve as vital carriers of residents' daily activities, encompassing social, commercial, and landscape functions. However, traditional urban planning and design have paid limited attention to these spaces, particularly in high-density residential neighborhoods where issues such as functional mixture, spatial disorder, and insufficient public accessibility are prevalent. This study focuses on the western segment of Wenming Road along Yudai Moat, conducting a comprehensive analysis from three dimensions: historical evolution, current site investigation, and international case comparison. Based on these, adaptive renewal strategies and specific urban design guidelines are proposed.

The research begins by defining the concept of "streetside space" in the context of Cantonese vernacular and Lingnan urban life. It argues that "streetside" is not only a physical interface but also a locus of social interaction. Through field surveys and sectional diagram analysis, four categories of streetside space are identified: residential, commercial, logistic/storage, and public types. Each category exhibits distinct spatial interface characteristics and usage patterns. The survey reveals widespread issues including irregular streetside dimensions, closed-off facades, low efficiency of space usage, and fragmentation of historical and cultural continuity—all of which hinder the publicness and sustainable development of streetside space.

For comparative analysis, this paper selects Italy's Turin urban codes (N.381/N.388), Japan's Street Design Guidelines, and China's street design manuals from Shanghai and Chengdu. From the perspectives of legal control, human-centered dimensions, street typology, and community participation, key strategies are extracted. The Italian experience emphasizes rigid regulatory frameworks and detailed spatial control, suitable for legally-guided heritage preservation. The Japanese approach focuses on "comfort" and "lingerability", highlighting openness and livability. In contrast, Chinese approaches are characterized by problem-oriented and micro-renewal strategies, showing strong local adaptability and spatial flexibility.

Building upon these findings, the paper proposes two core renewal principles: "local adaptability" and "multi-stakeholder collaboration." A strategic framework is constructed, including interface control, public space activation, and facility guidance. This framework culminates in a practical set of guidelines for the adaptive renewal of streetside spaces, covering classification, element integration, strategic direction, and

institutional support, with representative nodes selected for detailed redesign.

This research emphasizes the unique value of streetside spaces as extensions of urban public realms and their critical roles in enhancing neighborhood quality, fostering social interaction, and preserving cultural memory. The proposed design strategies and guidelines are not only applicable to street renewal in Guangzhou but also provide referential ideas for streetside space governance in similar urban contexts.

Keywords: Streetside Space; Micro-Renewal; Urban Design Guidelines; Yudai Moat; Guangzhou

Contents

Figure & Table Lists

Chapter 1 Introduction

1.1 Research Background

As the core area of a thousand-year-old commercial capital, Guangzhou has a dense and complex street network. It rains heavily, the streets are flooded[1]", this is a popular nursery rhyme in Guangzhou. Since the founding of the city, water has been inseparable from Guangzhou[1]. Relying on the unique geographical environment of the Pearl River Delta, the developed water transport system supports the sustainable development of the city's commercial activities.There are a large number of historical streets and alleys. These linear space systems composed of arcades, narrow alleys and courtyards constitute the The typical Lingnan characteristics of traditional urban form.The crisscrossing streets and alleys not only form a continuous spatial network, but also the clever combination of the building facade and the public area shows distinct regional characteristics. As the core carrier of residents' daily activities, the streetside space not only continues its traditional functions of commercial exchange and social interaction, but also constantly adapts to the diverse demands of modern urban life.These space units not only carry the city's memory, but also witness the changes of the times. The interaction between its usage and spatial form provides important insights into traditional urban renewal.

1.2 Definition

1.2.1 Street

The contemporary definition of "street" remains relatively ambiguous. According to the *Urban Street Renovation Design Summary*, the renovation scope of streets in Shangcheng District, Hangzhou, generally refers to roads with a carriageway width of no more than 10 meters, lacking sidewalks or having sidewalks narrower than 2 meters[1].

In Beijing's *Design Management Guidelines for the Environmental Improvement of Backstreets and Alleys in Core Areas*, backstreets and alleys are defined as small streets and lanes leading to residential areas, primarily serving non-motorized vehicles and pedestrians, and typically under 10 meters wide[3].

A street is a linear public space in the city that possesses both multifunctional and social attributes. Its core feature lies in the complementary functions of buildings

[1] 落雨大，水浸街

on both sides and its scale being suitable for pedestrian activity. Unlike "roads," streets do not prioritize traffic efficiency, but rather serve as vibrant carriers of everyday life through sidewalk commerce, cultural facilities, and walkable experiences. At its essence, a street is a "container of social activity," integrating transportation, commerce, and interaction—functioning as the capillary network of urban public life.

1.2.2 Streetside Space

In Cantonese, the term "街边" (streetside) carries a unique layer of urban cultural meaning. Compared to the more commonly used "路边" (roadside) in Mandarin, Streetside specifically refers to the three-dimensional spatial zone along both sides of a city street. This encompasses not only the sidewalk but also extends into the shopfronts, deeply embodying the everyday rhythms and vibrancy of local life. This spatial perception is closely tied to the architectural form of arcaded buildings (骑楼) in the Lingnan region. In the Guangdong-Hong Kong context, the term has evolved into a multi-layered expression — representing both the physical infrastructure of grassroots economies like herbal tea stalls, open-air eateries, and newsstands, as well as the emotional resonance of daily routines such as "行街买餸" (walking the street to buy groceries). Expressions like "街边档" (streetside stall) and "街边仔" (street kid) vividly illustrate its linguistic richness. The historical roots of this term can be traced back to the commercial traditions of the Thirteen Hongs period and continue to live on through licensed hawker culture in Hong Kong, forming a deep cultural symbol far beyond a simple spatial reference.

In this thesis, "streetside space" is defined from a design perspective as the interface where the ground-level facade of a building connects with the street surface (Figure1- 1). This zone is marked by a unique ambiguity in ownership: the pavement is under municipal jurisdiction, while signage and outdoor commercial setups fall under the merchant's usage rights. Although the curb provides a physical demarcation, the narrow width of the street often causes both sides to influence each other in design, management, and usage—creating a "two-way permeability" effect. Therefore, both sides of a street segment should be considered as a whole. The facade and street space are interdependent; due to varied existing conditions and evolving planning ideologies across time, the "interface" exhibits complexity in its physical expression, spatial

definition, and behavioral influence[4]. The physical conditions of the interface interact closely with human activity, necessitating a dual inquiry into how space influences behavior and how human behavior reproduces space. This dialectical approach forms the basis for proposing an endogenous and organic renewal strategy aimed at addressing the existing challenges of the streetside space in this area.

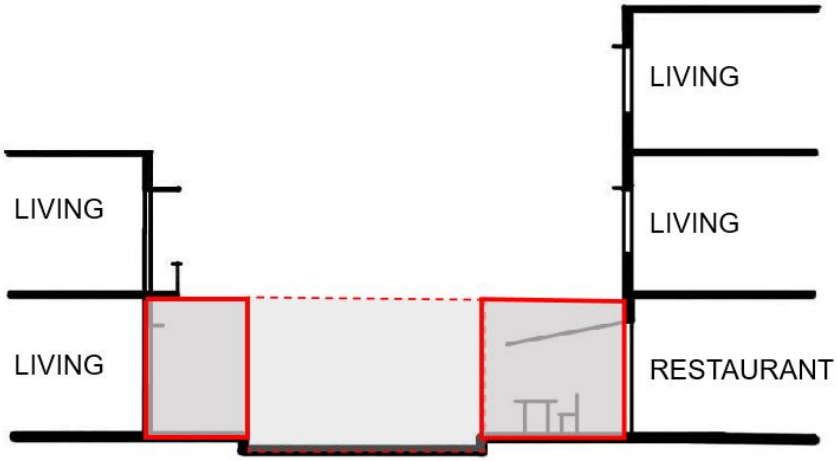


Figure1- 1 Range of Streetside space (Source: by the author)

This study focuses on the streets and alleys of historic urban districts, which are characterized by cultural stratification and spatial complexity. The streetside interfaces in these areas often embody traditional architectural forms (such as arcade buildings and bamboo houses), organically developed urban functions (such as outdoor commercial setups and under-eave spaces), and informal patterns of social interaction. Unlike the standardized streets of modern districts, the "streetside" spaces in historic neighborhoods are marked by ambiguous ownership yet multifunctional usage. They serve as extensions of residents' daily lives and as tangible carriers of cultural memory. The streetside spaces discussed in this paper are transitional zones within a historical context, whose renewal must balance spatial efficiency with cultural continuity.

1.2.3 Curb

The term "curb", referring to the raised pedestrian path along both sides of urban roadways, finds a nuanced cultural parallel in the Southwestern Chinese dialect expression "街沿" (curb). Its conceptual formation is closely tied to the historical evolution of street-making practices in the Bashu region. This notion has undergone a long trajectory of spatial and cultural transformation. In ancient China, streets were primarily designed for horse-drawn traffic, and before the Song dynasty, urban streets

generally lacked designated pedestrian zones, that the road surface often extended directly to the base of residential walls. In Ming and Qing dynasty paintings such as *Along the River During the Qingming Festival*[2], shops featured small platforms or steps (阶沿) in front, yet these did not form a continuous pedestrian system. By the late Qing period, as urban traffic volumes increased and Western urban models began influencing city design, the separation of pedestrians and vehicles was introduced, and the scattered steps[3] evolved into what is now understood as the curb.

The linguistic roots of curb in the Chinese context can be traced to traditional architectural terms such as "阶檐" (terraced eaves) and "阶沿" (step edge). "阶" referred to the base steps of a building, while "檐" denoted the outward-projecting eaves. The two terms often appeared together in classical literature—for instance, the Western Jin poem line "延首出阶檐" describes this architectural zone. During the Tang and Song dynasties, "阶檐" referred specifically to the tiered area beneath the eaves, as illustrated in *Journey to the West*[4]: "阶檐上放玉圭" (placing a jade scepter on the steps beneath the eaves). By the Ming dynasty, "阶沿" increasingly highlighted the functional edge of the step, such as in *Stories to Caution the World*[5], which reads: "阶沿石上向月而坐" ("seated on the stone step edge facing the moon"). As commercial activity expanded in cities, these platform-like step edges began to connect and widen, eventually forming continuous pedestrian walkways. The term "阶沿" gradually evolved into "街沿", and because these required stepping up from the carriageway, they became known colloquially as "上街沿" (upper street edge), in contrast to the vehicular "下街沿" (lower street edge).

This conceptual transformation reflects a broader urban functional shift—from traffic systems centered around horse-drawn mobility to a more differentiated structure that separates pedestrians and vehicles. What was once merely an architectural detail tied to individual buildings became an essential element of public urban space. Today, the curb not only facilitates pedestrian movement but also serves as a carrier of urban life and a repository of historical memory[5].

---

[2] 清明上河图

[3] 阶沿

[4] 《西游记》

[5] 《喻世明言》

1.3 Research Origin

1.3.1 The Ambiguity in Current Planning Frameworks

Within China's urban planning and design system, the streetside space has long existed in a regulatory and practical gray zone. This ambiguity arises not only from the structural absence of clear technical standards, but also reflects the complex negotiation of competing interests in urban governance. As a transitional interface between buildings and the street, the streetside space should serve as a vital mediator for urban vitality and spatial rhythm. However, in the current regulatory framework, its dimensional definition is often reduced to residual space outside the road redline. The lack of targeted design guidance for streetside space is evident—even regulatory plan fail to provide effective instructions. Traditional planning practices tend to focus more on plot-level development intensity and land-use layout, while offering little to no refined control over public interface elements. Regulatory plans prioritize hard indicators such as land use types and floor area ratios, yet rarely address critical design components like building setbacks, facade articulation, or streetscape infrastructure. While some urban design guidelines are embedded in planning documents, these are often limited to broad spatial narratives and lack operational detail. Dynamic uses of streetside space—such as commercial spill-out, temporary events, and greening facilities—also remain unaccounted for in technical standards. This coarse-grained regulatory approach makes it difficult for streets and alleyways to express vibrancy or distinctive spatial identities through planning mechanisms.

At a deeper level, the issue stems from fragmented spatial allocation and management systems. The area in front of shops, for example, represents a classic zone of ambiguity where ownership rights are poorly defined. This results in ongoing conflict between commercial expansion and public passage. To avoid disputes, municipal departments often adopt a passive governance stance: urban management authorities restrict street furniture based on visual cleanliness standards, while transport departments widen traffic lanes under the pretense of safety. The result is a functionally singular, circulation-oriented street space.This misaligned management logic essentially reduces streetside space to a technocratic object of control, overlooking its core identity as a social platform. When the street is stripped of its role as a vibrant, multi-use organism and downgraded to a unidimensional conduit, the city loses not only spatial quality—but also its capacity to host the everyday life of its

people.

1.3.2 Rich in historical and cultural value

This study focuses on the spatial dynamics of the western segment of Wenming Road along the Yudai Moat in Guangzhou—a historically rich and spatially distinctive urban enclave. The study area is demarcated by Wenming Road, Wende Road, Beijing Road, and Wanfu Road, encompassing an area of approximately 0.8 square kilometers. Strategically located at the intersection of Guangzhou's major historical and cultural axes, the area is surrounded by a high concentration of heritage landmarks, including the Guangzhou Uprising Memorial Hall, the Grand Buddha Temple, and the Wenming Gate Arch. These elements link to key cultural corridors such as South Beijing Road and South Wende Road, forming a layered cultural landscape. As cultural narratives continue to evolve, these heritage elements not only create strong spatial legibility, but also exert a lasting influence on the neighborhood's population structure, functional evolution, and everyday lifestyle — producing a complex interplay of cultural continuity and functional transformation (Figure1- 5).

As part of Guangzhou's historic urban core, the district retains the traditional street-alley pattern of Lingnan architecture, while simultaneously undergoing deep transformations brought by modern urban development. Both Beijing Road and Wende Road have been designated as historical and cultural streets, and exhibit distinct palimpsests of spatial eras. In the district's southwest corner lies the Yangzhonghui[6] mixed-use complex and the Beijing Road metro station, making the once primarily residential neighborhood increasingly susceptible to external urban influences. On both sides of the street, preserved arcaded buildings coexist with emerging forms of commercial activity, resulting in a hybrid streetscape that fuses historical and contemporary elements. The transformation of this district offers a valuable lens into spatial adaptation processes, where residential and commercial dynamics have shaped varied spatial typologies over time. Traditional homes interlace with modern storefronts, and the boundary between public and private space has been in constant negotiation. These transformations reflect both organic functional adjustments and systemic challenges in urban planning and governance.

[6] 仰忠汇, also called Beijing Road Tee Mall 北京路天河城

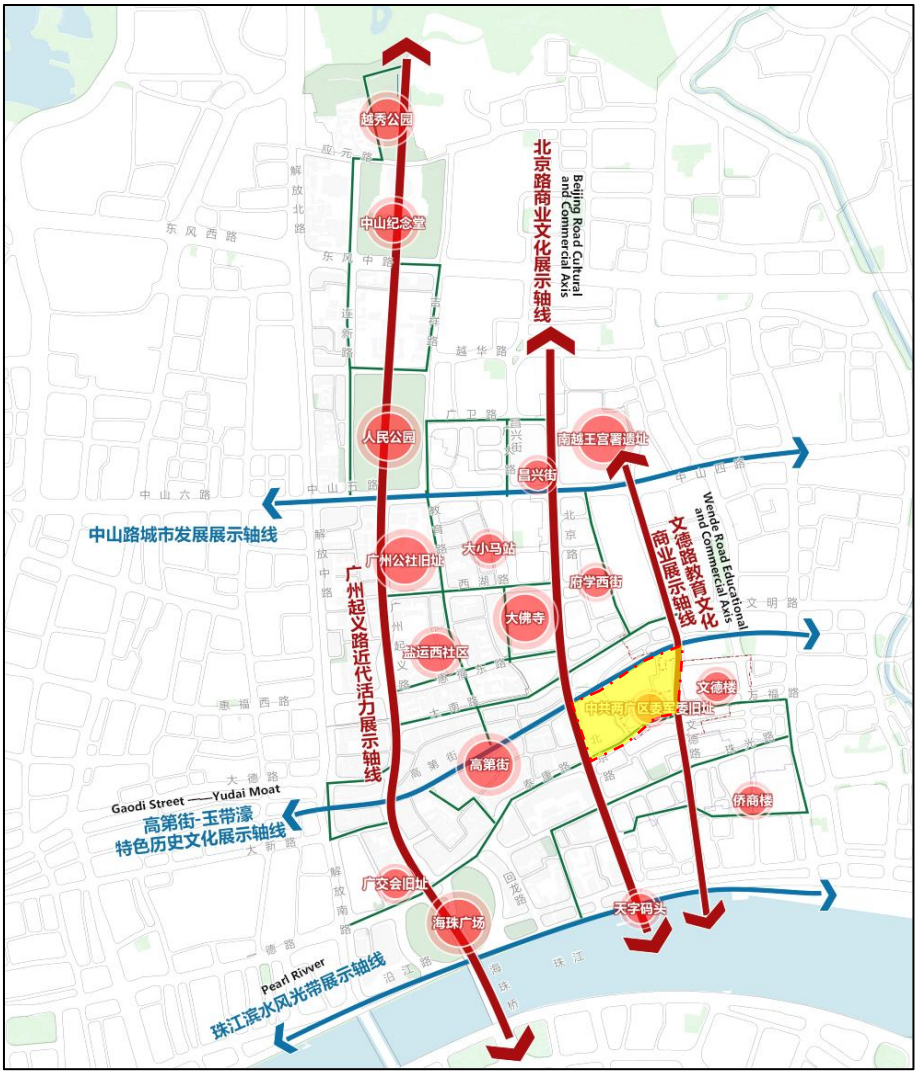


Figure1- 2 Historical and cultural heritage display and utilization planning map

(Source: Wende South Historical and Cultural District Protection Plan)

Selecting this area as a case study holds multiple layers of significance. From the perspective of urban development, it encapsulates the common dilemmas faced by historic urban centers undergoing modernization. From a cultural conservation standpoint, the neighborhood's street network embodies the distinctive architectural DNA of the Lingnan region. In terms of social function, the symbiotic relationship between the residential environment and street-level commerce warrants close investigation. Together, these qualities make the site an exemplary model for observing the evolution of urban space in transitional contexts.

At present, the use of streetside space in this district demonstrates a high degree of functional diversity. While traditional residential functions remain dominant, an increasing number of retail, food, and service establishments are occupying the space. This functional shift has led to demographic changes, as external merchants

intermingle with longtime residents, forming new modes of community interaction. The changing patterns of space utilization have also triggered a chain reaction in terms of traffic organization and environmental quality. The area's urban renewal process faces a series of challenges: how to improve spatial efficiency while preserving historical character has become a central question. Aging infrastructure continues to hinder environmental upgrades, and the gap between limited public space and growing resident activity needs highlights a pressing need for thoughtful, inclusive design interventions.

1.3.3 The Significance of Yudai Moat

Yudai Moat is a historically significant water system in Guangzhou's old city, originally constructed during the Song Dynasty. Once a core artery of Lingnan trade and commerce, it stretches from Donghao Canal[7] in the east to Renmin South Road in the west, originally serving as a sheltered waterside channel along the southern edge of the city. As a crucial carrier of Guangfu culture, Yudai Moat has borne witness to Guangzhou's transformation from a traditional port city to a modern metropolis. It has functioned not only as vital infrastructure for flood control and drainage but also as a cultural landmark laden with historical memory and symbolic meaning. Along its course, numerous historical buildings and traditional alleyways cluster together, forming a distinctive "water-street-market" spatial configuration.Yudai Moat

Yudai Moat has played a pivotal role in the urban development of the Guangfu region. It was instrumental in shaping and expanding the commercial zones in southern Guangzhou. By improving inland waterborne connectivity, it enabled smoother maritime trade and enhanced the city's drainage efficiency. The excavation and dredging of Yudai Moat helped reconnect the West Ao[8] and Wenxi waterways—once disrupted by the southward shift of the Pearl River shoreline—thus stimulating growth in the southern and southeastern districts of the walled city. Merchant boats could dock directly along the moat, facilitating on-the-spot trading activities, which improved commerce and formed an interconnected water network across the city. This integration of waterways not only mitigated the threat of flooding but also laid the groundwork for a new model of mixed-use development along its edges, where

[7] 东濠涌

[8] 西澳

commercial and residential zones emerged side-by-side. Over time, administrative offices and residential neighborhoods also began to expand along this important urban corridor[6].

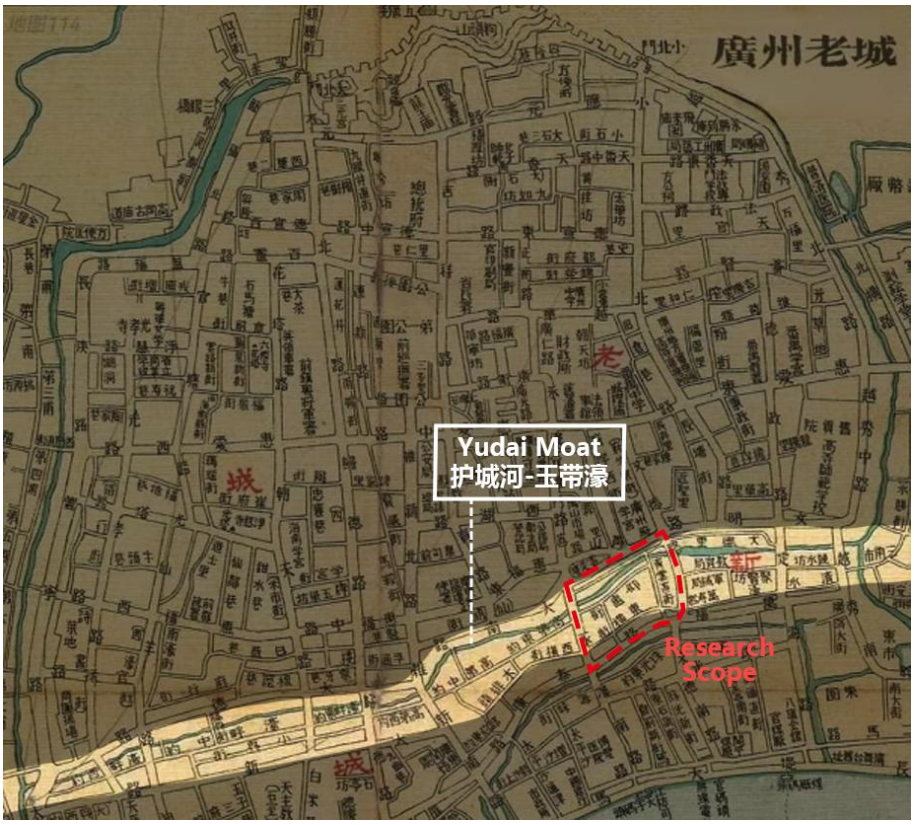


Figure1- 3 Guangzhou Yudai Moat and research scope

(Source: Redrawn based on the 1921 Guangzhou Old City Map)

Despite its historical and functional significance, Yudai Moat has suffered from spatial fragmentation and cultural erosion. For instance, parts of the moat have been covered and converted into underground culverts, leading to the disappearance of its visible spatial presence. In certain street sections built atop the hidden canal, the floor levels of adjacent buildings' ground floors now lie below street level(Figure1- 4), affecting spatial continuity. Although Yudai Moat holds a vital place in the urban history of Guangzhou, academic research and practical conservation efforts remain insufficient. Greater attention is needed to explore ways of preserving and revitalizing this cultural asset.

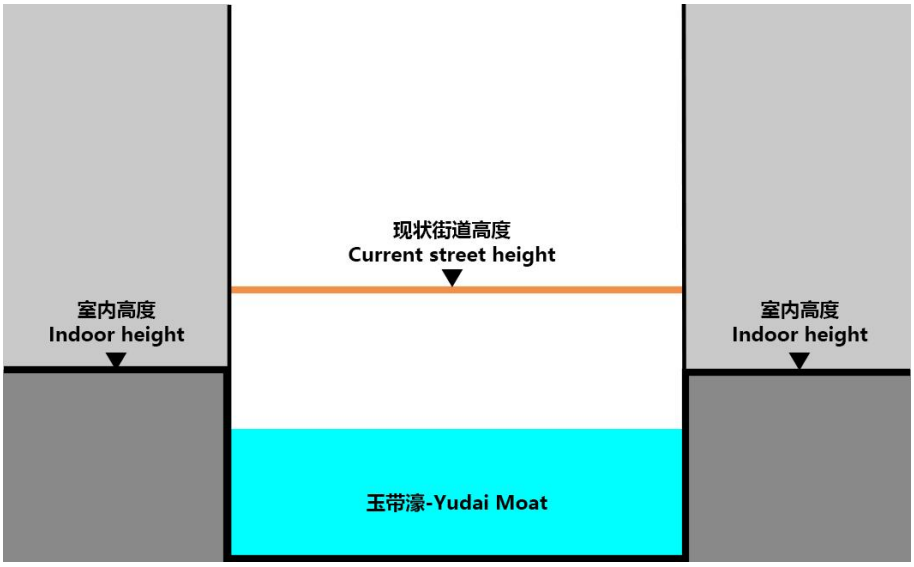


Figure1- 4 Section of Yudai Moat street (Source: by the author)

According to the *Protection Plan for Guangzhou's Modern Traditional Central Axis*[9], Yudai Moat is designated for active protection. Future measures include uncovering and restoring the watercourse to reinstate the historical spatial structure and reinforce its visual and functional relationship with nearby historic streets such as Gaodi Street. The plan also recommends the removal of illegal structures, renovation of building facades, and enhancement of the waterway landscape through paving, planting, and ecological design—all aimed at reviving the historical character of the Yudai corridor. Long-term strategies propose archaeological excavations and phased "daylighting[10]" of the moat to recover its original form and narrative. Similarly, the *Protection Plan for Wende South Historic District*[11] designates the Yudai Moat area as a core conservation zone. The plan outlines actions such as demolishing non-conforming buildings, enhancing the facades of adjacent alleys, and using paving, greenery, and water-sensitive urban design to emphasize the moat's historical water-based identity （Figure1- 5） .These initiatives aim not only to restore and safeguard the historical character of Yudai Moat and increase the district's cultural value, but also to improve the city's ecological environment. Ultimately, they seek to create a more engaging, historically rich, and aesthetically pleasing public space for both residents and visitors.

[9] 广州市传统中轴线（近代）历史文化街区保护规划（2021-2035 年）[7]

[10] 揭盖复涌

[11] 文德南历史文化街区保护规划（2021-2035 年）[8]

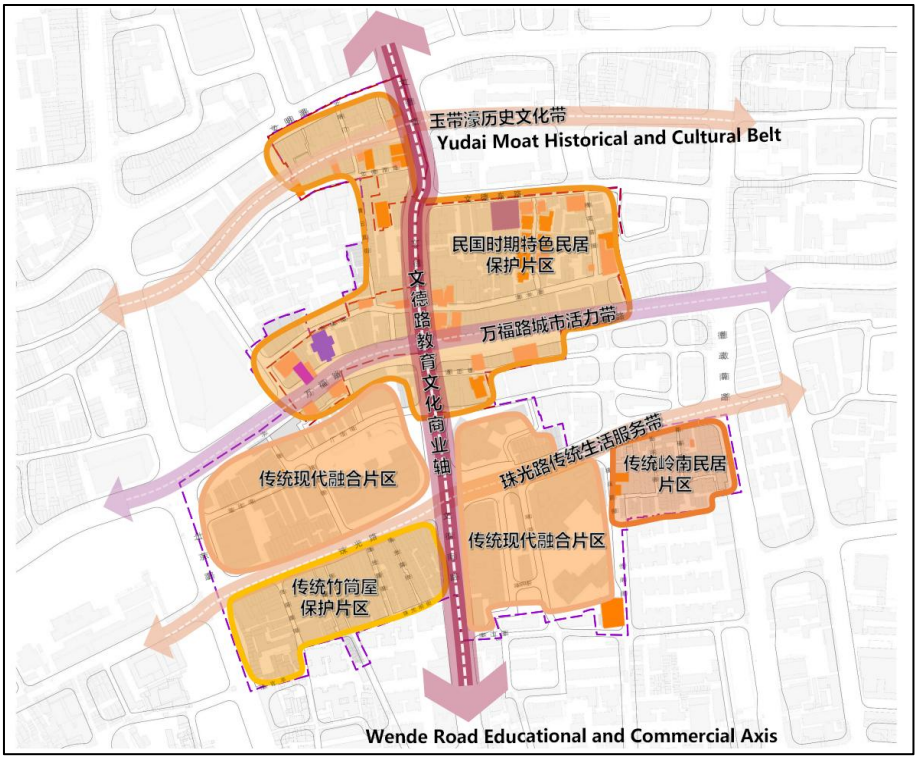


Figure1- 5 One axis, three belts, three areas, multiple points

(Source: Wendenan Historical and Cultural District Protection Plan)

1.3.4 The Social Value of Streetside Space

Streetside space is not merely a physical setting—it is a vital medium for social interaction and cultural continuity. As urban life accelerates, residents' expectations for public space have shifted from single-function use to diverse experiential needs. During the global "de-automobilization" movement of the 1970s, many Western cities began to revalue the multifunctionality of streetside spaces, advocating for "pedestrian-first" policies and recognizing these areas as essential components of sustainable urban development. Well-designed streetside spaces can enhance residents' health, well-being, and sense of community. Functioning as the core arena for everyday interaction, streetside space extends beyond its physical role — it provides the material foundation for cultivating community belonging and collective identity. Various social groups stake informal claims on specific areas of the street, giving rise to distinct subcultures. For example, marginalized groups often rely on streetside zones for livelihood activities and mutual aid, thereby contributing to the city's social diversity. Narrow, the physical characteristics of streets, pedestrian-friendly corridors, for instance — can encourage neighborly exchange, while wide car-centric roadways tend to fragment social connections. Strategically

placing public amenities and cultural activity zones can foster civic participation, but excessive standardization may erode spatial vitality. Striking a balance between order and spontaneity is essential. Moreover, streetside space embodies layers of urban historical memory. In older neighborhoods, traditional building typologies and long-standing commercial formats act as cultural anchors. Residents' routine use of these spaces helps sustain a shared memory of place and resists the forces of urban homogenization. However, commercialization and overzealous redevelopment risk severing these historical ties. When upgrades prioritize consumption over continuity, streetside spaces may be reduced to sterile consumer zones devoid of lived meaning. As urban renewal intensifies, it becomes increasingly urgent to develop design strategies that preserve the social and cultural functions of streetside space while enhancing their physical and functional performance[9]. In this regard, rethinking and revitalizing streetside space is not only a practical necessity for urban transformation, it is also a critical pathway toward more sustainable, inclusive, and culturally grounded communities.Moreover, street-side spaces also carry the collective identity of residents toward their "place," serving as a key arena for resisting urban homogenization and restoring perceptual order in everyday life. Feng Jiang, in his study on local construction practices in Shaxi, argues that local building practices often emerge from individual resistance to "placelessness" and respond to suppressed emotional dimensions in modern cities through constructive spatial engagement [10]. This perspective offers significant insight into balancing personal expression and collective identity within street-side spaces.

1.4 Literature Review

1.4.1 International Theoretical Research on Street Space

Since the 1960s, as problems arising from modernist urban planning theories became increasingly apparent, Western scholars began to focus on the psychological needs of urban residents and the relationship between those needs and the design of public environments. In the field of street interface research, early international studies identified the behavioral impact of spatial boundaries on pedestrians. Initially rooted in the professional domains of architecture and planning, these investigations concentrated on how building facades formed edges along streets. Over time, the research expanded to encompass the broader composition of street space interfaces—including greenery, street furniture, lighting, temporal rhythms, and

shadow patterns.

Key areas of inquiry in this field include: (1) the quantification of street interfaces, (2) the behavioral effects of interface elements, and (3) the design of street edges. In the early 20th century, the primary function of the street was vehicular transportation. Street improvements during that period focused on relieving building pressure on roads, widening street profiles, and minimizing at-grade intersections, giving rise to multi-level traffic systems. British planners advocated zoning within the street itself, separating uses for vehicles, bicycles, and pedestrians. However, such zoning models gradually stripped streets of their regional character and reduced them to mere transport conduits, weakening both the vibrancy and spatial diversity of street life. This, in turn, contributed to suburbanization and the desolation of urban streets.

Table1- 1 Foreign street space related research

Research Direction	Article	Author	Time	Research Focus
Urban Design	Public places urban spaces: The dimensions of urban design[11]	Matthew Carmona	2019	Systematically explores eight dimensions of urban design—such as social, visual, and morphological—offering an integrated framework for creating inclusive, functional, and sustainable public spaces.
Traffic Safety & Urban Design	Designing Safer Cities: How Street Design Can Reduce Traffic Deaths[12]	World Resources Institute (WRI)	2016	Advocated for traffic calming design strategies—such as narrower lanes, raised crossings, and better pedestrian zones—to reduce urban fatalities.
Urban Vitality and Safety	Measuring Urban Design[13]	Reid Ewing, Otto Clemente	2013	Developed tools to assess how urban design attributes such as imageability, enclosure, human scale affect street vitality and perceived safety.
Morphological transformation	The death and life of the great American city[14]	JaneJacobs	1961	Focusing on water, greenery and color ratio to stree
	Street aesthetics[15]	Yoshinobu Ashihara	1979	
Intention to maintain	The Image of the City[16]	Kevin Lynch	1960	Advocated for the continuity of street-side elements to enhance urban legibility

Public Space Perception	Life Between Buildings[17]	Jan Gehl	1992	Advocated for the continuity of street-side elements to enhance urban legibility. Promoted pedestrian-oriented environments and criticized car-centric urban planning approaches
Sustainable Development	Green Dimensions[18]	JC Moughtin	1996	Emphasized sustainability in transport systems and urban functionality
	Planning for real[19]	Tony Gibson	1979	

1.4.2 Domestic Theoretical Research on Street Space

In recent years, research on street space renewal in China has grown significantly, primarily in response to broader urban regeneration trends. Key areas of focus include the optimization of street networks, spatial restructuring, cultural continuity, and the enhancement of urban vitality. As China's urbanization accelerates, the need to renew and adapt street spaces has become increasingly urgent. The overall research trend has shifted from a macro-level emphasis on urban planning to a micro-scale focus on street-level design, evolving from purely physical space improvements toward multi-dimensional strategies that also address social, cultural, and economic dimensions. Resident participation and everyday life needs have also emerged as central research concerns.

Regarding street network optimization, scholars widely recognize that streets, as fundamental components of urban transport systems, must be prioritized in urban renewal efforts. Taking Zhijiangxi Road in Shanghai as an example, researchers have emphasized the need to redefine streets' roles within transport hierarchies, proposing co-beneficial renewal mechanisms supported by public passage systems. Other scholars, drawing on incremental decision-making theory, advocate integrating neighborhood street networks into the broader urban system to reshape micro-circulation systems and establish human-centered "micro-renewal" models. These methods not only improve accessibility but also enhance walkability and neighborhood connectivity.

In the area of spatial restructuring, some scholars have applied theories of modernity to the redevelopment of historic street environments. For instance, research on the Xingshi community in Xuzhou has used the framework of "time-space disembedding" to analyze how trendy old-town alleys are spatially reconstructed,

offering strategies for sustainable urban placemaking. Another study of Xilian Village in Longyan City explored specific tactics for upgrading deteriorated streets, emphasizing the importance of addressing real resident needs and improving spatial quality.

In urban design-focused studies, researchers have proposed targeted design improvements based on field research and problem analysis. For example, scholars examining Yulin East Road in Chengdu identified deficiencies in street space design and offered concrete proposals for improvement. Simultaneously, others have explored landscape design strategies rooted in local culture and daily life, developing principles that reflect regional identity and cultural heritage. These efforts have elevated both the physical environment and the symbolic resonance of street spaces.

Micro-renewal, a recent model of urban transformation, has also become a significant strategy for updating street spaces. In case studies such as old neighborhoods in Lanzhou, scholars have proposed refined interventions grounded in micro-renewal logic. Some researchers have adopted advanced technologies, combining traditional site analysis with street-view image data and deep learning algorithms. Semantic segmentation, for instance, enables the quantitative assessment of renewal needs and informs evidence-based site selection and design processes.

Cultural continuity and vitality-building are also central themes. From the perspective of community building, studies on places like the Dongmen Historic District emphasize the preservation of cultural heritage, interpersonal relationships, and communal interaction in street renewal strategies. Additionally, the concept of shared streets has been applied to enhance activity levels in older urban cores. A study of Nanjing's old city shows how community-oriented shared street design—with thoughtful spatial layout and facilities—can effectively boost public activity and neighborhood cohesion.

Despite these advancements, several gaps remain in the research landscape. Some studies are overly theoretical and lack grounding in practical case studies. Others fall short of embracing multidisciplinary perspectives—engagement from fields like sociology and anthropology is still limited. There is also insufficient long-term assessment of street renewal outcomes, with few studies exploring dynamic development patterns. Furthermore, research into region-specific and typology-sensitive renewal strategies is still lacking.

Future research should emphasize interdisciplinary integration, combining

insights from urban planning, sociology, and cultural studies to approach street space renewal in a more comprehensive and nuanced way. Empirical research should be strengthened through longitudinal tracking and monitoring, establishing rigorous evaluation frameworks for future applications. Additionally, renewal strategies must be tailored to local contexts and street typologies to align with regional characteristics and community needs. Integrating street space renewal with broader agendas—such as smart cities and sustainable development—is another key direction. Through digital tools and intelligent technologies, street layouts and environmental quality can be optimized, enabling higher-level transformations in street space design.

In sum, street space renewal is a crucial component of broader urban regeneration efforts. It supports the continuity of urban culture and enhances residents' quality of life. Moving forward, research must deepen its focus on cross-disciplinary collaboration, empirical methodology, and customized design strategies to ensure street space renewal progresses in a more scientific and human-centered direction.

Table1- 2 Domestic street space related research

Research Theme	**Author(s)**	**Focus Area**	**Key Insights and Methodologies**
Historical Districts	Shi Xiangbin et al. (2024) [20] Shi Yibin et al. (2019)[21]	Cultural Preservation & Organic Renewal	Activated historic buildings through "urban acupuncture"; integrated functional mixing and façade harmony via case studies and morphological analysis.
Old Residential Streetst	Yang Yang (2021) [22] Yu Xiaoli (2021) [23]	Micro-Renewal & Spatial Quality	Partial upgrades in transport, landscape, and rest areas to drive holistic renewal; employed SD (System Dynamics) analysis and resident demand surveys.
Livable Streets	He Jinghuan (2008) [4] Ge Chang (2020) [24] Zhang Zhe (2017) [25]	Walkability & Sense of Place	Optimized pedestrian space dimensions and enhanced greening and storefront design; applied "sense of place" theory and field-based empirical research.

Internet-Famous Streets	Han Bijun et al. (2025) [26]	Spatial Disembedding & Traffic Flow Activation	Analyzed bottom-up reconstruction of online-famous streets; proposed flexible renewal models using Giddens' disembedding theory.
Informal Alleys	Liu Zixing (2024) [27] Li Zhun (2018) [28]	Everyday Life & Informal Space	Revealed the role of resident self-organization in alleyway transformation; used mapping and visibility analysis techniques.
Community-Based Shared Streets	Huang Qiushi (2017) [29] Nie Chuan'en (2018)[30]	Vitality & Shared Space Design	Proposed three-dimensional sharing (people, time, space); used surveys and SD analysis for quantitative evaluation.
Technology Application	Chen Yinan (2023) [31] Wei Xiao et al. (2024)[32]	Digital Tools for Street Renewal	Applied street-view image processing and deep learning for site selection; used incremental decision theory to address NIMBY effects.

1.4.3 Theoretical Research on Street Boundaries

In recent years, with the widespread adoption of the "people-oriented" paradigm in urban design, street boundaries have emerged as a focal point in both domestic and international research. Recognized as essential components of public space, street boundaries are increasingly studied for their roles in organizing spatial order, guiding behavior, and shaping the urban image. International studies, which began earlier, highlight the boundary's ability to influence pedestrian behavior, aesthetic perception, and spatial experience. Particular attention is given to how visual continuity, interface transparency, and scale appropriateness contribute to creating pleasant walking environments — thus enhancing streets' capacity for social interaction and public engagement. Methodologically, international scholarship often adopts perspectives from environmental psychology and spatial perception, emphasizing the affordance and legibility of boundaries as key drivers of street vitality. These studies argue that clear, inviting, and perceptually coherent boundaries are instrumental in fostering vibrant, inclusive urban spaces.

In China, domestic research has evolved by integrating global theoretical insights with the complex realities of local urban development and street transformation. Initial studies focused on qualitative descriptions of physical boundaries and land-use

control. More recently, there has been a shift toward multidimensional, data-driven analysis and practice-oriented approaches. Scholars have employed techniques such as parametric modeling, virtual reality experiments, and interface measurement indices to investigate the relationship between boundary morphology, street vitality, and behavioral patterns. These tools help inform interface regulation strategies and design optimization pathways. At the same time, in response to the broader socio-cultural context of urban regeneration, researchers are paying increasing attention to the "grey spaces" within street boundaries—transitional zones that blur the line between public and private. These semi-formal, adaptable edge zones are recognized as important for enhancing urban inclusivity and cultural identity. As such, a new design philosophy is emerging—one that advocates for openness, diversity, and flexibility in spatial use, positioning the boundary not as a limit, but as a catalyst for interaction.

Despite their different trajectories, domestic and international research share a common orientation: a conceptual shift from traffic-centric roads to life-centric streets. Within the broader context of global urban regeneration and street revitalization, research on street boundaries is becoming increasingly systematic and human-centered. These evolving theories and methodologies offer critical foundations and design tools for enhancing street quality and advancing more responsive forms of spatial governance.

Table1- 3 Foreign studies on street boundaries

Author	Key Ideas and Methodologies
William Atkinson (1916)	First proposed the concept of the "street wall", later adopted in New York's zoning laws. Defined as the continuous façade formed by buildings aligned along urban streets, emphasizing the visual and spatial enclosure provided by street-facing structures[33].
Derk de Jonge	Developed the "edge effect theory", noting that people prefer to linger near edges—such as building walls or spatial junctions—where they feel simultaneously sheltered and able to observe their surroundings. This insight highlights the psychological importance of spatial boundaries[34].
William H. Whyte[35]	In The Social Life of Small Urban Spaces, used sociological fieldwork, including video and photographic documentation, to analyze human behavior in public spaces. Found that people gravitate toward well-defined edges for sitting, resting, and observing, reinforcing the value of bounded spatial areas.

Yoshinobu Ashihara[36]	In The Aesthetic Townscape and Designing Exterior Spaces, examined spatial scale through street proportions. Identified that a height-to-width ratio between 1:1 and 1:2 creates the most comfortable psychological experience. Also differentiated between a building's "first contour line" (core mass) and "second contour line" (protrusions and attachments).
Borgers & Timmermans[37]	Demonstrated that the presence of commercial functions significantly influences pedestrian route choices, highlighting the behavioral draw of active ground-floor uses along street edges.
Allan B. Jacobs[38]	In Great Streets, emphasized that one essential quality of a successful street is the clarity of its boundaries. Building height and street-facing walls help define spatial edges, while the density and placement of street trees also shape the perceived volume and rhythm of street space.

Table1- 4 Domestic street boundary related research

Author(s)	**Key Ideas and Methodologies**
Zhang Xian et al. (2024)[39]	Studied street interface micro-renewal from an aesthetic perspective, emphasizing visual perception, spatial experience, and emotional resonance. Proposed strategies such as façade beautification, visual focal points, and integration of local culture to enhance urban quality.
Zhou Yu et al. (2022)[40]	Developed a morphological control index system for open block street interfaces in China. At the macro level: plot-line adherence rate, interface density, and setback proximity; at the micro level: height-to-width ratio, façade transparency, storefront density. Validated through parametric simulations.
Zhou Yu et al. (2019)[41]	Summarized quantitative indicators for street interfaces, advocating a research shift from form-based to human-centered perspectives. Proposed a framework integrating urban morphology, spatial cognition, and environmental behavior.
Xu Leiqing et al. (2017)[43]	Used virtual reality experiments to examine how façade types and visible greenery (green view index) affect the "charming experience" of streets. Found that gray-space and open interfaces contribute more to urban vitality.
Chen Yong et al. (2014)[44]	Based on Shanghai's Huaihai Road, analyzed the impact of ground-floor interface characteristics on pedestrian lingering. Identified façade width, transparency, and functional density as key factors attracting commercial activity.
Chen Chang et al. (2013)[45]	Drawing from U.S. urban design manuals, emphasized the role of street character in shaping urban vitality. Argued that vibrant streets lead to vibrant cities, and streets should reflect cultural identity and aesthetic quality.
Hu Zhengyan (2007)[46]	Studied publicness design of residential street boundaries, based on physical boundaries between public and private spaces. Proposed 34 design elements and conducted comparative evaluations across three residential typologies to assess applicability.

1.5 Research Objectives and Significance

1.5.1 Research Objectives

This study takes the western section of Wenming Road along the Yudai Moat in Guangzhou as a representative case to explore the current characteristics, existing problems, and evolutionary mechanisms of streetside spaces in high-density historic neighborhoods. Drawing on both domestic and international experiences in streetside space design, it proposes an adaptive and multi-stakeholder collaborative renewal strategy and guideline framework. The specific goals are: (1) To define the cultural semantics and spatial boundaries of streetside spaces within the Lingnan context; (2) To reveal the interaction between physical interfaces and behavioral activities through systematic surveys and typological classification; (3) To compare the management and design logics of streetside spaces across different countries and summarize locally applicable renewal strategies; (4) To construct a practical and operable set of design guidelines, apply them to selected spatial nodes, and establish a complete theoretical–strategic–design chain to promote the transition of traditional neighborhoods from "static preservation" to "dynamic revitalization."

1.5.2 Research Significance

In terms of theoretical contribution, streetside spaces serve as crucial interfaces between architecture and the city, and studying them helps extend the application of urban public space theory to the micro scale. By introducing "streetside" as an independent spatial category, this paper enriches traditional urban design research focused on micro-scale street environments. Additionally, through a comparative analysis of design guidelines from China, Japan, and Italy, it proposes a locally responsive "adaptive design logic" to support theoretical development in streetside space governance.

Practically, the Yudai Moat area in Guangzhou sits at the intersection of historic preservation and urban regeneration, facing challenges such as spatial decay, diminished publicness, and cultural fragmentation. Anchored in real-world problems, this research constructs a systematic renewal methodology by analyzing current conditions, categorizing spatial types, comparing international cases, and translating strategies into practice. The proposed design guidelines and node-specific renewal practices not only offer feasible paths for revitalizing the area's streetside spaces, but also serve as referential models for micro-renewal and governance in other historic

neighborhoods.

1.6 Research Methodology

1.6.1 Literature Review

This study begins by systematically reviewing both domestic and international research related to streets and street boundaries, in order to establish a solid theoretical foundation. A wide range of sources—including Chinese and English core academic journals, online databases, policy documents, and street design guidelines—are consulted to collect comprehensive literature relevant to Yudai Moat, street space, urban renewal, and micro-regeneration theories. Based on this review, the study defines the conceptual scope of streetside space, traces its spatial evolution, and identifies effective renewal strategies.

1.6.2 Field Observation

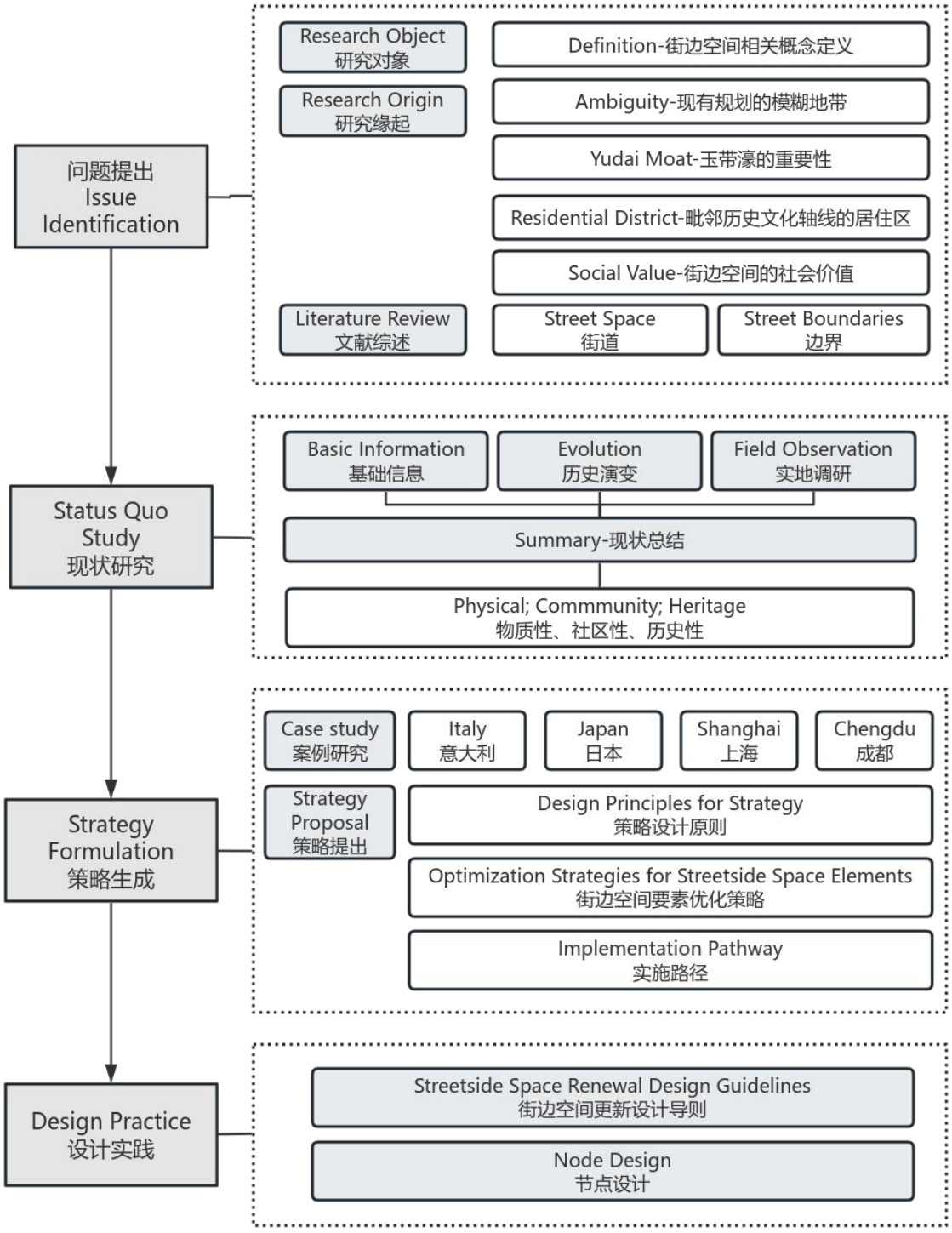
Building on the theoretical groundwork, this research conducts in-depth field investigations focused on the streetside space along the western segment of Wenming Road, adjacent to Yudai Moat. The research documents usage patterns, activity behaviors, and interface characteristics through detailed observation and recording. A combination of fixed-point observation and dynamic path-tracking methods is employed to analyze temporal variations in spatial use — capturing patterns across different time slots. This is supplemented with the measurement and photographic documentation of physical elements such as street furniture, building façades, curb widths, and street layouts. By focusing on the interaction between human behavior and spatial form, the research generates firsthand data essential for diagnosing spatial problems and informing renewal-oriented design strategies.

1.6.3 Case Study Analysis

To distill design principles and strategies suitable for streetside space renewal in Guangzhou's historical districts, this study adopts a cross-comparative case analysis approach. On the domestic front, representative design documents such as the Shanghai Street Design Guidelines and the Chengdu Small Block Planning and Design Guidelines are examined. These sources are analyzed in conjunction with real-world implementation cases to extract best practices in sidewalk design, building interface articulation, management of commercial spill-outs, and integration of street-facing functions.

Internationally, reference is made to Italy's N.381 and N.388 regulations from Turin, as well as Japan's Street Design Guidelines. These cases are selected for their demonstrated emphasis on human-scale design, interface interaction, and social inclusivity in historical street contexts. By comparing the regulatory and design logics across diverse cultural and planning backgrounds, the study identifies adaptable design strategies that align with the local spatial, cultural, and governance conditions of Guangzhou. The resulting framework serves as a foundation for proposing adaptive renewal principles for streetside space in the context of historically layered urban environments.

1.7 Research Framework



Chapter 2 Field Analysis of Streetside Space in the Study Site

2.1 Basic Information

2.1.1 Geographical Location

The study area is located in the core of Yuexiu District, Guangzhou. It is bounded by Wende Road to the east, Wanfu Road to the south, the Beijing Road pedestrian street to the west, and Wenming Road to the north, covering an area of approximately 7 hectares. The internal street network primarily consists of Yangzhong Street, Qingyun Straight Street, and Dongheng Alley, while most other residential alleyways are dead-ends. The area is characterized by a high density of mixed-use functions and a diverse population, with numerous historical and cultural heritage sites scattered throughout the district.

Figure2- 1 Research scope (Source: by the author)

To the north, Wenming Road was originally part of the southern city wall of Guangzhou in the Qing dynasty. The wall was demolished in 1922 to create the current road, named for its proximity to the historic Wenming Gate during the Ming

dynasty. Wenming Road remains one of Guangzhou's most culturally rich streets. Historically, the Guangzhou Prefectural Academy — also known as the Guangfu Academy—was located just north of Wenming Road, facing Wenming Gate. Qingyun Bridge once spanned Yudai Moat to connect Wenming Gate with Qingyun Straight Street, symbolizing academic advancement. To the west, Beijing Road has served as the central axis of the ancient city since the Western Han Dynasty, bearing over two millennia of historical evolution and playing a vital role in Guangzhou's contemporary urban transformation — evident in the preservation and display of the ancient road remains. To the east, Wende Road has been a cultural street since the Song dynasty, though many of its historic relics have faded over time. Today, Wende Road and its surrounding blocks are primarily occupied by shops selling calligraphy supplies, antiques, jade, and painting-related goods, representing a cultural industry cluster.

2.1.2 Distribution of Historical Heritage

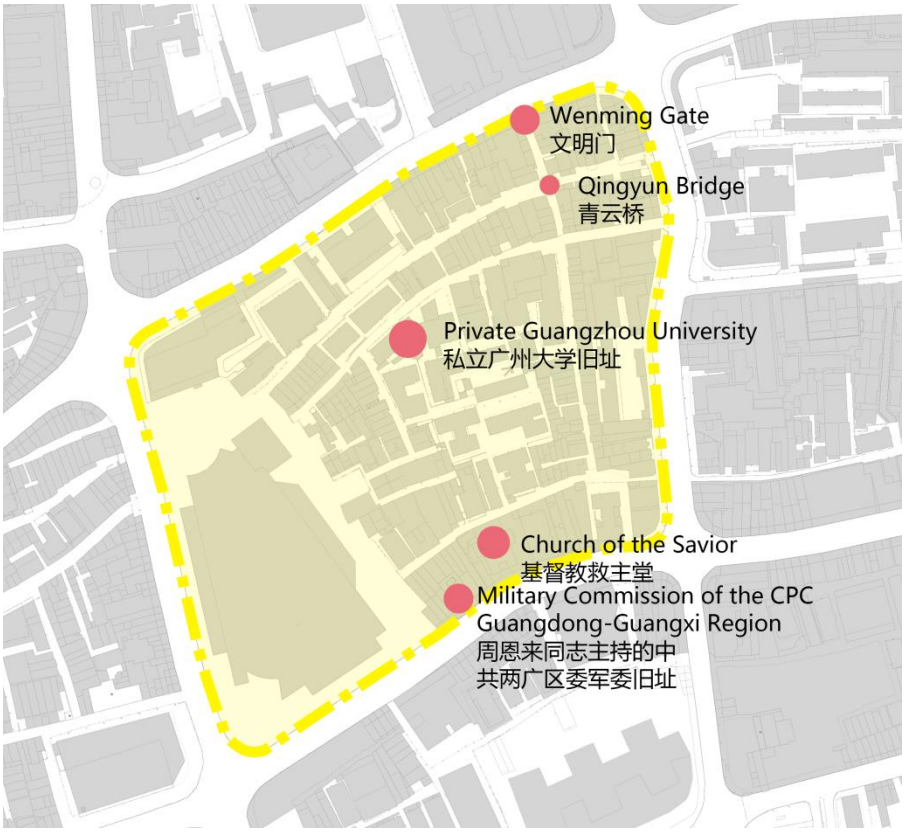


Figure2- 2 Distribution of historical heritage (Source: by the author)

The study area is rich in cultural heritage resources, including Yudai Moat, Wenming Gate Archway, Qingyun Bridge, the former site of the Private Guangzhou University, the Church of the Savior (Christian), and the former site of the Military

Commission of the CPC Guangdong-Guangxi Region chaired by Zhou Enlai. These sites will be analyzed in detail in Section 2.2, and are only geographically located here for reference.

2.1.3 Street Network Accessibility

As part of Guangzhou's historic city core, the street accessibility in the western segment of Wenming Road reflects the area's deep historical layers and spatial evolution. The primary network consists of three east-west streets (Yangzhong Street, Qingyun Straight Street, and Dongheng Alley) intersecting with a north-south spine. Most residential alleyways are either narrow or cul-de-sacs, resulting in a high-density but poorly connected street network. While a basic framework of accessibility exists, the lack of east-west linkage and limited north-south continuity create fragmented pedestrian flows.

Accessibility is deeply influenced by historical transformation. Originally, Yudai Moat functioned as a navigable water axis, facilitating fluid connectivity through a "water – street – market" structure. However, with the culverting of the waterway, the hybrid water-land mobility system was dismantled and replaced by a static land-based street network. During the planned economy era, the introduction of large-scale, gated danwei compounds further reduced the permeability of streets, creating "semi-public" or privatized spaces that impeded pedestrian flow.

The main thoroughfares such as Yangzhong Street are relatively wide and exhibit some commercial vitality, attracting pedestrian activity. In contrast, secondary routes like Dongheng Alley and Qingyun Straight Street are narrow, underutilized, and constrained by informal uses such as parking or storage, diminishing their experiential and functional quality. Many interior streets are also obstructed by walls, temporary structures, or illegally parked vehicles, which further limits accessibility and reduces walkability.

Limited visibility and poor path legibility also contribute to weak connectivity. The absence of wayfinding systems and spatial sequencing makes it difficult for visitors to navigate the street network organically, limiting the area's openness and continuity, and impeding the occurrence and aggregation of public spatial behaviors.

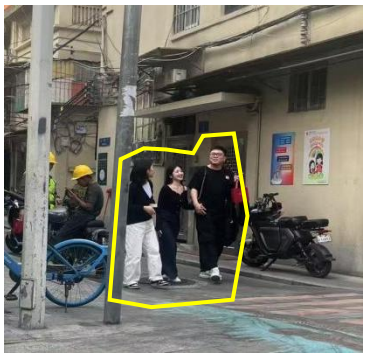
Figure2- 3 Street accessibility (Source: by the author)

2.1.4 Population Analysis

The population of the western Wenming Road area is highly diverse. Long-term residents account for a smaller proportion; they are familiar with local history and maintain strong ties to traditional lifestyles. A significant portion of the population consists of migrant workers engaged in service industries or small-scale businesses, exhibiting high mobility. The number of young renters is also increasing — they typically live here temporarily and adopt faster-paced urban lifestyles. Local merchants, mostly family-run businesses, provide essential retail and dining services closely linked to daily needs. Elderly residents are also prevalent in the community, engaging in daily social activities within public spaces, forming stable neighborhood networks. There are evident differences among these groups in terms of residency duration, occupational background, and level of community participation. However,

they collectively form the foundation of neighborhood life. Interactions between original residents and new arrivals reveal a hybrid community structure, where traditional ways of living coexist and intertwine with emerging urban demands, creating a pluralistic and dynamic local atmosphere.

Table 2- 1 Analysis of crowd activities

User Group	Main Activities	Description
 Residents	Leisure and recreation Social interaction Shopping Daily life All day (24 hours)	The resident population mainly consists of a small number of original inhabitants, a large number of migrant workers, and a small group of temporary visitors staying in local inns or short-term rentals.
 Tourists	Sightseeing and photography Dining Shopping Resting 10:00 – 22:00	Attracted by surrounding cultural and historical landmarks, many tourists pass through the district. However, due to the scattered nature of heritage sites and the lack of interpretation or signage, most engage in commercial activities rather than heritage-oriented visits.
 Vendors & Shopkeepers	Retail operation Store monitoring Opening/closing activities 06:00 – 03:00 (next day)	Business hours vary widely: cafés and eateries operate mainly during the day, while bars run until late night. Convenience services include mini-marts, barbershops, game rooms, and other lifestyle-oriented establishments (tattoo studios, boutiques, nail salons, etc.).

 Delivery Couriers	Pick-up and drop-off Passing through 06:00 – 24:00	Since vehicles are not permitted in Beijing Road Pedestrian Street, couriers often use this area as a bypass to reach nearby delivery points. Some delivery workers also reside in informal structures or rentals within the district.
 Sanitation Workers	Street sweeping Garbage management 04:30 – 20:00	The area maintains good cleanliness due to regular patrol and sweeping by sanitation staff. There are rest areas and equipment sheds near waste collection points. Some workers live in low-cost temporary shelters within the district.

In the field interviews, users from different backgrounds expressed their views on the current spatial issues and their expectations for renewal. A new business owner running a coffee shop commented, "We didn't open this for money, but for the lifestyle we want. Few tourists know about this place, and there are hardly any regulars." This reflects the constraints on new commercial vitality caused by a lack of stable consumer scenes before streetscape improvements. A long-term resident remarked, "As long as no one messes around at my doorstep and it's not noisy every day, it's fine," highlighting the local community's sensitivity toward the scale and boundaries of interventions. Additionally, a sanitation worker noted, "The street looks clean because we sweep it daily, but no one manages the littering or illegal parking," pointing out the structural issue of "adequate cleaning but insufficient governance" in local management. These diverse perspectives reveal typical coordination barriers in streetside space renewal, such as ambiguous ownership, contested usage boundaries, and unclear responsibilities in everyday governance.

2.2 Evolution of the Yudai Moat Wenming Road West Section

2.2.1 Formation of the Street Fabric During the Canal Era: Trade and Waterways

The Wenming Road community is situated within a key segment of the Yudai Moat cultural corridor, and its street fabric is inextricably linked to the historic water system of Yudai Moat. The name "Wenming Road" itself originates from the nearby Wenming Gate of Guangzhou's Qing Dynasty city wall. In the early 20th century, Yudai Moat served as a crucial inland waterway within Guangzhou's inner harbor, facilitating the transfer of goods between the Pearl River and the city's interior canal system. The shophouse-style qilou[12] buildings along Wenming Road were constructed to accommodate the demands of waterborne trade, forming the typical spatial configuration of "commerce below, residence above."

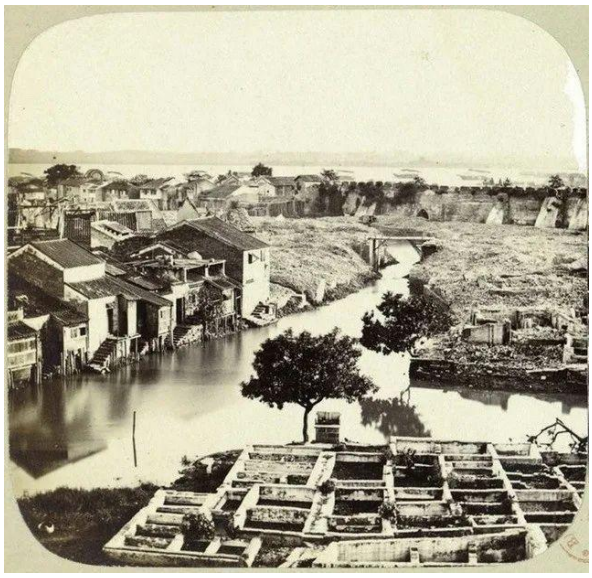


Figure2- 4 Donghaochong and Yudai Moat in 1859

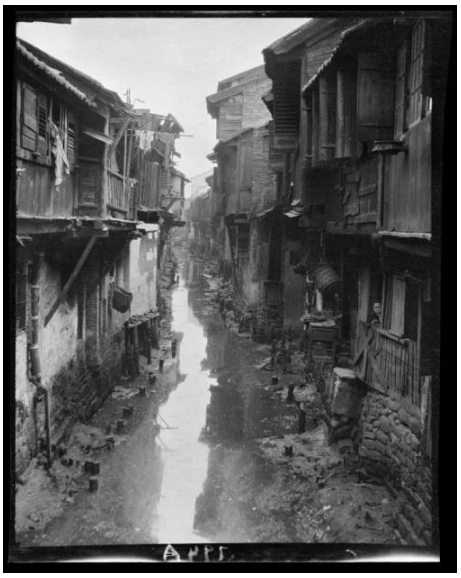


Figure2- 5 Yudai Moat, 1917

Source: https://news.qq.com/rain/a/20221227A06P8A00?suid=&media_id=

By the 1940s, as the canal's navigation functions declined, commercial activity in the Wenming Road area diminished. Portions of the waterway were infilled, and the public character of streetside space began to weaken. This shift reflected broader changes in capital flows and the redefinition of urban space—from commercial to residential functions. The economic attributes of space faded while residential use became dominant, illustrating how spatial character evolves in response to socio-economic transitions. Despite these changes, the structural continuity of the

[12] Qilou, a type of arcade building with covered walkways, is common in southern Chinese cities.

qilou buildings was preserved, providing a material foundation for later community transformations[6].

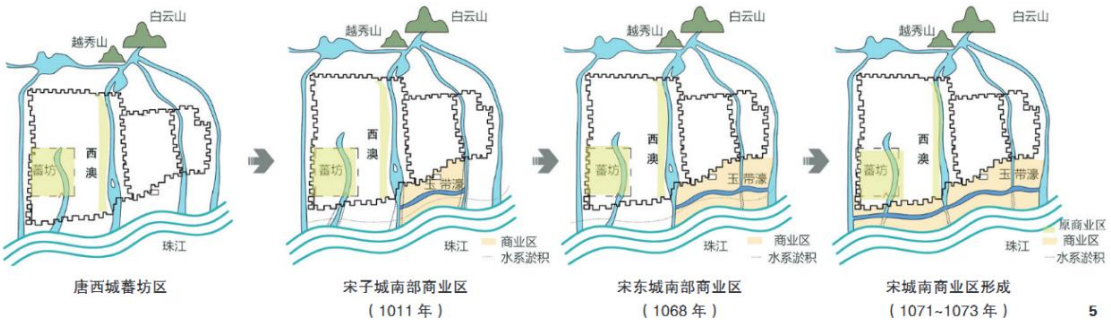


Figure2- 6 Evolution of Yudai Moat Commercial District (Source: reference[6])

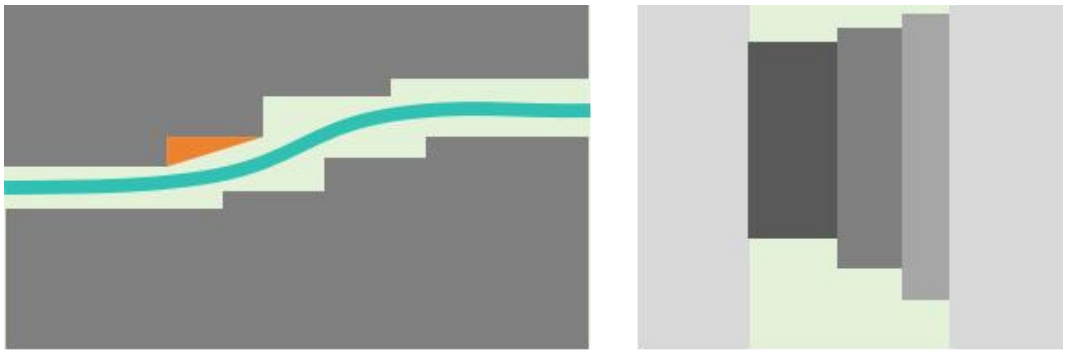


Figure2- 7 The impact of water texture on streetside space (Source: drawn by the author)

As shown in Figure2- 7 (left), the historical form of the waterway strongly influenced the organization of the local street network. Yudai Moat, like many historical water systems, followed a winding, organic path. This non-linear morphology was imprinted onto the adjacent urban grid, creating a curvilinear rather than rectilinear spatial logic. On the canal side, building setbacks are irregular, resulting in varied and dynamic spatial sequences. Such asymmetrical and irregular streetside spaces often generate rich visual nodes, micro-plazas, and multi-angled interfaces, which support informal activities like vendor stalls and temporary rest areas.

Figure2- 7 (right) also illustrates how the canal's curvature shaped the visual experience of street facades. Buildings that followed the meandering shoreline created staggered, rhythmic facades, with varied setbacks and heights. This produced layered spatial depth and a sense of sequential visual interest, sharply contrasting with the monotonous "street walls" of modern grid-based urban planning. In the humid, subtropical climate of Lingnan, such recessed spaces are often complemented by arcades or overhangs, providing ventilation and shading—thereby enhancing the

human-scale experience of the streetside space.

Moreover, the historic waterway functioned as a medium of both navigation and commerce, embodying spatial qualities of fluidity and permeability. These traits have persisted even after the canal was culverted, leaving behind spatial imprints in the form of preserved passageways, open sightlines, and lingering concentrations of commercial activity along the former water edge.

2.2.2 Traces of Religion and Revolution in the Republican Era

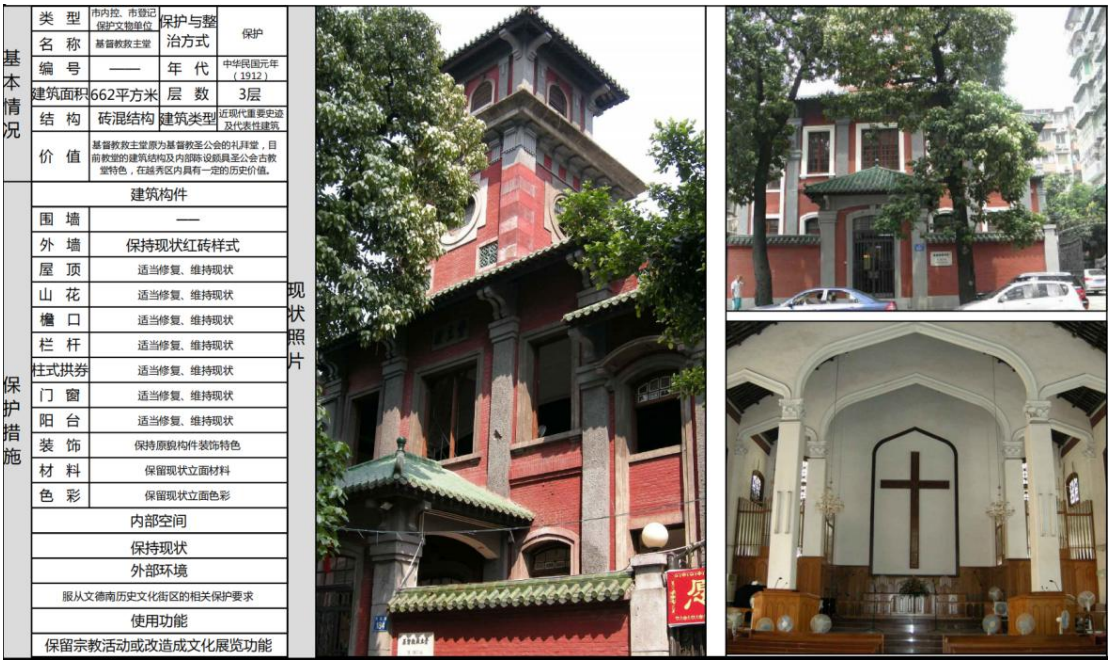
During the Republican period, the streetside space of the Yudai Moat – Wenming Road West section was shaped by the intersection of Western religious architecture and revolutionary history. No longer limited to traditional commercial-residential functions, this period saw the coexistence of churches and political sites, forming a distinct spatial character and facade language along the street.

（2）Church of the Savior on Wanfu Road

Located at the southern end of Dongheng Street, the Church of the Savior was established in 1903. Built in a Sino-Gothic style with red bricks, green tiles, and spired towers, the church is a prime example of architectural hybridity. Its facade directly faces the street, making it a strong spatial anchor and spiritual landmark within the neighborhood.

The church features a generously set-back ground floor, with an open streetside space in front often used for congregational gatherings and children's activities on Sundays. The absence of perimeter walls, replaced by low flower beds and open steps, enhances permeability and visual continuity between the building and the street. This arrangement not only activates pedestrian movement and resting behaviors but also reinforces the church's public character.

As a key visual anchor, the church's soaring facade and symmetrical axis provide spatial orientation and establish a clear "street-place-facade" sequence within the streetscape.



基本情况					
	类 型	市内控、市登记保护文物单位	保护与整治方式	保护	
	名 称	基督教救主堂			
	编 号	——	年 代	中华民国元年（1912）	
	建筑面积	662平方米	层 数	3层	
	结 构	砖混结构	建筑类型	近现代重要史迹及代表性建筑	
	价 值	基督教救主堂原为基督教圣公会的礼拜堂，目前教堂的建筑结构及内部陈设颇具圣公会古教堂特色，在越秀区内具有一定的历史价值。			

保护措施		
	建筑构件	
	围 墙	——
	外 墙	保持现状红砖样式
	屋 顶	适当修复、维持现状
	山 花	适当修复、维持现状
	檐 口	适当修复、维持现状
	栏 杆	适当修复、维持现状
	柱式拱券	适当修复、维持现状
	门 窗	适当修复、维持现状
	阳 台	适当修复、维持现状
	装 饰	保持原貌构件装饰特色
	材 料	保留现状立面材料
	色 彩	保留现状立面色彩
	内部空间	
	保持现状	
	外部环境	
	服从文德南历史文化街区的相关保护要求	
	使用功能	
	保留宗教活动或改造成文化展览功能	

现状照片

Figure2- 8 Basic information of the Christian Church

(Source: Wende South Historical and Cultural District Protection Plan)

As shown in Figure2- 9, the surrounding buildings on the southern segment of Dongheng Street are primarily enclosed facades — high-rise walls on the left and mid-rise residential blocks on the right. Within this enclosed corridor, the church forms a "visual breach" through its vertical elevation.

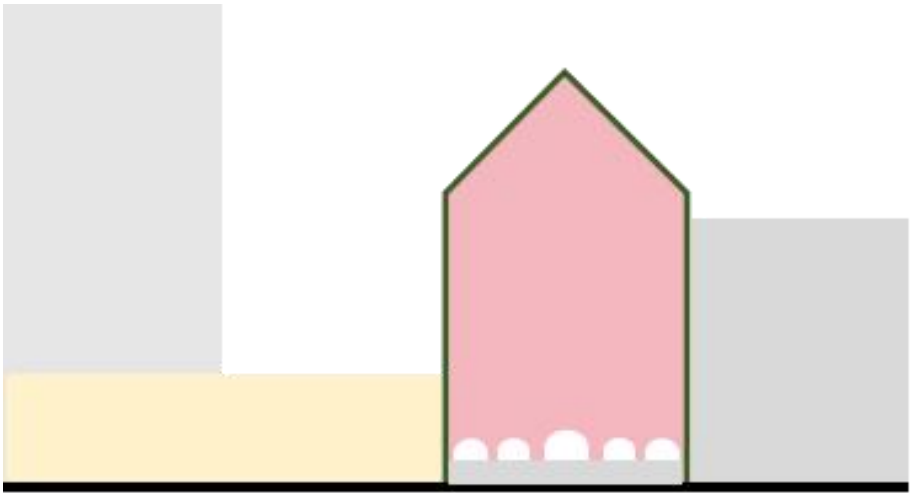


Figure2- 9 The impact of a Christian church on streetside space

(Source: by the author)

Designed with a central axis, pronounced setbacks, and an arcade or colonnade at the ground floor, the church offers a transparent transition zone for pedestrian flow and gathering. This spatial configuration significantly enhances the streetside space in two ways:

① Contrast and Emphasis

The facade stands out dramatically against the surrounding dull walls, creating an open interface that visually and programmatically anchors pedestrian attention. It becomes a rare focal point and a key rest-stop node within the street sequence.

② Place-Making and Symbolism

The vertical emphasis and symmetrical composition focus the gaze upward, generating a sense of vertical expansion and symbolic importance. The space thus transforms from a circulation corridor into a memorable and identity-rich place.

（3）Former Site of the Military Commission of the CPC Guangdong-Guangxi Region

① Architectural Features and Functional Transformation

Located at No. 190 Wanfu Road, the site was originally a reinforced concrete qilou building that served as a community hospital and public housing in later decades. Much of the original architectural detail has been obscured or altered. In 1926, this building became the office of the CPC Guangdong-Guangxi Military Commission under Zhou Enlai's leadership—the first local military institution established by the Chinese Communist Party.

基本情况	类　型	省级文保单位	保护与整治方式	保护
	名　称	周恩来同志主持的中共两广区委军委旧址		
	编　号	GZWW_01_0012	年　代	中华民国15年（1926）
	建筑面积	592平方米	层　数	4层
	结　构	混凝土结构	建筑类型	近现代重要史迹及代表性建筑
	价　值	中共两广区委军委对当年广东武装建设作了积极的贡献，也是缅怀周总理等革命前辈的无产阶级革命精神的重要场所。		
保护措施	建筑构件			
	围　墙	—		
	外　墙	清洗并修复损坏立面，拆除外立面空调机		
	屋　顶	拆除乱搭乱建、恢复原貌		
	山　花	保留现状特色山花		
	檐　口	适当修复、恢复原貌		
	栏　杆	适当修复、恢复原貌		
	柱式拱券	适当修复、恢复原貌		
	门　窗	拆除防盗窗，恢复传统木构门窗		
	阳　台	适当修复、恢复原貌		
	装　饰	保持原貌构件装饰特色		
	材　料	保留现状立面材料		
	色　彩	保留现状立面色彩		
	内部空间			
	可根据实际使用情况改变内部结构			
	外部环境			
	服从文德南历史文化街区的相关保护要求			
	使用功能			
	可改造成文化展览、商业功能			

现状照片

Figure2- 10 Basic information about the former site of the Guangdong-Guangxi Military Commission of the Communist Party of China

(Source: Protection Plan for Wendenan Historical and Cultural District)

② Streetside Interface Analysis

In contrast to the church, this site adopted a more discreet and inward-facing interface strategy. As a qilou building, its functional blend of office and residence was embedded within the streetside space through narrow arcades and shadowed entrances, maintaining high levels of privacy suitable for underground revolutionary activities.

No prominent front plaza or facade extension was formed. Instead, the building relied on a semi-open arcade to maintain minimal interaction with the street. Its façade was uniformly grey-washed, with minimal symbolic expression — visually merging with adjacent commercial buildings to avoid attracting attention. This latent spatial strategy reflects the adaptive use of urban form under historical-political constraints.

③ Spatial Restoration and Adaptive Reuse

The 2021 restoration project adhered to the principle of "repairing the old as it was," utilizing digital surveying technologies to recover details such as the patterned floor tiles and archway structures, faithfully restoring the Republic-era character.

The building has since been repurposed as a "Micro Military Museum," using immersive theatre, historical re-enactments, and interactive exhibits to attract younger visitors. It now functions as a dynamic platform for disseminating revolutionary heritage in a contemporary format[47].

2.2.3 The Insertion of Danwei Compounds During the Planned Economy Period

During the planned economy era, the spatial structure of the western segment of Wenming Road along Yudai Moat experienced a significant rupture, marked especially by the extensive intrusion of danwei (work-unit) compounds that replaced the traditional alleyway fabric. A representative case is the former site of the Private Guangzhou University, which from the 1950s onward was gradually transformed into dormitory compounds managed by the Provincial Department of Education and the Department of Culture. This resulted in a typical "danwei compound" (单位大院) spatial pattern. The compound spanned from Dongheng Street in the south to Yangzhong Street in the north. After administrative division, the southern section became the Dongheng Street No. 12 compound, while the northern section became the Yangzhong Street No. 11 compound.

Following the founding of the People's Republic of China, the former Private Guangzhou University site (now No. 11 Yangzhong Street, Yuexiu District) was nationalized and fundamentally repurposed. The original university complex — including the All-America Tsung Tsin Memorial Hall and the Overseas Chinese Hall — was reallocated as government dormitories, storage facilities, and associated amenities, serving as a prototypical model of work-unit spatial reconfiguration under the planned economy.

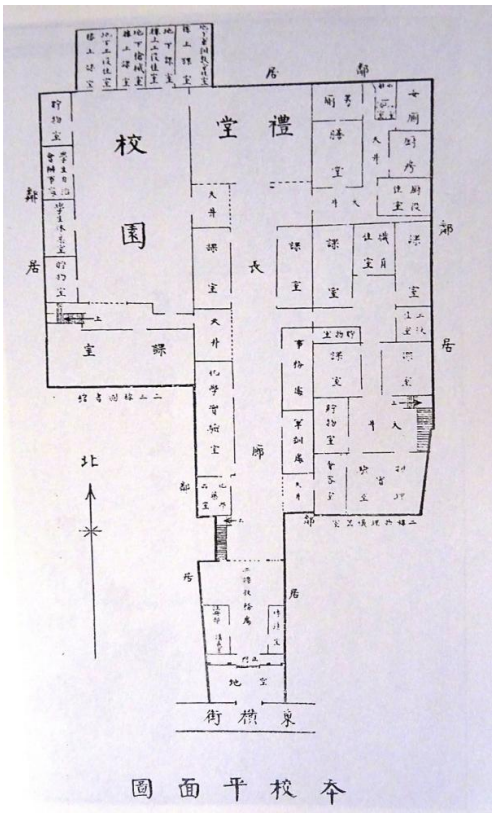


Figure2- 11 Historical floor plan of Private Guangzhou University

Source: Wikipedia

3 体育场地器材设备

学校体育运动的开展不仅需要各种“软件”的支撑,更需要在“硬件”与之默契配合。私立广州大学建校之初,由于身处闹市中心以及后来自身招生规模的不断扩大,原本体育场地匮乏的问题在扩招之后更是显得捉襟见肘,所以并没有太多的空地让学生进行体育锻炼,但是这并没有阻碍私立广州大学学校体育活动的开展。学校经过自身的不断努力,通过政府财政拨款和向社会募集资金的方式,不时购买毗邻学校的街道空地,拆除围墙,扩大操场以供学生运动娱乐之用,而且还在图书馆和体育室的空地前增建排球场、篮球场、羽毛球场和跳远、跳高沙池等多个体育场地。同时,私

Source: reference[48]

表 11 私立广州大学校舍扩展变化表

时间	校舍情况	备注
1927 年 3 月	借用番禺县立师范学院	
1928 秋季	接收私立广州女子中学	开始设初中部，校址在天香街
1929 年 9 月	迁校舍文德路 19 号 建筑 3 层楼房	开办高中部
1930 年 8 月	购置东横街 12 号旧警署为校舍[⑧]	该地面积 100 余井，价值三万元
1931 年 4 月	新建图书馆（旧）	
1933 年 3 月	六周年校庆新图书馆成立典礼，设置物理化实验室和学生宿舍	租赁仰忠街文艺里第二第四号屋、租赁东横街第五号屋[⑨]
1934 年 7 月	购置文艺里 6 号楼房一座	价值 10500 元
1934 年 9 月	改建事务处军训处	
1934 年 10 月	租用文德东路建筑体育场	用于军事训练体育实习
1935 年 8 月	改建物理仪器室及实验室	
1937 年 1 月	新建校长室 改建新教室	

Source: reference[49]

（1）Functional Transformation of Buildings

Originally serving educational and research purposes, the campus buildings were repurposed as follows:

Overseas Chinese Hall: Previously a four-story academic and administrative building, it was reconfigured into staff housing and office space, with parts repurposed as storage.

All-America Tsung Tsin Memorial Hall: Once housing classrooms, labs, and commemorative halls across five floors, it was partially sealed and used for materials storage. The colonnaded ground floor was bricked up to enforce spatial control.

Decorative features were erased or obscured, and facades uniformly painted grey to conform with the era's anti-individualist aesthetic preferences.

Figure2- 12 Evolution of the architecture of the Private Guangzhou University

(Source: https://dag.gzhu.edu.cn/info/1047/1325.htm)

（2）Privatization of Space

The danwei aimed to reconstruct social relationships within a sealed compound. Former public open spaces, such as plazas and science yards, were converted into internal-use facilities including canteens, kindergartens, and warehouses. Streetside space was replaced by inward-oriented functions.

Former arcades were sealed off with brick walls, transforming once open, continuous urban interfaces into introverted "backsides of walls".

（3）Functional Simplification and Social Segmentation

The original multifunctional campus—with education, research, and cultural exhibitions—was reduced to dormitories and storage. The replacement of the faculty–student community with state employees under the household registration system created enclosed social circles, weakening the street's potential as a space for informal interactions.

（4）Spatial Impact on Streetside Space

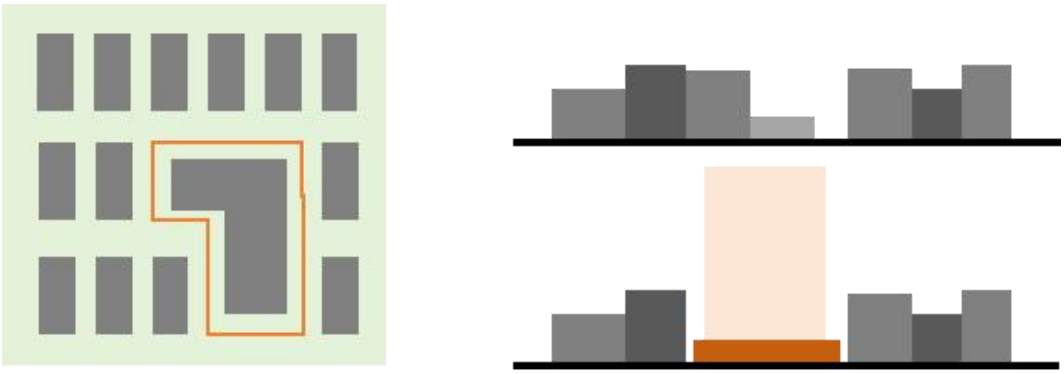


Figure2- 13 The impact of unit compound on streetside space (Source: by the author)

As shown in Figure2- 13, the danwei compound impacted the streetside space in three key ways:

Horizontal Closure (Figure left): Perimeter walls enclosed the entire block, leaving only one controlled access point. Formerly permeable alleyways were severed, destroying the continuity of street networks. Streetside space degraded from public passage into private perimeter zones.

Vertical Disconnection (Figure right): The compound's main buildings are set back and surrounded by fencing or gates, turning the visual sequence from "interface-activity" into "interface-void-barrier", resulting in a rigid spatial order.

Functional Inversion: The streetside space lost its roles in interaction, display, and rest. Instead, it adopted logics of surveillance, security, and exclusivity — undermining the street's public and social qualities.

This evolution not only physically fragmented the urban network but also deepened psychological and behavioral segregation, erasing the permeability and continuity of streetside space within the city.

2.2.4 Post-Reform Functional Shifts and Boundary Transformations

Since the onset of China's Reform and Opening-Up policy, the western segment of Wenming Road along Yudai Moat has undergone structural transformations driven by rapid urbanization. These include demographic transitions, functional diversification, and continuous redefinition of streetside space.

In terms of population composition, the neighborhood has evolved from a traditional resident base to a more heterogeneous mix. Many former work-unit employees retired or relocated, vacating housing stock. Concurrently, migrant workers,

street vendors, young renters, and creative entrepreneurs began moving in—forming a mobile, socially diverse"new urban community". Daily rhythms are no longer dictated by unit-based routines but reflect increasingly individualized, asynchronous lifestyles.

Functionally, the former live-work model centered on residential dormitories and logistical support has given way to a composite space anchored by small-scale commerce and mixed-use services. Storefronts along the street have undergone rapid turnover—from convenience stores and hardware shops to cafés, nail salons, cultural boutiques, and independent bookstores. This has generated a micro-commercial ecosystem based on low rent and high foot traffic.

Changes in streetside space manifest in three main aspects:

① Flexible Use

Many shops expand into arcades and curb areas to create informal seating zones, advertising displays, or makeshift stalls—transforming streetside space from a transit corridor into an activity zone. Some corners have organically become semi-public gathering spots for deliveries, outdoor games, or shared greenery.

② Fragmented and Personalized Interfaces

In contrast to the uniform facades of the work-unit era, today's streetside interfaces exhibit spontaneity and irregularity. Shop signs vary in size, merchandise displays are dynamic, and outdoor structures are diverse. Facades shift from rigid planes to textured surfaces-adding rhythm and a lived-in feel to the street.

③ Blurring of Spatial Boundaries

The once-clear public-private divide in streetside space has grown ambiguous. Residents and businesses now occupy arcades or adjacent grounds for storage and sales, producing "semi-public-semi-private" grey zones. While this brings vibrancy, it also poses governance challenges.

Additionally, with the opening of Beijing Road Metro Station and the launch of the "Yangzhonghui" commercial complex, the northern portion of the site has experienced intensified capital-driven transformation. Increased footfall has led to a higher density of shops along nearby streets, forming a spatial triad of "metro station-pedestrian street- community alley". This spatial coupling has introduced commercial hyperactivation to some segments while contrasting sharply with quieter inner alleys—exacerbating spatial inequality.

Figure2- 14 Yangzhonghui Control Plan

(Source: Yuexiu Government Official Website)

Figure2- 15

Satellite image of 2000

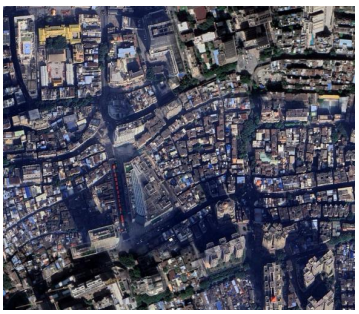


Figure2- 16

Satellite image of 2003

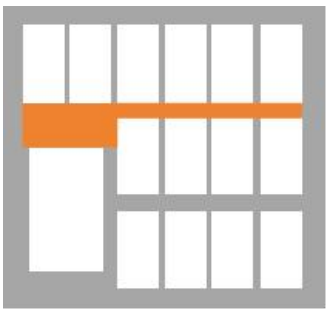


Figure2- 17 The impact of space-scale mutation

(Source: by the author)

（Source: Google Earth）

In summary, streetside space in this area has gradually shed the dual constraints of the danwei system and traditional lifestyles, entering a new phase characterized by

market logic and individual participation. While spatial vitality has increased, the boundaries of public space have become more complex. Signs of "urban life returning to the street" are evident, yet challenges such as outdated governance and spatial disorder also emerge. These structural shifts offer both a practical foundation and a set of design challenges for future organic renewal efforts.

2.2.5 Government-Led Master Planning Initiatives

（1）Beijing Road Metro Station

As a major transportation hub, the Beijing Road Metro Station forms an integrated "transportation + commerce" node in seamless connection with adjacent retail complexes such as Tianhe City. The station's entrances directly connect with the pedestrian street and surrounding storefronts, naturally channeling foot traffic from the underground transit system to the surface-level street. This significantly increases both the density and frequency of usage in the streetside space. During peak hours, commuter flows dominate, while off-peak hours feature more leisure and consumption behaviors. As a result, streetside space here demonstrates dynamic temporal and functional layering.

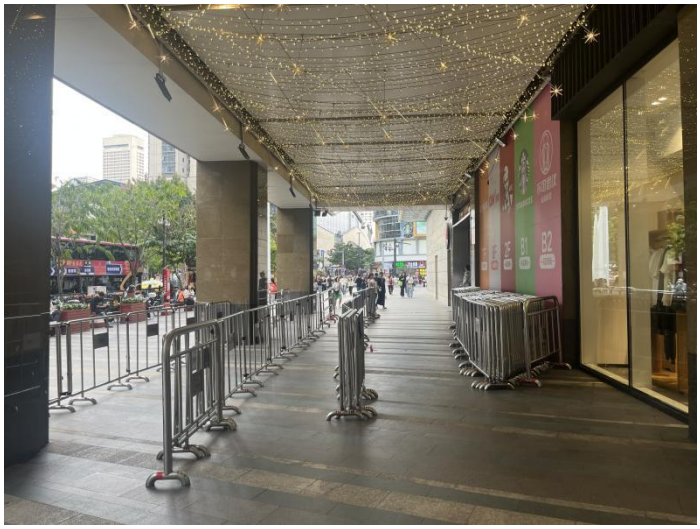


Figure2- 18 Railroad barriers at Beijing Road subway station

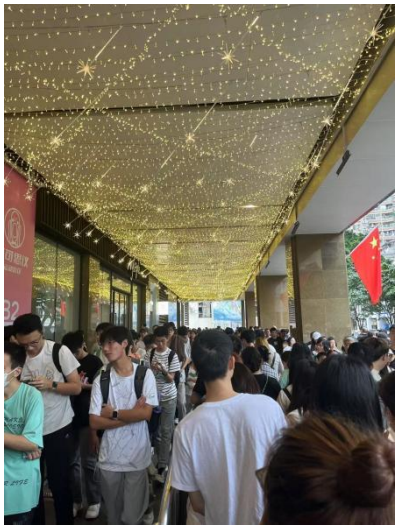


Figure2- 19 Beijing Road Subway Station on holidays

Source: Photo by the author

（2）Related Planning Documents

Upper-level plans—such as the Wende South Historic District Conservation Plan

—have proposed specific actions including the demolition of illegal structures, façade renovations, and environmental improvements along the Yudai Moat corridor. The setback zones of qilou buildings have been cleared and redesigned with paving and greenery, enhancing the openness and continuity of streetside space. These upgrades not only improve the streetscape aesthetics but also provide platforms for spatial reuse, such as small exhibitions, public seating, or convenience facilities.

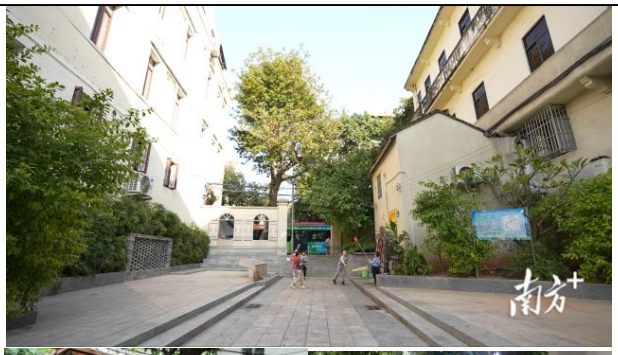
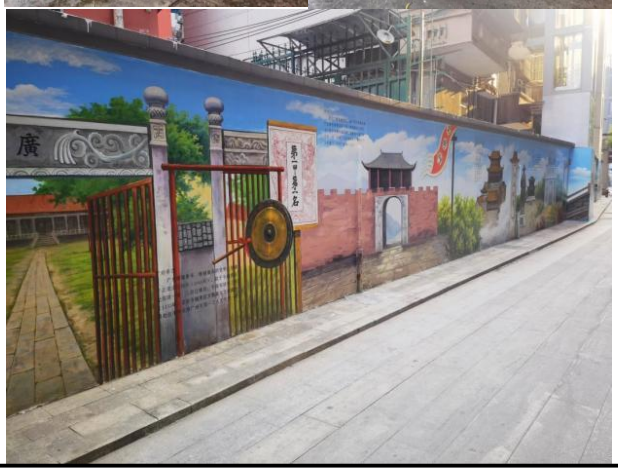
Table 2- 2 Related planning documents

Planning	Time
《广州历史文化名城保护规划》 Conservation Plan for Guangzhou Historic and Cultural City	2014
《广州传统中轴线历史文化街区保护规划》 Conservation Plan for the Historic and Cultural District along Guangzhou's Traditional Central Axis	2017
《文德南历史街区保护规划》 Conservation Plan for the Wende South Historic District	2017
《广东省历史文化街区广州市传统中轴线（近代）历史文化街区保护规划（2021-2035 年）》 Guangdong Province Historic and Cultural District Conservation Plan: Modern Section of Guangzhou Traditional Central Axis (2021–2035)	2023

（3）Urban Renewal

Table 2- 3 Urban renewal measures

Years	Measure	Legend
2017	Wanfu Road arcade wall painting	

2022	Yudai Moat Historical and Cultural Street Corner Park Micro-Renewal	
2023	Backstreets and Alleys Management	 
2024	Yangzhong Street mural	

2.2.6 Gentrification and Emerging Commercial Typologies

Since the early 21st century, Guangzhou's urban renewal efforts have shifted toward optimizing existing assets, and the Wenming Road community has also entered a new phase of development. With the evolving paradigm of urban regeneration, renewal efforts now prioritize cultural preservation and spatial quality over purely economic goals. Against this backdrop, the community has gradually undergone a process of gentrification.

As the area renews, new types of users—particularly operators of emerging commercial formats—have become key actors in the daily use of community spaces. Trendy cafés and bubble tea shops have carved out a presence in the community through spatial occupation strategies, choosing historical neighborhoods to capitalize on their unique architectural character and cultural ambiance.

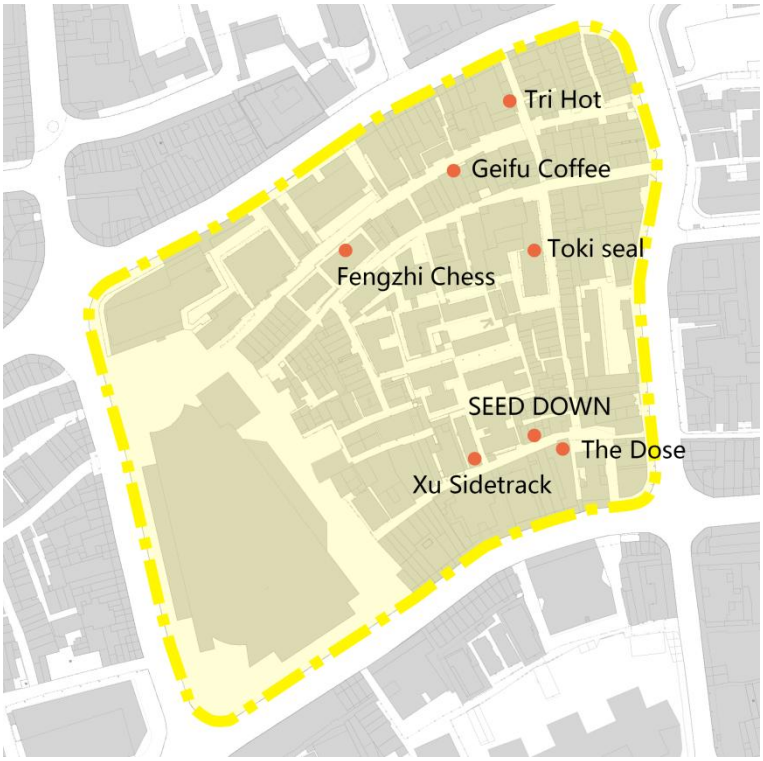


Figure2- 20 Distribution of coffee shops on the site

Source: by the author

Figure2- 21 Dongheng Street Coffee Shop

Figure2- 22 Siqian Street Coffee Shop

Source: Photo by the author

In terms of interface design, these cafés carefully craft their outdoor seating areas with well-arranged furniture and decorative greenery walls, significantly enhancing the visual appeal and comfort of streetside space. This results in "pause-worthy" and interactive public spaces where people are encouraged to linger, relax, and enjoy both

their drinks and the street scene. These outdoor zones also play a vital role in social interaction, serving as informal social venues where residents and visitors can meet, converse, and socialize—thus enriching the public life of the street and injecting vitality into the urban fabric.

On one hand, the government has promoted small-scale interventions —renovating historical facades and public spaces, and embedding new functions such as creative retail and cultural exhibitions into the preserved qilou. This physical and functional revitalization has attracted younger, lifestyle-oriented businesses including cafés, milk tea shops, and boutique guesthouses. These new formats not only enhance the community's economic dynamism but also turn it into a poster child for "new vitality in the old city."

Figure2- 23 The impact of residential-to-commercial conversion on streetside space

Source: by the author

On the other hand, the influx of private capital has accelerated the upscale transformation of the community. However, this process of gentrification has also triggered spatial contestation. Conflicts have begun to surface between original residents and newcomers, and between commercial interests and public welfare. Long-time residents face rising living costs and the encroachment of private development into their living space, while new residents and investors seek to enhance the area's market value. These tensions reshape the social structure of the community and pose real challenges to its sustainable development.In addition, while some emerging commercial spaces have activated the vitality of the neighborhood, their originally envisioned public attributes are difficult to implement due to the

privatization of the physical interface and the restrictions on business hours. For example, some revitalized courtyard spaces are rented out as coffee schools, and the courtyard gates are closed during non-business hours, making it difficult for residents and tourists to share open spaces on a daily basis. This presents a state of "minority" between residents and businesses, which has actually excluded the original residents in the use of the "gentrified" street space[50].

2.3 Current Investigation of Streetside Space

Figure2- 24 Overview of the current situation of Yudai Moat (Source: by the author)

2.3.1 Plan View of Streetside Space

According to the definition of streetside space established earlier, Figure2- 25 illustrates the plan diagram of the current study's surveyed streetside spaces. The dark green areas represent the scope of streetside space, typically extending from the curb to the building edge. The light green areas indicate the center zone of the curb, which primarily serves vehicular circulation and is therefore not the main focus of this section's analysis.

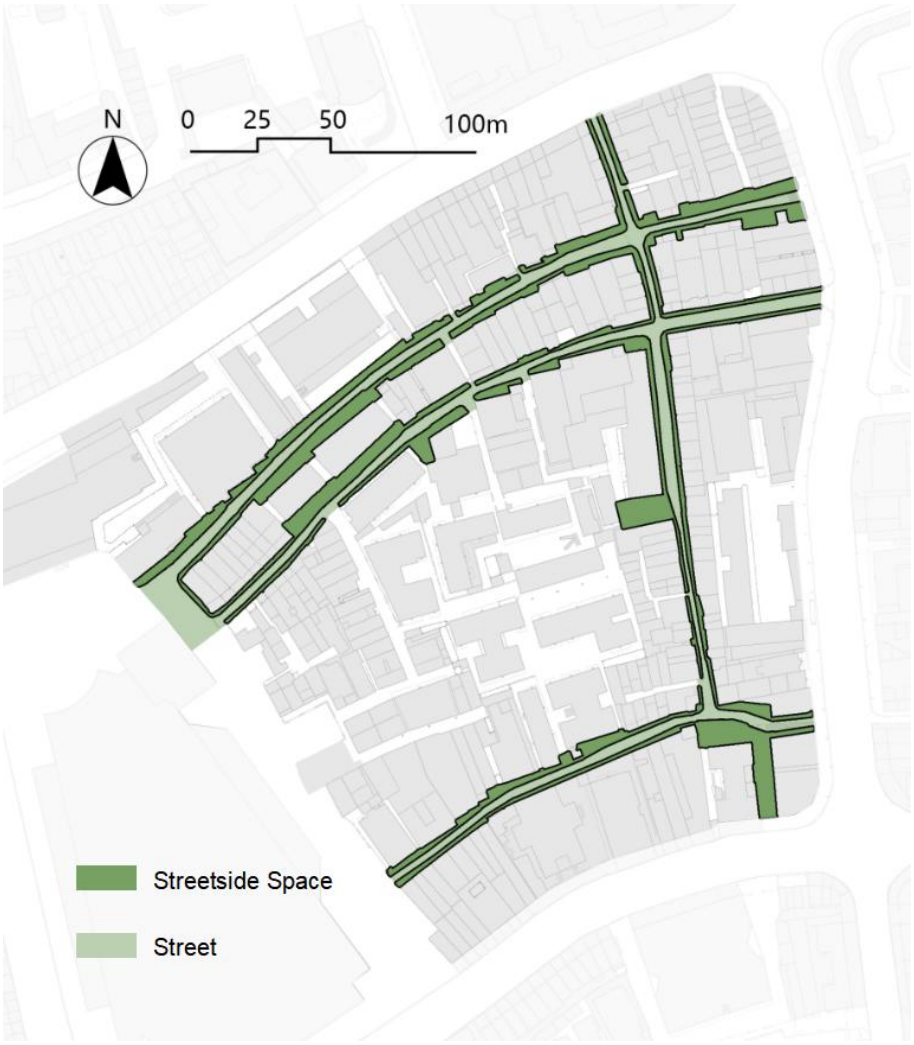


Figure2- 25 Plan Diagram of Streetside Space (Source: by the author)

Key findings from the plan layout include:

(1) Curb lines are drawn with traffic priority in mind, forming continuous lines that do not adapt to the indentations or protrusions of building facades.

(2) When streets and buildings are not parallel, triangular-shaped streetside spaces are created.

(3) Taller buildings are often set back from the redline, resulting in larger streetside spaces in front and longer continuous interfaces.

(4) Even in narrow alleyways, such as the southern segment of Qingyun Straight Street, curbs are still present, primarily serving to block rainwater from entering adjacent buildings.

2.3.2 Typology and Analysis of Streetside Space

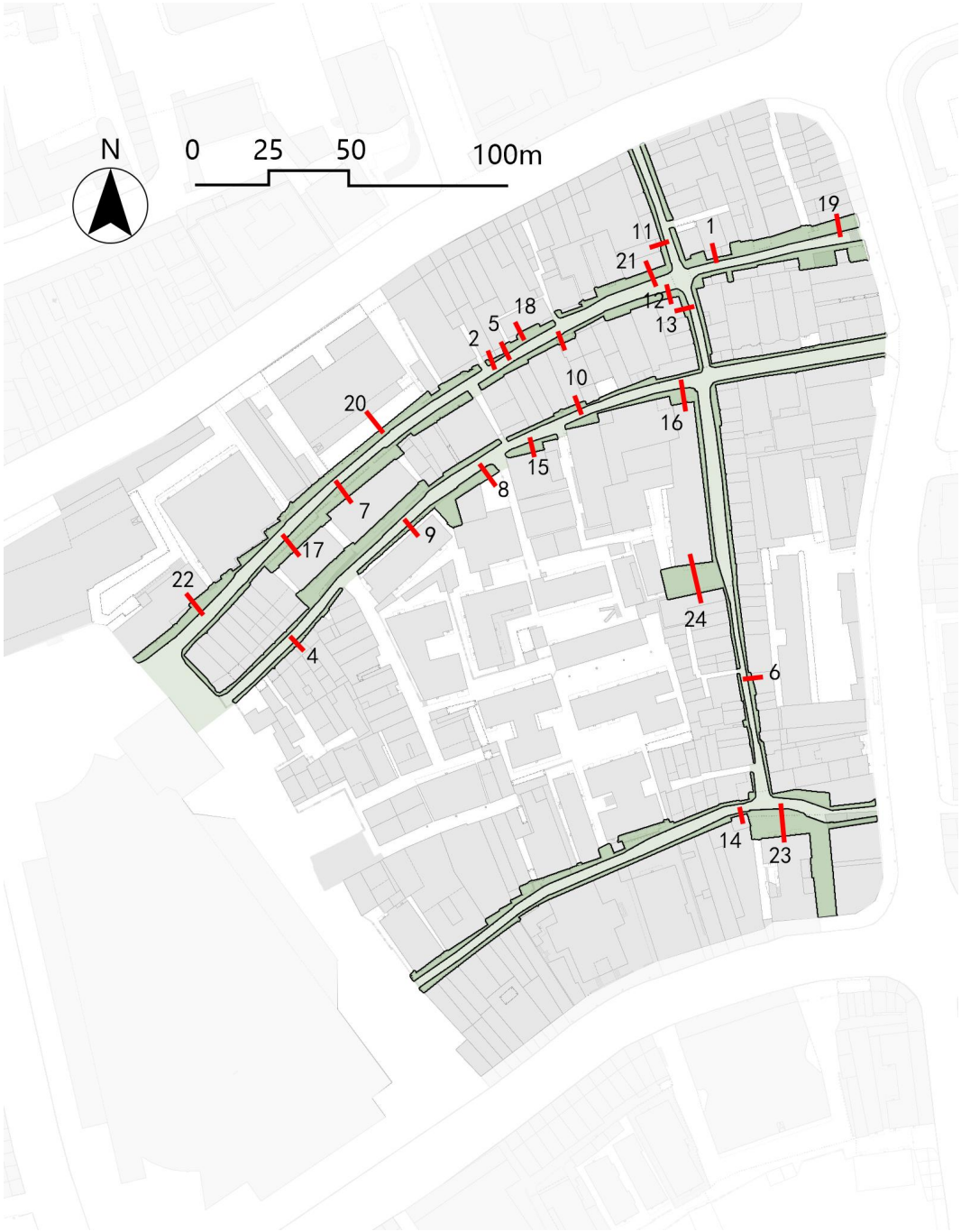


Figure2- 26 Cross-Sectional Survey Locations (Source: by the author)

Based on on-site observation, the streetside space along Yudai Moat can be categorized into four main types:

（1）Residential Streetside Space

This is the most prevalent category and can be further divided into: Single-household residential (Sections 1-6); Collective housing (Section 7); Danwei compounds (Sections 8-9). Key characteristics of residential streetside space include:

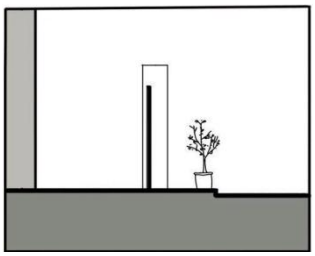
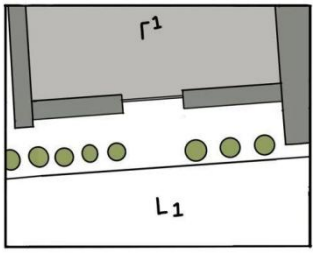
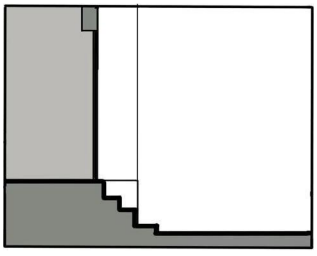
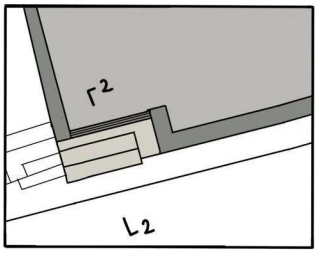
a. Frequently enclosed or visually screened using potted plants, fences, or low walls;

b. In single-household types, streetside space is often actively claimed up to the curb line with additions such as tables, chairs, storage cabinets, or planted gardens;

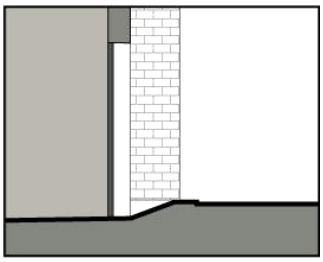
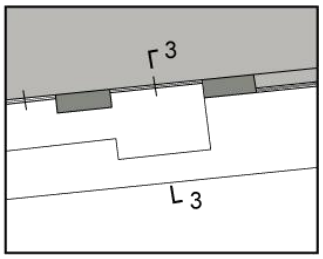
c. Collective housing types typically have gated entrances, with streetside areas serving solely as access paths;

d. Danwei compounds often place walls adjacent to the curb, leaving narrow residual space unsuitable for walking. Newly added elevators for accessibility also encroach upon the curb space.

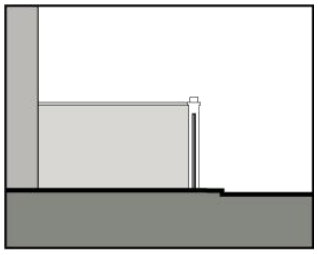
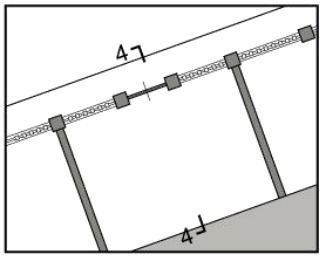
Table2- 1 Current Use of Residential Streetside Space (Source: by the author)

Photo	Section	Facade
One building, one apartmen		
Section 1-1		
		
Section 2-2		
		

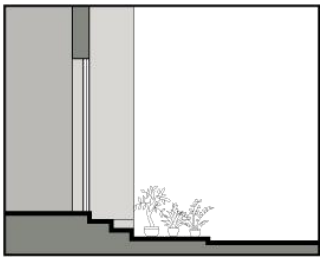
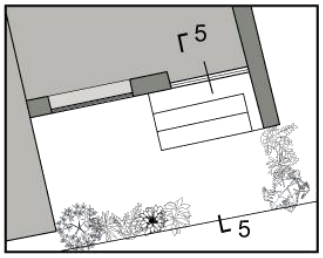
Section 3-3

Section 4-4

Section 5-5

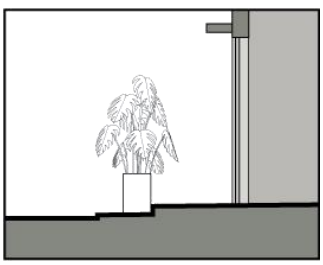
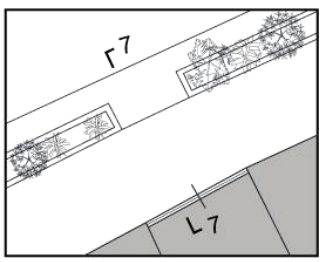




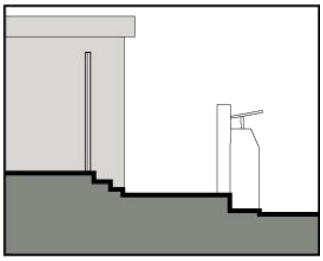
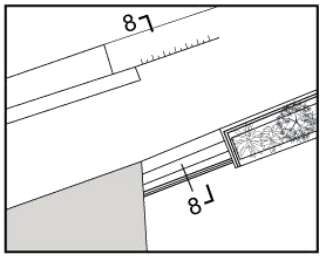
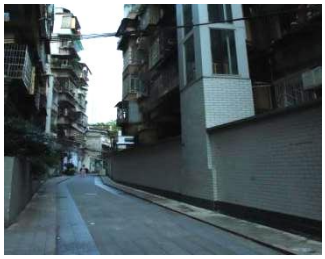
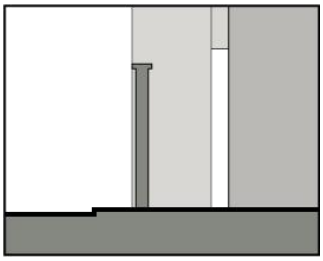
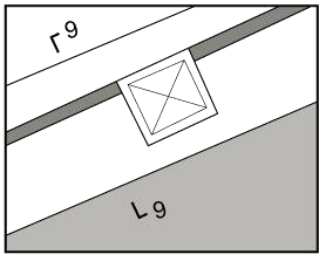
Section 6-6



Collective housing

Section 7-7

Danwei compounds		
Section 8-8		
		
Section 9-9		
		

（2）Commercial Streetside Space

Commercial uses in the district are primarily related to food services, with a high proportion of new cafés and a smaller segment of convenience services. Observed characteristics include:

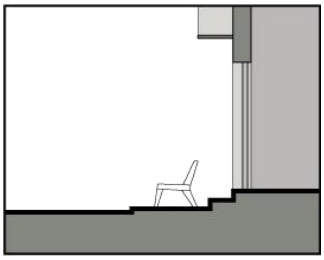
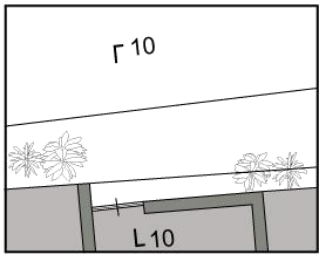
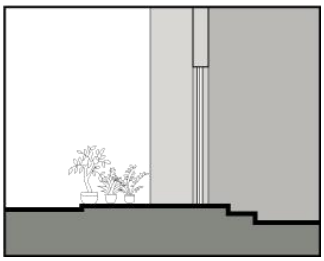
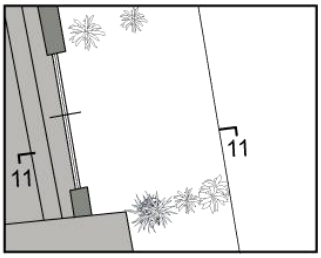
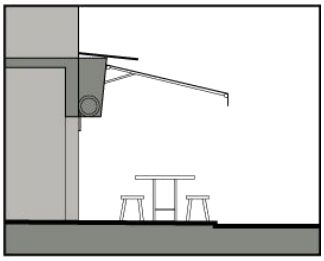
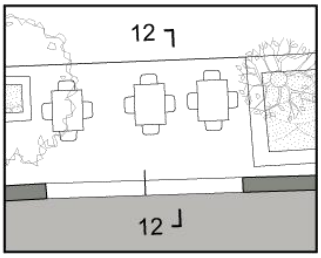
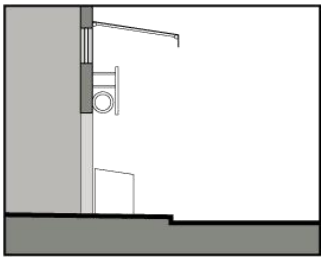
a. Businesses are the most active in using streetside space. Because the building area is small, they often use the curb to the building for outdoor dining. Restaurants will place tables and chairs at the door for customers to dine outdoors, and vending machines will place sales counters outside the door;

b. Temporary setups—such as outdoor dining tables or merchandise displays—are time-dependent, only present during business hours;

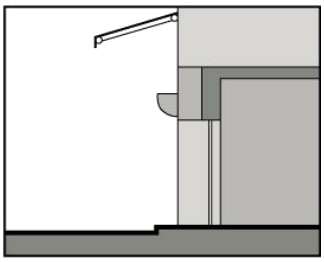
c. Building facades are highly transparent, with large openings and clearly defined shopfronts;

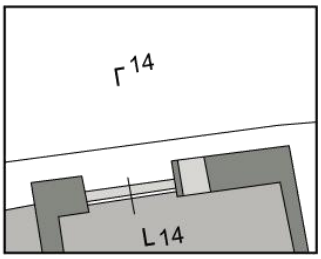
d. Shops are usually well-renovated, clean, and aesthetically maintained before opening.

Table2- 2 Current Use of Commercial Streetside Space (Source: by the author)

Photo	Section	Facade
Section 10-10		
		
Section 11-11		
		
Section 12-12		
		
Section 13-13		
		

Section 14-14





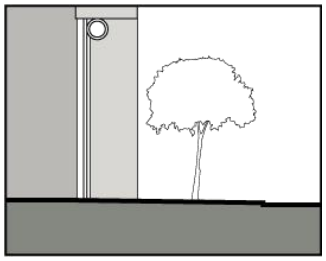
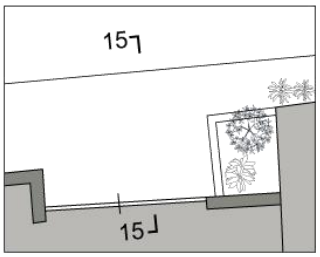
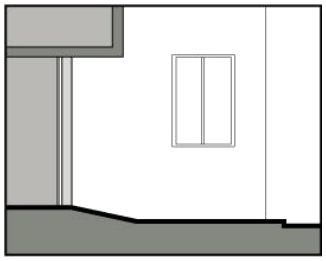
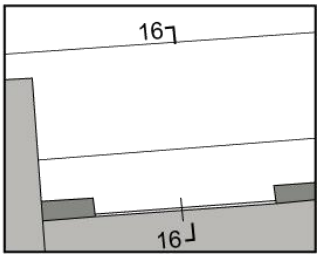
（3）Storage and Back-of-House Streetside Space

Used primarily for logistics or storage functions, this category shows the following traits:

a. Facades often feature large openings and rolling shutters with no elevation treatment at the curb interface;

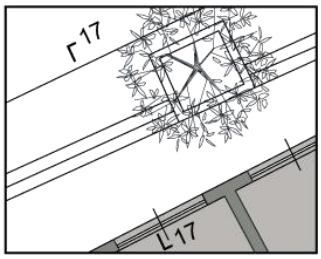
b. The environmental quality is poor—miscellaneous items are often stacked, and pavement conditions are dirty or neglected.

Table2- 3 Current Use of Storage and Back-of-House Streetside Space (Source: by the author)

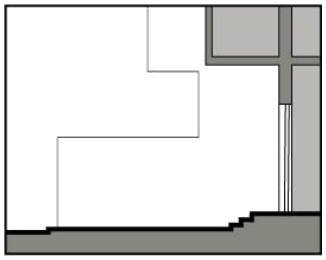
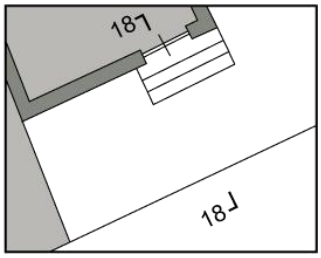
Photo	Section	Facade
Section 15-15		
		
Section 16-16		
		

Section 17-17





Section 18-18

（4）Public Streetside Space

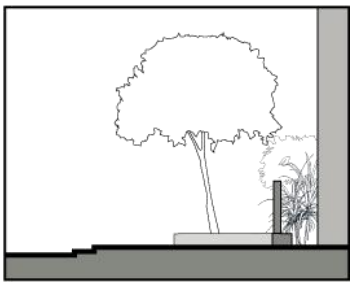
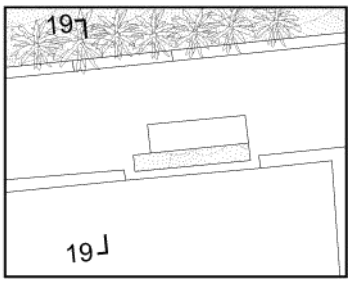
This includes public squares, parking spaces, and garbage collection points. Key features observed:

a. Limited public space is available and insufficient for local needs;

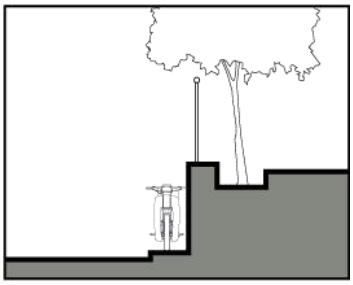
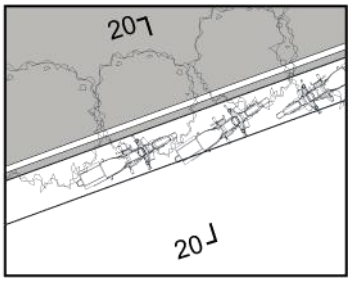
b. Public areas often occupy non-primary façades or leftover spaces between buildings and curbs;

c. Low utilization is common, with issues such as illegal parking of non-motorized vehicles and random waste disposal.

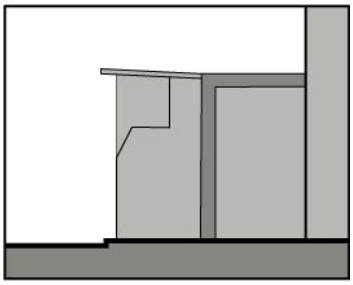
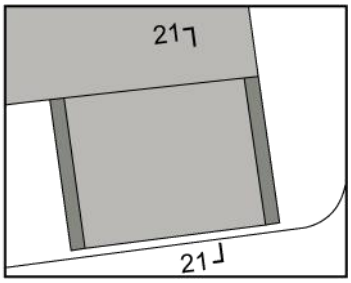
Table2- 4 Current Use of Public Streetside Space (Source: by the author)

Photo	Section	Facade
Section 19-19		
		

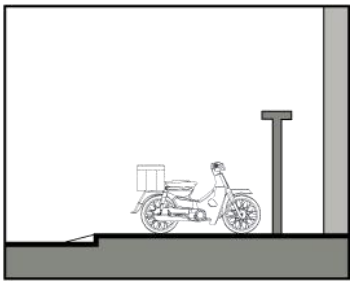
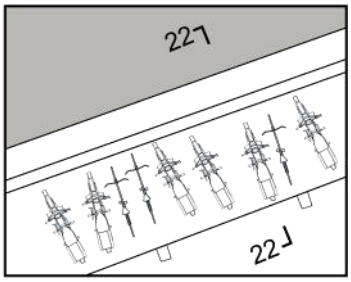
Section 20-20

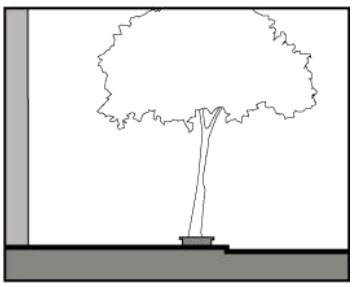
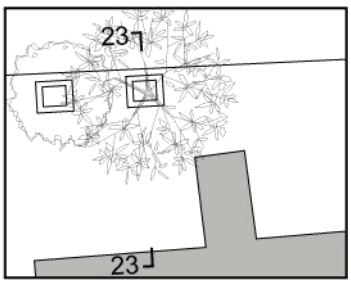
Section 21-21

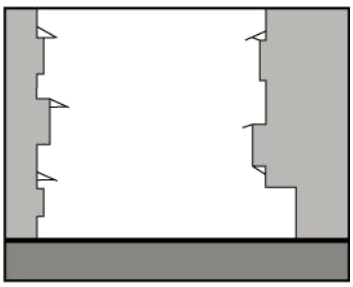
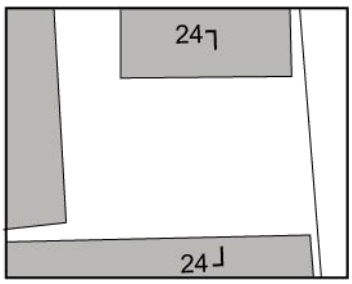
Section 22-22

Section 23-23

Section 24-24

2.3.3 Informal Vitality Analysis

In the streetside spaces along the western section of Wenming Road by Yudai Moat in Guangzhou, informal patterns of use are widespread, revealing a dynamic negotiation between ambiguous spatial ownership and everyday functional needs in high-density historic neighborhoods. This informal vitality is not only manifested in individually dominated space usage but also reflects a bottom-up response to existing institutional frameworks. It contributes to adaptive renewal while injecting diverse behaviors and lived experiences into the streetside environment.

The "gray space" quality of the street-edge areas serves as a key vehicle for informal vitality. With widths generally ranging from 0.2 to 2.4 meters, residents and shopowners repurpose these edges using potted plants, clotheslines, plastic chairs, and storage cabinets to transform them into semi-private extensions of living space. For instance, residents of single-house units often place greenery outside their doors as a means of visual screening and subtle demarcation of personal territory. Even in walled danwei compounds, external edges are commonly used for drying laundry or temporary storage. These blurred spatial boundaries reflect residents' proactive adjustments to their living environments in historical neighborhoods.

In commercial spaces, informal use enhances the street's capacity for lingering and social interaction. Survey findings show that food and beverage businesses frequently set up tables, carts, and temporary awnings outside their shops, creating life scenes anchored in the doorway. These setups follow a clear temporal rhythm—concentrated during business hours and partially retracted or converted into resting areas at night. Although many operators lack official permits for curbside business, their responsiveness and flexible arrangements significantly boost neighborhood vibrancy and foster daily interactions between consumers and residents.

Streetside areas in urban management blind spots also serve as temporary habitats for marginalized groups and informal workers. For example, at the junction of Dongheng Street and Qingyun Straight Street, the garbage collection point hosts makeshift shelters built by homeless individuals, forming micro-survival zones for "residents on the margins." Meanwhile, delivery workers rest along fence edges and curbs, using these spaces as buffers in their work rhythm. Such "unregulated but real" uses address the immediate needs of vulnerable populations and underscore the inclusivity embedded in urban space.

These informal spaces are highly flexible and time-sensitive, often serving different social functions throughout the day. In narrow lanes such as the southern segment of Qingyun Straight Street, evenings bring a transformation as residents gather to play chess, cool off, or let children play. This reflects a deeply localized, self-organized use pattern that illustrates the evolving life of the streets.

However, informal use also introduces complexity in spatial governance. On the one hand, plant pots and parked bicycles obstruct pathways, compromising emergency access and public safety. On the other, clutter and waste accumulation affect the city's appearance and environmental quality. Government agencies often oscillate between strict control and passive tolerance, lacking structured regulatory mechanisms and differentiated management approaches.

In summary, informal vitality constitutes a significant part of the Yudai Moat streetside environment. Its complexity lies in unclear ownership, non-standardized behaviors, and diverse user groups. While these practices demonstrate residents' adaptability and creativity, they also expose the rigidity and lack of dialogue mechanisms in current urban governance. Future renewal efforts should not aim to simply eliminate informal elements. Instead, a strategy of identifying spatial types and assessing public value should guide the shift from "suppressing informality" to "channeling informality," transforming spontaneous behaviors into valuable assets for activating neighborhood life and fostering social cohesion.

2.4 Summary of Current Problems in Streetside Space

2.4.1 Physical Dimension

（1）Curb-Related Issues

As a fundamental component of streetside space, the curb historically functioned to separate pedestrian and vehicular traffic and to protect buildings from rainwater intrusion, bearing both physical and social significance. However, in the Yudai Moat–Wenming Road West District, its current condition reveals several problems:

a. Non-standardized and discontinuous, undermining spatial continuity

Curb construction lacks standardization across segments—variations in width and height, as well as missing or broken sections, disrupt pedestrian pathways and affect street accessibility and walkability.

b. Unclear ownership and weak governance

As a spatial "gray zone" between building façades and street surfaces, the curb suffers from ambiguous jurisdiction between municipal authorities, businesses, and residents. This results in unclear responsibilities. For example, some shops extend steps or stack goods onto curb space without effective regulatory oversight.

c. Functional degradation and lack of public expression

Originally designed for drainage and passage, many curb areas now serve as ad hoc storage or parking spots, losing their vitality as everyday social interfaces. In qilou areas especially, the curb fails to evolve into a platform for urban interaction.

d. Unsynchronized renovations that damage historical textures

In some cases, the curb has been uniformly raised or paved over with hard materials, disregarding the microtopography and drainage logic of traditional alleys. This compromises original water discharge patterns and erases the "upper/lower street edge" layering critical to historical spatial identity.

Figure2- 27 Curb status quo (Source: by the author)

（2）Narrow-Front "Bamboo Houses" and Spatial Behavior

The district contains many zhutongwu (Bamboo houses) or variants with small frontages and elongated interiors. Their central locations and relatively high rental prices lead tenants to maximize spatial efficiency. Poor lighting and lack of dedicated drying areas often result in clothes being hung from window bars or on public power lines. Residents and shopkeepers near the street actively claim surrounding streetside space: potted plants define territories, items are stored along curbs, and outdoor furniture or displays are installed within semi-claimed boundaries. While active use can enhance neighborhood vibrancy, it also produces negative externalities such as obstruction and visual clutter, with unclear spatial rights complicating governance.

The rights to use curb space are ambiguous. Active use can promote a better

street environment and have a health impact on people, while some behaviors will have a negative impact on the external space environment, pedestrians and even the residents themselves.

Table2- 5 Impact of streetside space behavior (Source: taken by the author)

	Behavioral Phenomena	Negative Impact	Positive Impact
	Drying on power lines	Deteriorates visual quality of the street- Raises safety concerns (e.g., electrical hazards)- Dripping water affects passersby	
	Placement of potted plants	Unequal use due to varying curb dimensions- Potential obstruction of narrow paths	Increases greenery in the street Enhances privacy for indoor residents
	Clutter and storage of items	Long-term accumulation leads to dirt and disorder- Creates sanitation blind spots	
	Commercial outdoor display/seating	Generates additional waste from customer activities	Expands public interaction zones Potential for paid usage, enhancing economic vitality

（3）Spatial Narrowness

The current status of streetside space in Yudai Moat is significantly inefficient. The curb is designed to protect buildings and walls from street sewage and reduce the

flow of rainwater and domestic sewage into the house. However, this functional curb design also encroaches on the limited street space to a certain extent.

Streets range from 4 to 12 meters wide. After subtracting the curb, the shared space for pedestrians and vehicles narrows to only 2 to 4 meters, resulting in disorderly traffic and significant safety risks.

（4）Closed Vertical Interfaces

Although the district is now primarily residential, low rents and historic character attract commercial tenants and visitors. The close proximity between passersby and building interiors often leads residents to block windows with newspapers or other coverings to ensure privacy, despite the resulting darkness indoors.

In danwei compounds, tall perimeter walls physically and socially divide residents from the street. This creates a cold, disconnected interface of steel and concrete, enforcing spatial and social barriers.

（5）Low Efficiency of Spatial Use

The overall linear layout lacks spatial richness. Few wide nodes exist, and those with potential for public space development are underutilized. Simple landscaping, hard paving, and sparse fitness equipment dominate, without aesthetic or human-centered design considerations. These poor conditions discourage residents from lingering or engaging socially, reducing the streetside space's potential as a community platform.

（6）Insufficient Greenery

Field investigations revealed that the greenery in this district primarily takes the form of scattered trees, potted plants, and informal resident-led planting, lacking a systematic planting strip or designated public green space. The streetside edges are often occupied by residents or shopkeepers who place potted plants either for spatial extension or visual screening. However, overall vegetation coverage is fragmented and lacks vertical layering. Due to the absence of a clearly defined and continuous green system, conventional metrics such as “green coverage ratio” are not applicable for quantitative analysis in this area.

2.4.2 Community Dimension

（1）Weak Sense of Community Identity

The majority of this district falls within the administrative boundaries of the

Wenming Road Community (Figure2- 28). However, when residents refer to the location, they rarely use the community name. Instead, they describe it based on adjacent main roads, such as referencing the intersection of Road X and Road Y. Since these boundary roads often extend beyond the district itself, such descriptions reveal a lack of spatial identity and emotional attachment to the community unit. This phenomenon reflects a weak sense of community belonging, indicating that the community holds limited presence in the minds of its residents. As the fundamental unit of urban society, the absence of community identity can lead to a lack of social cohesion and interaction among neighbors, hindering harmonious development and collective governance. Additionally, this detachment may reduce residents' willingness to participate in community affairs, making it difficult to organize events, implement projects, or mobilize local engagement.

Figure2- 28 Zhuguang Street and Wenming Road community division

（2）Fragmented Streetside Space

The narrow width of alleys in this district means that both sides of the street inevitably influence each other. At the corner near Qingyun Bridge, for instance, a large garbage disposal point has been placed directly opposite a noodle shop, with only three meters of separation. Many customer reviews of the restaurant mention the uncomfortable experience of watching people dispose of trash while dining — although there may be no noticeable smell, the visual impact creates a persistent sense of uncleanliness. The restaurant owner has expressed frustration, as the placement of the garbage site, originally intended to improve overall sanitation, failed to consider

the impact on nearby businesses and their patrons (Figure2- 1). In another case, a café directly faces the rear entrance of a restaurant kitchen. As the Yudai Moat side of Wenming Road features numerous food establishments housed in qilou buildings, several kitchen backdoors open onto the street. These service zones are often poorly maintained, with dirty water accumulating on the pavement and strong odors from food waste lingering in the air.

Figure2- 29 Catering and garbage disposal points

Figure2- 30 The homeless man's "home" and the beverage store

Due to the limited indoor space of the café, the owner has set up simple tables and chairs along the curb—not only to accommodate more customers but also to enhance visibility from afar and attract foot traffic. Despite the café's efforts to maintain a clean and aesthetically appealing storefront, including modern decorations and well-kept seating areas, the environment remains compromised. Customers sipping coffee and socializing outdoors are frequently faced with the unpleasant reality of food waste being handled just a few meters away. This highlights a critical conflict in streetside space usage—where the lack of coordinated planning between public utilities and commercial needs leads to spatial dissonance and diminished street-level experience.

（3）Weak Social Relationships

In this district, social relationships among residents are relatively distant, with limited neighborly interaction and a lack of close-knit community ties. This social detachment is manifested in several key ways: First, daily communication is minimal, residents often do not know each other or engage only sporadically, resulting in weak communal cohesion and a diminished sense of belonging. Second, when confronted with public issues or shared concerns, residents tend to act independently, lacking the cooperative mindset needed for collective action. This makes it difficult to generate momentum for community improvement initiatives. Third, the community lacks

effective platforms and activities to foster interaction, leaving few opportunities for meaningful connection or trust-building among neighbors.Such social fragmentation not only undermines residents' quality of life and social support networks, but also hinders the sustainable development and long-term stability of the community.

2.4.3 Heritage Dimension

（1）Historical Value Reduced to a Symbolic Layer

The area's historical and cultural resources have, to a certain extent, been reduced to symbolic representations with limited integration into everyday life. Although several historically significant buildings and relics have been physically preserved, they often exist merely as visual markers, with minimal effort made to explore or present their deeper historical narratives.For example, some heritage structures are used as ordinary residential or commercial spaces, identified only by a simple plaque or name sign. As a result, both residents and visitors have little understanding of their historical importance or cultural context. This "symbol-only" preservation limits the vitality and relevance of cultural heritage, preventing it from forming meaningful connections with contemporary life.

Consequently, the transmission and celebration of historical culture are weakened, and the district lacks a strong historical atmosphere. Residents are not provided with enriching cultural experiences or opportunities for emotional engagement with the past—hindering the formation of a culturally distinctive and spiritually nourishing urban identity.

Figure2- 31 Historical building marking

Figure2- 32 Street name tiles

（2）Disconnection Between Historical Elements and Everyday Life

Within this district, a disconnect exists between historical elements and residents' daily lives. On one hand, several historic buildings and cultural facilities have become increasingly marginalized due to a lack of adaptive reuse or functional updating. These structures, once integral to community life, such as ancient wells or traditional grain-drying grounds, have lost their original utility in the face of urbanization and changing lifestyles. Without new roles or functions, they have gradually been neglected and forgotten in daily routines. On the other hand, residents demonstrate low levels of engagement or awareness toward the area's historical and cultural heritage. Historical elements have not been meaningfully incorporated into everyday experiences, nor have they become part of the collective identity of the community. As a result, heritage resources are underutilized, and the cultural legacy of the district risks fading from public consciousness. This disconnection not only hampers the effective preservation and activation of cultural heritage, but also erodes residents' sense of historical identity and pride. In the long term, it weakens the formation and continuity of the district's cultural character, making it harder to sustain a distinct and resilient community identity rooted in its historical context.

2.5 Chapter Summary

This chapter systematically analyzes the spatial transformation, structure, and behavioral characteristics of the streetside space along the western segment of Wenming Road, Yudai Moat. The historical evolution follows a three-phase path: "heritage continuation—danwei-era intervention—market-driven transformation."

Initially shaped by the Yudai Moat water system, the area embodied rich historical functions including trade, religion, and revolutionary activities. However, during the planned economy era, danwei (work-unit) compounds disrupted the spatial continuity and openness of the street fabric. Since the early 2000s, the influx of metro stations and commercial redevelopment has introduced diverse new business types, resulting in increasingly mixed functions and blurred spatial ownership and boundaries.

The current field survey classifies the street-side space into four types—residential, commercial, logistical/warehouse, and public—and through section drawings and interface analysis, identifies critical spatial issues: narrow widths, fragmented street edges, enclosed facades, and inefficient usage. At the social level, the area suffers from weakened community ties, low sense of place, and spatial conflicts among different uses. From a heritage perspective, historical elements are often reduced to symbolic representations, detached from everyday life.

These findings highlight the dilemmas faced by traditional street spaces under dual pressures of urban modernization and cultural preservation. They also form a solid diagnostic foundation for the development of adaptive and context-sensitive design strategies. As essential carriers of everyday life and social interaction in historical districts, the renewal of street-side spaces must carefully balance continuity, activation, and livability.

Chapter 3 Case Studies and Design Strategies

3.1 Case Selection and Inspirations

This study selects a set of representative international and domestic cases to inform the renewal strategies for streetside space along the western segment of Wenming Road near Yudai Moat. These include: Regolamento Edilizio N. 381 [51](Building Regulations) and N. 388[52] (Regulations for Outdoor Spaces and Structures Used for Food and Beverage Services on Public or Publicly-Used Private Land) from the municipal code of Turin, Italy; Japan's Street Design Guidelines – A Reference for Creating Comfortable, Walkable Streets[53] (ストリートデザインガイドライン ー居心地が良く歩きたくなる街路づくりの参考書); Shanghai Street Design Guidelines[54]; Chengdu Small Block Planning and Construction Technical Guidelines[55].

These documents were selected because they provide systematic frameworks for street design, clearly define elements involved in streetside space, and offer guidance on design implementation and management mechanisms. Through a comparative analysis of design logic across different cultural contexts, the study extracts strategies applicable to the adaptive renewal of streetside space in the Yudai Moat context.

3.1.1 N. 381 and N. 388 Regulations in the City of Turin, Italy

（1）Characteristics of N. 381

N. 381 primarily addresses architectural and urban planning regulations, covering principles such as urban planning strategies, building codes, public space management, environmental protection, and transportation infrastructure. Its features include:

① Refined Management

The regulation achieves precise control over the entire planning-to-construction process through quantitative parameters (e.g., building height, permeability ratios) and standardized procedures (e.g., digital approval systems, construction barricade specifications). These ensure the legal compliance and sustainability of urban development. It strictly regulates the design and use of buildings, streets, squares, parks, and other public spaces, aiming to enhance their accessibility and functionality.

② Integration of Heritage and Modernity

The regulation places particular emphasis on preserving historical buildings and cultural heritage. In historic districts (such as the Zona Urbana Centrale Storica), special rules apply for building renovations, requiring the retention of original architectural character. New constructions must harmonize with the historic environment in terms of height, façade treatment, and material selection. At the same time, moderate modernization, such as installing elevators or barrier-free access, is allowed to meet contemporary living standards within heritage structures.

③ Public Participation Mechanism

Turin's regulatory system institutionalizes public participation in urban planning. It establishes Resident Consultation Committees to engage in planning discussions and mandates public disclosure and feedback for major projects. Digital platforms are provided for policy browsing and feedback submission. Importantly, this participation is substantive and embedded throughout the entire process—from planning and design to implementation—granting citizens real advisory and supervisory powers.

（2）Characteristics of N. 388 and Its Annex 'Dehors e Padiglion'

N. 388 provides detailed regulatory frameworks for the temporary occupation of streetside space by commercial outdoor facilities. Its key features include:

① Typological Management

The regulation classifies outdoor occupancy into categories such as dehors (open-air spaces) and padiglioni (pavilions), with further subdivisions based on structure and function. For instance, dehors are categorized into D1, D2, and D3 types, each with specific design and operational standards. D1-type dehors are required to remain open without fixed barriers, while D2 types must include defined enclosures and safety railings. Each category stipulates standards for dimensions, materials, height, and safety performance.

② Application and Approval Procedures

Businesses must follow a rigorous application process to install outdoor structures on public or publicly-used private land. Applications must be submitted via an online platform, accompanied by technically compliant design proposals and proof of fee payments. Approval requires coordination among multiple departments, including municipal services and heritage protection offices. In heritage areas, cultural

authorities' consent is mandatory.

③ Usage and Maintenance Requirements

Operators are responsible for ensuring cleanliness, safety, and visual quality of the occupied space. Businesses must clean their outdoor areas after daily operations. Usage hours are also strictly regulated, for example, outdoor service areas may not operate past 2:00 AM, with extensions permitted until 3:00 AM on Fridays and holiday eves.

④ Special Provisions

Public Interest Supremacy: Permits may be revoked unconditionally for public interest reasons such as infrastructure projects or urban planning needs. In such cases, businesses must dismantle their outdoor structures within a specified timeframe.

Compensation Mechanism: If a permit is withdrawn for public interest, the business is entitled to fee refunds and, where applicable, financial compensation for losses.

（3）Summary of Streetside Space-Related Regulations

Given the breadth of both regulations, this study focuses solely on provisions relevant to the design, occupation, and management of streetside spaces, to distill principles applicable to the Guangzhou context.

Table3- 1 Streetside Space-Related Regulations

Item	Description	Source
1. Sidewalk (Marciapiede) Standards		
Width & Safety	Minimum width: 1.50m; height difference with carriageway ≤ 0.15m; max slope: 8% longitudinal, 1% crosswise.	N.381 Art. 85
Paving Materials	In historical zones: maintain selciato (original stone paving). Surfaces must allow rainwater drainage, with subsurface management as per municipal guidelines.	N.381 Art. 83.3 / Art. 88
Building Plinths	Sidewalks should include a 0.40m-high base made of natural/artificial stone or other durable material.	N.381 Art. 105.9
Street Lighting	Continuous lighting system required per the Municipal Lighting Plan (PIANO REGOLATORE ILLUMINAZIONE COMUNALE).	N.381 Art. 111
2. Facade Control (Controllo delle facciate)		

Façade Alignment	New buildings must align with existing street frontages to ensure urban continuity.	n.381 Art.108
Projections	Decorative elements (sills, ledges, insulation, shop windows, etc.) at <3m height may extend max 4cm into public space. Awnings and canopies may extend up to 1.40m (not exceeding sidewalk width), with underside ≥2.20m above ground.	n.381 Art.107
Doors & Windows	Ground-floor windows must open at ≥2.20m. Doors must open inward or slide, except for safety exits. Public-facing windows may open outward only if ≥3.00m above sidewalk (or 3.15m without sidewalk). Historic storefronts must preserve original features.	n.381 Art.107 Art.114
Color & Material Control	Follow the PIANO DEL COLORE（N.239）	n.381 Art. 109
Advertising & Signage	Follow the RACCOLTA DEI REGOLAMENTI MUNICIPALI（N. 248） No lighting or signage may interfere with surroundings.	n.381 Art. 115
3.Outdoor Use & Urban Furniture (Aree esterne e arredo urbano)		
Outdoor Area Types	D1: No enclosure (only tables/chairs) D2: Transparent railings (height 1.10m) D3: Seasonal use (max 1.60m enclosure, transparent)	n.388 Art. 3
Seasonality	D3 use allowed only from Oct 15 to Apr 15 (max 180 days). Business hours: until 2:00am (3:00am on holidays).	n.388 Art. 3 Art. 11
Usage Restrictions	Elements must be orderly and clean. Plants ≤1.10m (including pot). No hanging decorations. Shade structures must be retracted after hours. D1/D3 furniture can remain outside if safe. No drilling or permanent fixtures allowed.	n.388 Art. 10 Art. 11
Coverings	D1/D2: Allow umbrellas/canopies in fabric. P2: Glass or innovative coverings allowed. Shade elements must be foldable and color-matched with façades.	n.388 Art. 3 DEHORS E PADIGLIONI

Permits & Managementv	Temporary occupancy permits required; D3 charged as P1-type pavilion. Ads over 0.20m² charged separately. Occupied area ≤40% of sidewalk; ≥1.5m clearance to fire lanes. Max one 1.10m service cabinet per 20 seats.	n.388 Art. 4 DEHORS E PADIGLIONI
Historic Centers（Zona Centro Storico）	Prefer natural materials (wood/metal). High-quality plastic only with approval Prohibit D2/D3 installations on historic paving.	DEHORS E PADIGLIONI
Accessibility	Step height must be ≤2.5cm between indoor/outdoor. Ramps required for higher thresholds (slope ≤15%, width ≥0.90m).	DEHORS E PADIGLIONI

（4）Illustrations and Examples from Dehors e Padiglioni

Both Regolamento Edilizio N. 381 and N. 388 are legal compilations that provide detailed terminology and dimensional standards, but they are predominantly text-based and lack visual diagrams. The annex Dehors e Padiglioni fills this gap by offering illustrative design guidelines that play a crucial role in the interpretation and implementation of the regulations. These visual diagrams clearly convey requirements for the layout of streetside spaces and outdoor installations, as well as scale control and material standards. They serve as intuitive references for design and approval processes, reducing ambiguity in implementation and ensuring the enforceability and visual harmony of public spaces.

① Boundary division

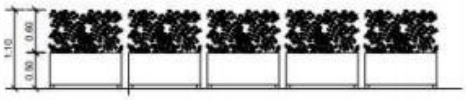
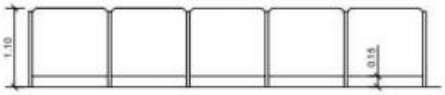
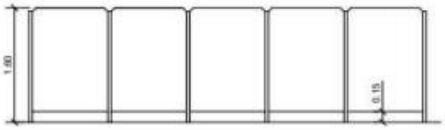
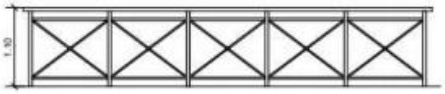
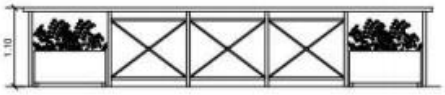
Delimitazione perimetrale	D1	D2	D3
	fioriera	-	-
	2.1.A autoportanti	-	-
	2.1.B autoportanti	2.1.C	-
	2.1.E	2.1.E	2.1.E
	solo dal 15 ottobre al 15 aprile		
	2.1.B autoportanti	2.1.C	-
	-	2.1.D	-

Figure3- 1 Boundary division types[52]

Figure3- 2 Example of D1 flower pot

② Shelter

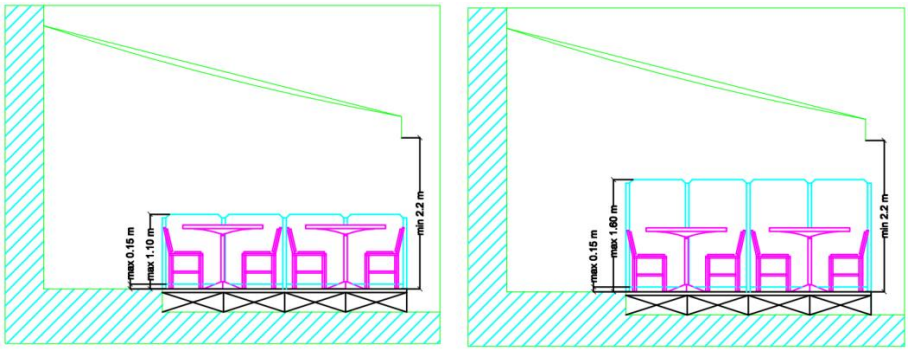


Figure3- 3 Specifications for fixed awnings[52]

Figure3- 4 Example of a fixed rain shelter

The example shown in the annex features a fixed canopy (tenda a pantalera), a structure rarely seen in Turin for several key reasons:

a. Strict Regulatory Control: According to Dehors e Padiglioni, most canopies are required to be retractable and must visually align with the architectural façade in terms of style, color, and material. Fixed canopies require special approval and are only permitted in exceptional historical or environmental contexts, subject to authorization from the cultural heritage protection authority. This high approval threshold limits their widespread adoption.

Urban Aesthetic Considerations: As a historic city, especially within its central heritage zones, Turin places a high priority on visual unity and architectural coherence.

Fixed canopies, being bulky and visually dominant, risk disrupting the integrity of historical façades and are therefore discouraged.

Technical Complexity: Fixed canopies must be directly attached to building façades, posing risks to structural integrity, especially for heritage buildings. They also entail higher installation and maintenance costs. Regulations explicitly prohibit structural damage or intrusive installation on façades, yet the illustrated example features visible brackets affixed to the wall, violating this principle.

Furthermore, the example does not comply with technical specifications. According to the annex, fixed canopies must be installed above the window lintel and must align compositionally with the façade. However, the depicted canopy sits too low, covering the window area, and its bottom edge clearly falls below the minimum required clearance of 2.20 meters.

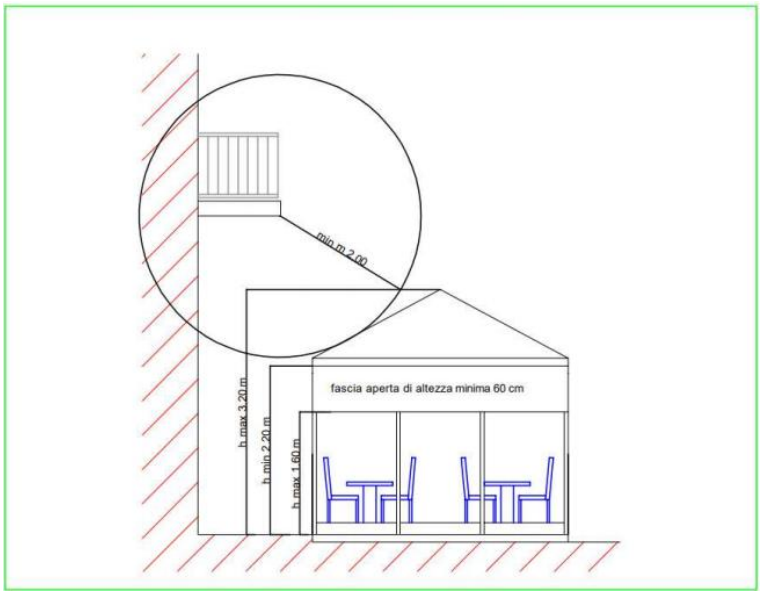


Figure3- 5 Distance between covering and lower edge of balcony[52]

Figure3- 6 Covering Example

3.1.2 Japan's Street Design Guidelines

Japan's Street Design Guidelines (ストリートデザインガイドライン) are built around the core concept of 'comfort' (居心地の良い), aiming to transform streets from vehicle-centric traffic corridors into vibrant public spaces that support diverse urban life. These guidelines offer practical insights and innovative management models for streetside space transformation.

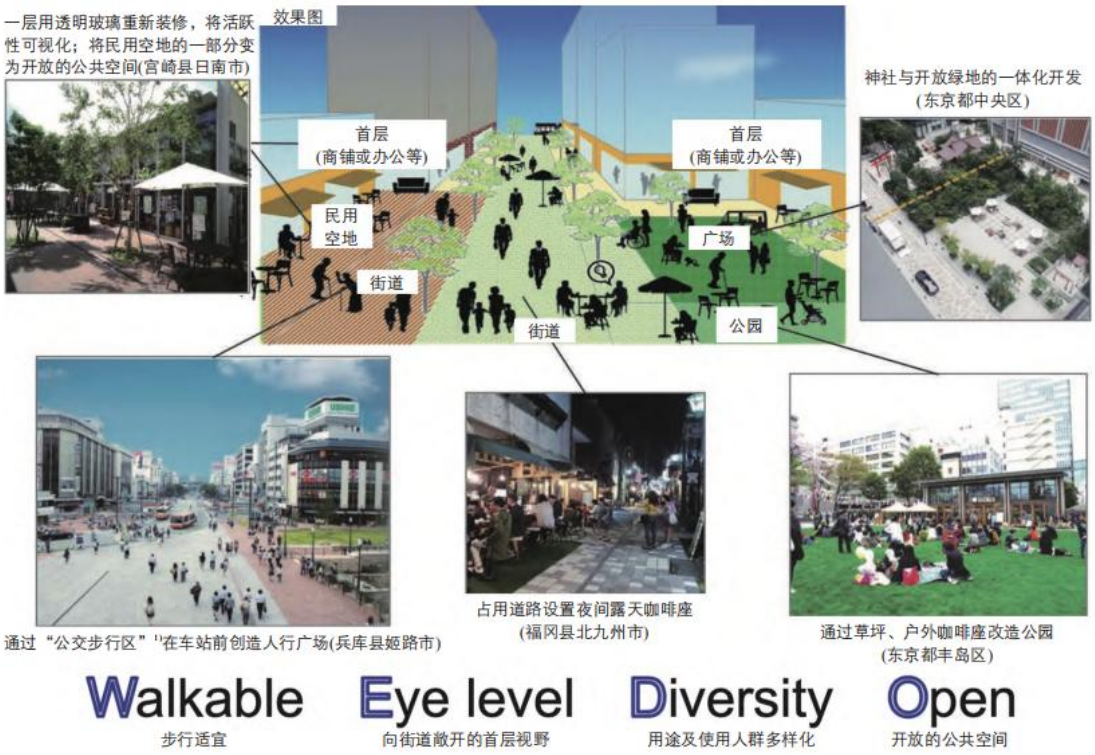


Figure3- 7 Japan's urban development direction with the slogan "WE DO"[56]

（1）Core Philosophy: From 'Car-Oriented' to 'Human-Centered'

At the heart of Japanese street design is a redefinition of functional priorities—placing walkability and user comfort above vehicular flow. The guidelines promote the 'WE DO' philosophy: Walkable, Eye-level, Diversity, Open. Through enhanced walkability, visual transparency, functional diversity, and spatial openness, the street is reimagined as a place of deep human interaction. For example, in Tokyo's Toshima Ward, removal of central medians and narrowing of vehicle lanes allowed redundant space to be converted into outdoor cafés and green lawns—blurring the boundaries between road and public space. Streets became 'living rooms' for citizens, places to linger, socialize, and relax. This approach marks a departure from engineering-driven efficiency toward experiential, human-scale design. Particular attention is given to the detailing of streetside space: transparent ground-floor façades,

flexible use of storefront forecourts, and continuous greenery all contribute to a 'walk-as-pleasure' street atmosphere.

（2）Elemental Innovations

① Flexible Boundaries

Japanese designers challenge traditional notions of curb demarcation. For instance, in the Sakasagawa-dori revitalization project in Tokyo, conventional curb height differences were removed and a unified paving material was used to merge pedestrian and vehicular zones into a shared space. Meandering traffic lines were introduced to slow vehicles. This created a seamless streetscape where shops, greenery, and walking paths blend organically, enhancing safety and spatial fluidity. Similarly, Himeji's Otemae Street reduced six traffic lanes to two, expanding pedestrian areas and adding parking and cycling infrastructure. The transformation led to the 40% increase in foot traffic and revitalized local commerce.

② Community Co-Governance

The guidelines emphasize bottom-up, participatory planning. In Kashiwa-no-ha Smart City, residents, businesses, and government formed workshops for the 'Street Party' project, temporarily pedestrianizing streets on weekends. After positive feedback, the pilot became part of official planning. The guidelines promote a 'trial-based' approach: implement temporary interventions (e.g., movable planters, part-time parking zones), assess community responses, and iterate accordingly. This dynamic participatory process fosters a sense of ownership and relevance. In Kitakyushu, nighttime open-air café permissions are even delegated to neighborhood alliances, who draft their own street codes, with the government offering only technical and institutional support.

③ Stock Transformation: Precision Renewal and Adaptive Design

Another hallmark of Japanese street design is its sensitivity to existing conditions. Aware of land privatization and fiscal constraints, the guidelines advocate for small but refined upgrades. For example, in Toyama City, a disused roadway and setback zone were transformed into 'Grand Plaza,' a 24-hour public square featuring removable stages and modular seating for markets and performances. Post-renewal footfall increased by a factor of 4.7. Projects like this prioritize incremental flexibility—initial works focus on paving and lighting, while community-driven

additions such as benches or plants follow gradually, allowing for budget control and grassroots placemaking.

（3）Institutional Coordination: Policy Tools and Interdepartmental Integration

The success of Japanese street design is underpinned by robust institutional frameworks. Legislative reforms under the Urban Regeneration Special Measures Act introduced two key legal categories—'Pedestrian-Friendly Streets' and 'Comfortable Stay Zones'—which empower local governments to reallocate road rights and engage private capital in street operations. For example, the Shibuya Fukuras project utilized 'special zone road occupancy' policies to build a shared logistics hub in the basement, resolving conflicts between commercial delivery and pedestrian movement. The guidelines also work in tandem with laws like the Road Act and Bicycle Environment Design Guidelines, ensuring that transportation, landscaping, and commerce are coherently addressed and regulatory conflicts are avoided.

Figure3- 8 Legal system and financial support for promoting street projects[56]

3.1.3 Chinese Guidelines: Shanghai and Chengdu

While Italy's N. 381 and N. 388 regulations emphasize architectural form, regulatory metrics, and formal approval procedures, and Japan's Street Design Guidelines focus on walkability and street aesthetics, China's Shanghai Street Design Guidelines and Chengdu Small Block Planning and Construction Guidelines offer more adaptable and operable strategies. These guidelines center on the integration of streetside space into everyday urban life, with an emphasis on spatial flexibility and multifunctional synergies.

（1）Shanghai Street Design Guidelines

As the first comprehensive street design guideline in mainland China, the

Shanghai Street Design Guidelines were developed in response to the challenges of high-density urban environments. Positioned as a benchmark for megacities, the guideline seeks to 'reshape the human scale of streets.' It redefines streetside space not simply as a corridor for circulation, but as a carrier of a livable, walkable, and productive urban ecosystem. Streetside space is envisioned as a multifunctional zone for social interaction, consumption, leisure, and cultural experiences: an essential node for reactivating urban vitality. The core strategy lies in vertical integration and smart enhancement, transforming streetside space from residual margins into catalytic urban interfaces. The design objectives center around safety, vibrancy, ecological sustainability, and intelligent governance, all rooted in human-centered principles.

Figure3- 9 From road to street (Source: reference[54])

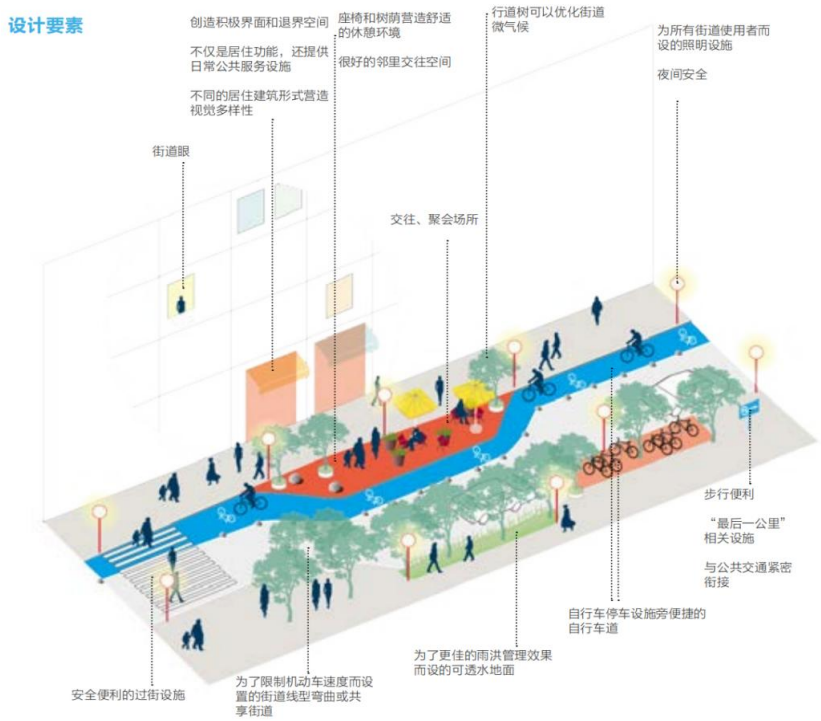


Figure3- 10 Design elements of life service street (Source:reference[54])

The guideline categorizes streets into five functional types: living service streets, commercial streets, landscape and leisure streets, traffic-dominant streets, and composite-use streets. Each type features differentiated spatial allocations and element combinations, for example, commercial streets focus on the integration of pedestrian-friendly spaces and event zones, while landscape streets prioritize greenery and rest areas. Design interventions in streetside space must align with the intended street function and promote spatial vitality through strategic element configurations.

Key elements related to streetside space:

① Street Interface and Streetside Quality Enhancement

The guideline emphasizes the continuity and transparency of the building-street interface as critical to shaping streetside space. Ground-level building façades are encouraged to align with the street edge to form coherent and legible boundaries. In residential areas, the introduction of public-use functions (e.g., retail or community services) at the ground level is promoted to increase interaction and activation. Setback areas in front of buildings are incorporated into the streetside system via design elements like temporary seating, display platforms, and stepped entries. Fine-grained interface design is considered essential for enabling openness and interaction, contributing to spatial enclosure, visual interest, and pedestrian safety.

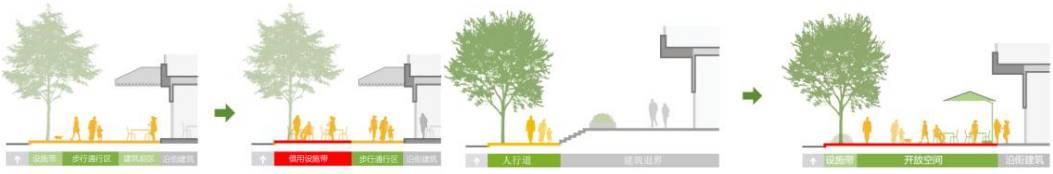


Figure3- 11 Interface design method for life service street (Source:reference[54])

② Walkability and Slow-Traffic Priority

The guideline advocates for people-first design principles. It proposes widening sidewalks, optimizing layouts for pedestrians and non-motorized users, and ensuring continuity and safety for slow modes of transport. Street furniture such as benches and greenery features are encouraged to foster comfortable spaces for pause and social engagement.

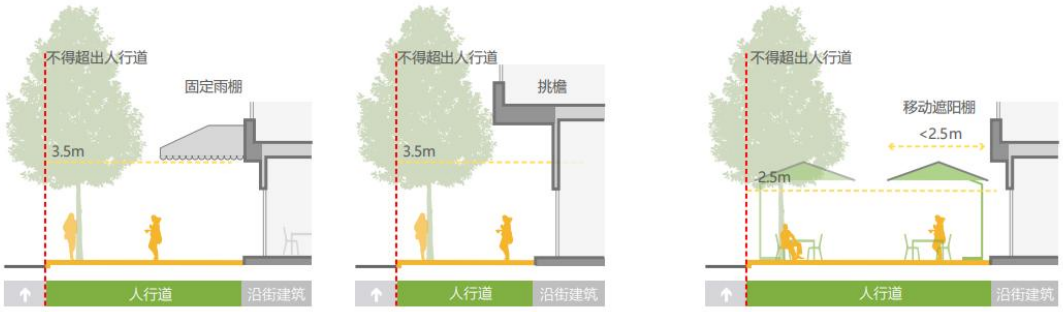


Figure3- 12 Widen the sidewalk space and optimize the layout (Source:reference[54])

③ Landscape and Green Infrastructure

Greening is highlighted as a key strategy for enhancing both ecological and visual quality. A layered system comprising street trees, tree pits, and permeable paving is recommended to promote environmental performance and permeability. In living service streets, tree pits can be integrated with seating elements to form 'green islands.' Pocket parks or micro-squares at intersections and building setbacks provide residents with small-scale natural retreats while improving microclimates.

④ Lighting and Street Furniture Design

Functionality and aesthetics are jointly emphasized. The lighting system is to be multi-layered, combining streetlights for functional visibility with ambiance lighting under trees, near benches, or on facades to enrich nighttime streetside experience. Street furniture—benches, trash bins, information signs, bollards—should be placed within designated amenity zones, with consistent form, human scale, and stylistic coherence with the street.

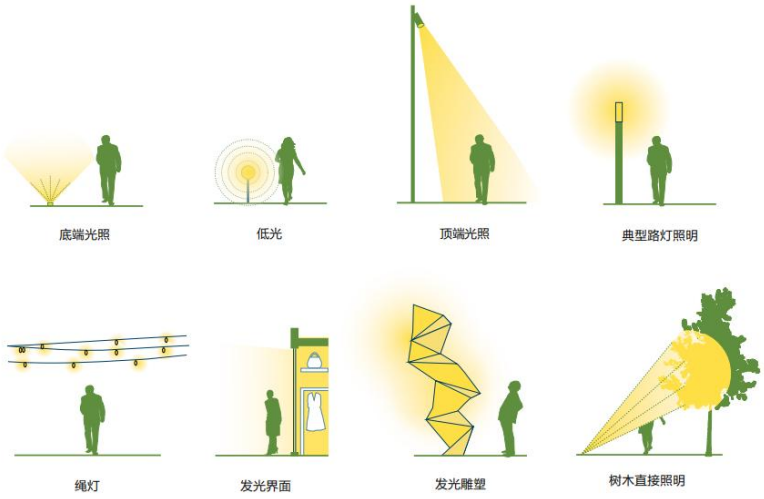


Figure3- 13Pedestrian space lighting method (Source:reference[54])

⑤ Regulation and Encouragement of Commercial Activities

The guideline recognizes street commerce as vital for spatial and economic vibrancy. In living service streets, outdoor vending, pop-up markets, and night-time stalls are encouraged, promoting low-intensity and flexible commercial forms. It also establishes regulatory boundaries to prevent obstruction and ensure safety. Commercial stalls may be legally installed in setback zones or plazas, complemented by seats, shade, and landscaping to form controlled yet lively streetside units.

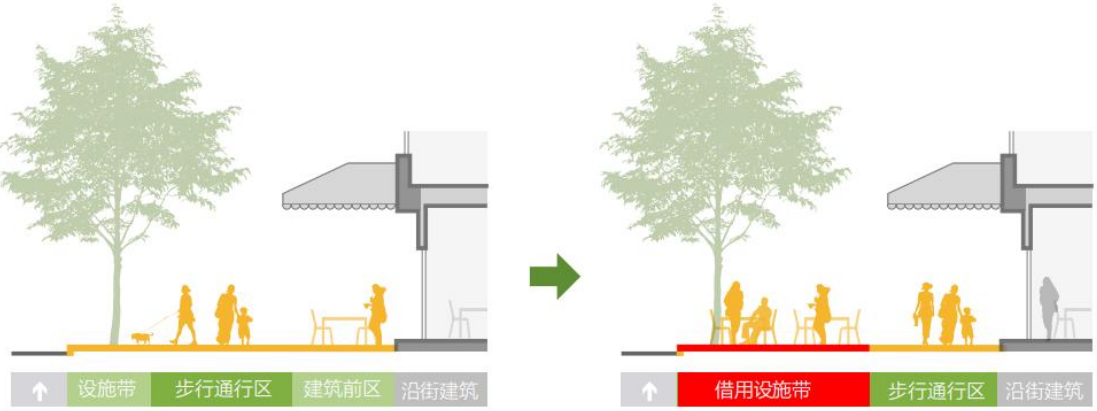


Figure3- 14 Street vitality unit with "controllable boundaries" (Source:reference[54])

（2）《Chengdu Small Block Planning and Construction Guidelines》

In contrast to Shanghai's high-density and infrastructure-driven approach, Chengdu's guideline emphasizes the revival of 'everyday life textures' and informal street culture. It adopts a 'street acupuncture' method to regenerate small-scale streetside space and rebuild local social networks and cultural identity. At the micro-circulation level, the guideline proposes 'cutting up large compounds and densifying the street network,' breaking down wide arterial roads into 200-300 meter segments and integrating one-way traffic to improve walkability. In the Teahouse Lane area of Jinniu District, for example, compound walls were removed, and several new 6–8 meter-wide side streets were added. These streets were activated with local service 'community boxes' such as teahouses and bookstores, turning streetside space into a social interface.

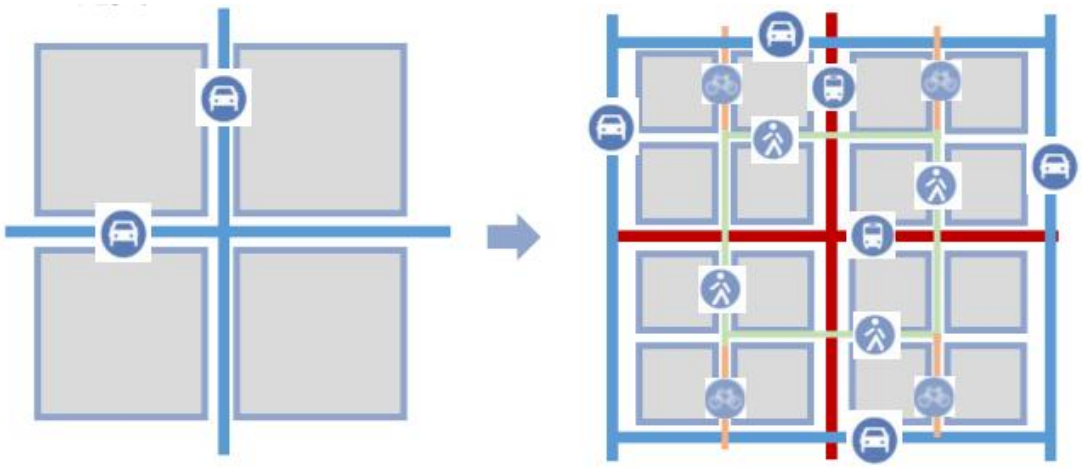


Figure3- 15 Schematic diagram of traffic mode, opening up the "capillaries of the city" (Source:reference[55])

A unique feature of the Chengdu approach is the **embedding of local cultural symbols**. Drawing on vernacular forms such as Sichuan folk houses and bamboo crafts, designers transform regional motifs into street furniture and landscape elements. In the Chongde Li community in Jinjiang District, 'bamboo' is the core design theme: bamboo-woven lamps, fences, and dialect murals illustrate local traditions like *bai longmen zhen* (chatting). This not only strengthens spatial identity but deepens emotional belonging through narrative urbanism.

Figure3- 16 Street view of Chongdeli Street in Jinjiang District (Source:reference[55])

Commercial regulation in Chengdu is also notably flexible. The guideline permits shopfronts in backstreets to independently adjust outdoor display areas and opening hours. A 'negative list' approach is used—only prohibited business types (e.g., heavy food services, auto repair) are listed, while others can operate via simple registration. In Kuixinglou Street, this approach has sparked a surge in creative markets and pop-up stores. Streetside space has evolved from 'uniform order' into

'organic growth.' However, the model's long-term viability remains limited by policy inconsistency; short-term leasing and shifting rules discourage stable community formation and place attachment. Implementation remains highly reliant on administrative initiative, with insufficient private or civic sector engagement.

（3）Common Challenges: Overreliance on Administration and Gaps in Participation

Despite their local distinctions, both the Shanghai and Chengdu guidelines reveal a shared limitation in China's street design paradigm—an overdependence on top-down governance with limited market-driven or community-led initiatives. Whether through Shanghai's smart street projects or Chengdu's small-block micro-renewals, funding primarily derives from public finance, lacking long-term incentives for private capital involvement. Resident participation is often passive, confined to consultation rather than co-decision-making. For instance, in a renovation project in Yangpu District, Shanghai, although multiple hearings were held, the final plan was shaped by the planning institute's technical rationale and ignored local calls for child-friendly facilities. This 'semi-open' participation results in underused or misaligned spaces—some of which remain idle post-completion.

3.2 Comparative Analysis and Summary

3.2.1 Comparative Analysis

In terms of street classification, both Chinese guidelines show a shift from function-oriented to human-centered logic. The Shanghai Street Design Guidelines propose a four-level street system—arterial, secondary, residential, and slow-traffic streets—each equipped with different streetside elements such as greenery, furniture, and arcades, aiming to balance circulation and spatial stay. Chengdu's guidelines, in contrast, break the rigid boundary of the 'red-line' system, encouraging flexible integration at the block and neighborhood levels. They prioritize the social and residential quality of secondary streets and alleyways.

In spatial strategy, Shanghai embodies a large-city governance logic of systematic coordination + technological embedding. With tools such as 'dynamic right-of-way' and 'smart lighting,' the guidelines integrate transport and municipal resources at the city scale while enabling real-time adjustment mechanisms at the micro level. While suitable for high-density contexts, this model risks privileging systems over individuals, with weak public participation mechanisms.

Conversely, Chengdu uses small-scale, high-frequency micro-renewal to foster 'conversable, viewable, usable' everyday street experiences under the concept of life-as-space. Its local advantage lies in:(1) Cultural translation, such as embedding bamboo weaving or Sichuan dialect into streetside design elements; (2) Flexible business mechanisms, including a 'negative list+filing' system for outdoor commerce, which grants greater autonomy to residents and shop owners. This 'everyday vitality' model offers strong referential value for activating streetside space in historic districts like Yangzhong Street.

Compared with Italy's strict regulation on public space (e.g., N. 381's precise restrictions on Chioschi or Dehors to ensure clearances and façade transparency), Chinese guidelines exhibit greater flexibility, particularly in Chengdu, where 'relational governance' and 'spatial reuse' reflect localized wisdom. However, this flexibility may result in uncertainty and limited replicability, suggesting a need for institutional frameworks to ensure long-term stability.

While Japan's Street Design Guidelines focus on aesthetic upgrades through pedestrian comfort and interface coherence, China's advantage lies in the functional integration and adaptive governance of its streetside practices. Japan excels at crafting 'quiet, safe, and continuous' pedestrian scenes, with clear structures and detailed standards, but lacks adaptability in high-density and mixed-use settings. China, especially Chengdu, offers more emotionally resonant models for multifunctional layering and spatial diversity.

From the perspective of design logic, the three case types—Italy, Japan, and China—demonstrate significant differences in their goal orientation, intervention approaches, and evaluation mechanisms. The regulatory system of N.381/N.388 in Turin, Italy, represents a typical "statute–execution" logic. Renewal is driven by detailed legal frameworks and rigid standards that guide the integration of streetside interfaces and spatial elements, with an emphasis on systematization and legal rationality.

In contrast, Japan's Street Design Guidelines follow a "experience–feedback" logic characterized by flexibility. Grounded in field observation and user participation, they prioritize comfort, openness, and local responsiveness. Renewal strategies often emerge from residents' spatial experiences and nuanced perceptions of place.

Guidelines in Chinese cities such as Shanghai and Chengdu tend to reflect a "problem–solution" logic with an engineering mindset. They focus on identifying

existing issues and implementing micro-renewal strategies aimed at low cost and quick results. This approach emphasizes both flexibility and practicality.

The differing design rationales and depths of control among the three also reveal deeper influences stemming from institutional contexts, social structures, and cultural perceptions embedded in the design logic of streetside space.

Dimension	Turin (Regulation-Driven)	Japan (Human-Centered)	Shanghai/Chengdu (Problem-Oriented)
Priority Goals	Heritage conservation + spatial order	Comfort + community identity	Efficiency + cultural expression
Element Control	Rigid constraints	Flexible guidance	Combination of rigidity and flexibility
Implementation Actor(s)	Government-led	Public – private – community collaboration	Government-led + Developer participation

3.2.2 Implications of Differentiation

（1）Europe

In many European countries, particularly those with rich historical heritage such as Italy and France, street and streetside space management is predominantly governed by detailed legal regulations. These laws aim to clearly define spatial boundaries, authority, dimensions, and material standards, thereby minimizing design conflicts arising from the involvement of multiple stakeholders. For example, in Turin, the municipal codes N.381 and N.388 not only prescribe technical specifications regarding street interfaces, auxiliary structures, paving materials, and the use of outdoor spaces, but also stipulate the administrative approval process, management responsibilities, and setback distances. This "predefined standards–procedural auditing–post-occupancy supervision" framework enhances both urban image control and spatial order, making it particularly effective in historically sensitive areas such as heritage zones and conservation districts. However, such a system tends to lack flexibility, making it less responsive to evolving societal structures and diversified urban living needs.

（2）Japan

Street design and management in Japan adhere to legal norms while deeply incorporating the lived experience and spatial perception of urban life. The Street Design Guidelines shift the design focus from purely improving traffic efficiency to

creating streets that are both "comfortable to stay in" and "inviting to walk". These policies guide detailed design aspects such as spatial scale, interface interactivity, material and color selection, greening strategies, and participatory mechanisms. Japan's approach is particularly suitable for well-governed, pedestrian-oriented cities with strong cultural continuity. Compared to Europe's rigid regulatory model, Japan prefers soft governance that gently steers spatial behavior, achieving a balance between refinement and friendliness in urban management.

（3）China

In the Chinese context, streetside space governance demonstrates a strong tendency toward "institutional adaptability." Within the existing administrative structure, policy instruments are often used to negotiate spatial logic and governance strategies. Examples like the Shanghai Street Design Guide and Chengdu's Small Block Planning and Construction Technical Guide go beyond the physical aspects of traffic, greening, and building interface—they also address governance dimensions such as community co-creation, micro-regeneration, and public participation. These guides foster a collaborative mechanism involving government leadership, professional support, and community involvement. Their advantages lie in their policy flexibility and capacity for integrated resource coordination, enabling them to cope with the complexities of urban street issues amid rapid urbanization. However, current practices are still largely top-down, with underdeveloped grassroots governance and spatial operation mechanisms. Moving forward, there is a need to refine tools for behavioral guidance, rights negotiation, and usage evaluation, in order to improve the resilience and long-term sustainability of streetside space governance.

3.3 Design Strategy Construction of Streetside Space in the Study Site

Overall Strategy 整体策略	Specific Means 具体方式	Result-Oriented 结果导向
Local Adaptability 在地适应性	Respect historical texture, adapt to local needs 尊重历史肌理，回应本地需求	Spatial integration and cultural continuity 空间整合与文化延续
Collaborative Governance 多方协同	Establish stakeholder platform, participatory trial space 建立协作平台，公众参与试点	Social recognition and operational flexibility 社会认同与治理弹性
Phased Implementation 渐进实施	Three-phase framework: Clean-up, Activation, Institutionalization 三阶段路径：整治—活化—常态	Long-term sustainable renewal mechanism 可持续更新机制

Figure3- 17 Streetside space design strategy framework (Source: by the author)

3.3.1 Design Principles

（1）Principle of Local Adaptation

Respecting site-specific conditions (e.g., historical texture, alley scales, architectural types), priority should be given to preserving basic living functions and enhancing the cultural recognizability and adaptive use of streetside spaces. The goal is to avoid spatial homogenization. Drawing on Japan's concept of placemaking, which takes community perception as a design metric and employs spatial flexibility and micro-renewal as key tactics, the strategy should avoid large-scale demolition. Instead, it should rely on fine-grained diagnosis + community negotiation + flexible design to build a small-scale, iterative renewal logic.

（2）Principle of Multi-Stakeholder Coordination

Streetside renewal must integrate consensus and resources from residents, shopowners, urban management, and planners. Platforms such as block councils or urban renewal committees should be established to coordinate phased agendas and enhance participation. Zhao Xin [57] emphasized that a well-structured collaborative planning system helps prevent misclassification, stylistic inconsistency, and control failures in street projects. Drawing from Italy's regulatory experience (e.g., N. 388's classification and scheduling of temporary structures), it is advised to predefine ownership, usage responsibilities, and levels of intervention for streetside space. A combined flexible + baseline policy framework should be established to shift

governance from reactive to anticipatory.

3.3.2 Streetside Space Optimization Strategies

（1）Interface Control

Referencing Shanghai's requirement for 'ground-floor transparency,' strategies should aim to increase building permeability (e.g., more windows and entrances) and improve interaction with alleyways. The 'front porch setback' model is encouraged, integrating platforms and semi-open plazas to enhance interface quality.

Furthermore, in the renewal of historical districts in Guangzhou, scholars and practitioners have proposed the methodological approach of "Minimal Progressive Interventions by Learning," advocating for designers to learn from residents' usage patterns and use the everyday logic of historical spaces as design cues. Xu Haohao and colleagues, through their work in Pantang Wuyue and Xiguan neighborhoods, suggest that new design interventions should connect with existing spatial structures and traditional bodily relationships, responding to the integrity and livability of urban heritage through fine-scale and continuous acts. This approach emphasizes entering the district with a "we" perspective—understanding the detailed transformations and informal construction of street-side spaces through the lenses of behavioral and sociological studies—so that such spaces are no longer treated as passive objects of design, but rather as socially negotiated and continuously evolving environments[58].

（2）Public Space Activation

Introduce diverse node elements, movable greenery, retractable canopies, temporary seating, and allow reversible outdoor zones. This approach draws from Italian models (e.g., Turin's D2-category shading structures) and should adapt to Guangzhou's climate with demountable, climate-responsive designs. Inspired by Japan's social experiment model, pilot pedestrian days and street markets during holidays to shift users from passive recipients to active participants, gradually cultivating a socially embedded usage base. Tu Jian[59] notes that as a composite of public life, urban streets must balance visual continuity with adjacent buildings and nurture spatial vibrancy through dynamic interface design.

3.3.3 Implementation Pathways

（1）Process Optimization

Develop a phased renewal roadmap for streetside space:

Stage 1: Basic Rehabilitation (e.g., facade cleaning, clutter removal)

Stage 2: Functional Enhancement (e.g., introduction of cultural or commercial elements)

Stage 3: Long-Term Operation (e.g., governance system building)

（2）Policy Support

Following Chengdu's lead, introduce a Streetside Space Management Guideline, including standards for temporary use, approval procedures, and rental mechanisms. Establish a Streetside Space White List and tailor a Local Stewardship Mechanism to Guangzhou's specific conditions. It would clarify user, maintainer, and supervisor responsibilities, solving the current 'shared but ownerless' space dilemma, and advancing streetside space from a planning blind spot to a governance consensus zone.

（3）Alignment with Higher-Level Planning

As a micro-level component of the urban regeneration system, the effective renewal of streetside spaces depends on seamless integration with higher-level planning frameworks and coordinated collaboration across departments. Under current frameworks such as the Guangzhou Historic Central Axis (Modern) Conservation Plan and the Wende South Historic District Conservation Plan, the renewal of the western segment of Wenming Road along Yudai Moat should emphasize logical alignment across the three tiers of "regulatory planning – urban design – detailed design", forming a systematic pathway from strategic guidance to spatial implementation.

① Mechanisms for Planning Integration

To ensure the implementability of design strategies, it is recommended to supplement the control-level detailed plan and refine the urban design of the Wende South area by incorporating classifications and guidelines specific to streetside spaces. Additionally, at the statutory planning level, it is advisable to reserve "streetside interface control zones" or "flexible streetside space zones" as dedicated management overlays. These would guide anticipated behaviors such as building setback regulations, outdoor commercial activities, and public facility layout.

② Interdepartmental Role Division and Coordination Mechanism

Governance of streetside spaces involves multiple departments including planning,

housing and construction, urban management, transportation, culture and tourism. It is recommended to establish a "Streetside Space Renewal Joint Task Group" to clarify the responsibilities of each stakeholder:

Natural Resources and Planning Department: Lead policy formulation and planning updates for streetside spaces; set control lines, setback standards, and functional zoning indicators.

Urban Management Department: Oversee environmental order and improve permitting systems for temporary facilities; establish flexible regulatory mechanisms for outdoor seating, awnings, and signage.

Housing and Urban-Rural Development Department: Coordinate architectural facade renovation, interface review, and technical standard alignment.

Transportation Department: Evaluate impacts of traffic reorganization on pedestrian priority; support microcirculation systems and slow-mobility spaces.

Culture, Tourism, and Community Organizations: Assist with the integration of public cultural facilities and the establishment of mechanisms for resident participation.

③ Supporting Legal and Institutional Recommendations

Current regulations mainly focus on areas within the red-line boundaries and lack systemic constraints on streetside interfaces and ambiguous zones. Supporting legal revisions are proposed in three areas:

Revise existing guidelines such as the Guangzhou Urban Design Guidelines and Street Design Manual to include dedicated items on streetside spaces, specifying interface dimensions and detailed streetside requirements;

Issue interim regulations for "management of outdoor commercial activities and interface renovation," clarifying application procedures, responsible parties, and boundaries of usage rights;

Integrate streetside space governance into the Refined Urban Management Ordinance, and explore a "co-construction, co-governance, co-sharing" framework to achieve decentralized governance and enhanced community collaboration.

3.4 Chapter Summary

This chapter conducts a comparative analysis of multi-scalar case studies to extract key design principles and operational frameworks for the renewal of street-side spaces in Guangzhou's historical districts. Internationally, Turin's N.381

and N.388 regulations showcase a highly institutionalized and refined mode of public space management, particularly in historical urban areas. They regulate streetside commercial extensions (Dehors) through comprehensive standards on structure, time, materials, and application procedures—offering a people-centered yet legally grounded governance model. Japan's Street Design Guideline emphasizes livable street environments with walkability, transparency, and multi-functionality, optimizing spatial vitality through visual and behavioral cues.

Domestically, the Shanghai Street Design Guide focuses on vertical integration and mixed-use design strategies in high-density urban contexts, while the Chengdu Small Block Planning Guide centers on walkable scale, residential continuity, and spatial vitality within inner-city neighborhoods. These guides provide valuable insights in terms of regulatory systems, design typologies, spatial dimensions, and implementation mechanisms—offering adaptable references for the local context of Yudai Moat.

Three strategic paths are summarized at the end of the chapter: (1)"Law-space" synergy approach to manage spatial rights and use of streetside spaces; (2)"Placemaking + flexibility" strategy for facade and edge interface design; (3)"Behavior-driven + incremental design" method for everyday space renewal. These design logics directly respond to the physical, communal, and cultural issues identified in Chapter 2 and lay a theoretical and operational foundation for the formulation of site-specific, operable, and sustainable design guidelines in the following chapter.

Chapter 4 Design Practice for Streetside Space Renewal

4.1 Design Framework Construction

This section aims to establish a set of design guidelines for the renewal of streetside spaces in the historical district of the western section of Wenming Road, Yudaihao, Guangzhou. The overall framework draws on the typical logical systems of both domestic and international street design guidelines. By integrating local historical context, community structure, and existing challenges, the framework is structured around four key layers—spatial categorization, element integration, strategy guidance, and governance mechanism—anchored in a typological understanding of space.

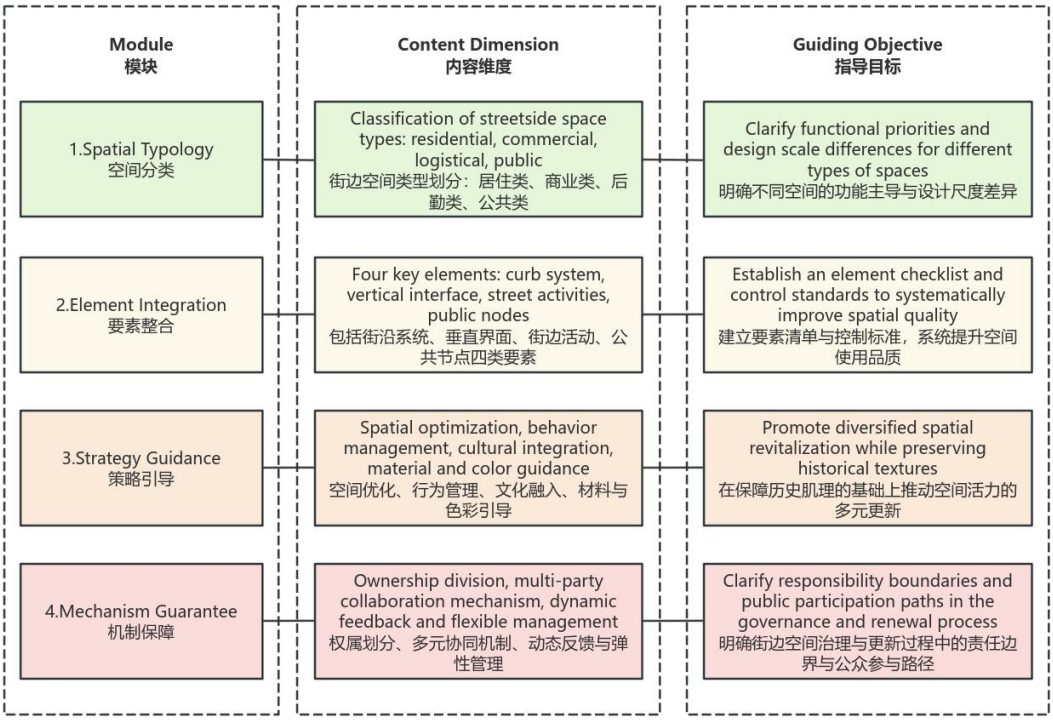


Figure4- 1 Design Framework (Source: by the author)

4.2 Design Guidelines for Streetside Space Renewal

4.2.1 Master Plan

The proposed renewal design, grounded in respect for the historical fabric and the existing street-alley layout, establishes an overall planning structure characterized by a "continuous streetside interface + multiple vitality nodes + micro-intervention activation" approach. As illustrated in the master plan (Fig. 4-2), the layout clarifies

the spatial relationships between key streets within the renewal area—such as Yangzhong Street, Qingyun Straight Street, and Dongheng Alley—and the designated node spaces. The plan reinforces functional complementarity and visual continuity across the three-tiered "street–alley–node" system, adopting a pedestrian-oriented traffic strategy to activate streetside spaces as the primary venues for residents' daily activities.

The design achieves this by organically repairing fragmented interfaces, integrating historical and cultural heritage elements into the public realm, and enhancing functionality and landscape quality at corner nodes. This results in a spatial configuration that emphasizes accessibility, legibility, and openness. Special attention is given to street continuity, building setback interfaces, and the organization of outdoor commercial zones to improve comfort and promote social interaction in streetside areas—responding directly to the core idea that "the street is a container of life."

Figure4- 2 Master plan (Source: by the author)

4.2.2 Street-Level Strategies

As the upper-level spatial framework, the condition, planning, and design of the street significantly affect the performance and transformation of the adjacent streetside space. The following provides an analysis of key influencing factors at the

street level:

（1）Enhancing Pedestrian Accessibility

To address issues such as poor alley connectivity, interrupted pathways, and a lack of wayfinding systems, it is recommended to introduce visual orientation nodes. These may include street name signage, graphic directional maps, and small-scale plaza entrances placed at key intersections. Such interventions help improve spatial legibility and continuity within the pedestrian network.

（2）Integrated Traffic Organization

The existing traffic circulation system should be further refined by clearly defining routes for pedestrians, non-motorized vehicles, and motor vehicles. For narrow but frequently used pedestrian alleys such as Dongheng Lane, strategies such as timed traffic restrictions or localized widening may be introduced to enhance pedestrian safety and comfort.

Figure4- 3 Block traffic organization diagram (Source: by the author)

（3）Redefining Curb Space

Based on an analysis of street-level traffic types and user activities, the dimensions of streetside space should be adjusted accordingly to enhance safety and spatial efficiency. By optimizing curb widths, the goal is to improve pedestrian and traffic coexistence in narrow alleys. In addition, well-planned parking areas and

clearly designated parking spots should be introduced to prevent the disorderly placement of vehicles, which often leads to congestion and environmental degradation. These measures will ensure smooth and safe pedestrian movement while maintaining urban order.

Figure4- 4 Comparison of Curbline Conditions Before and After (Source: by the author)

（4）Removal and Renovation of Illegal Extensions

Parts of the site contain unauthorized building extensions that severely encroach upon the public street space. In one section of Yudai Moat, for instance, both sides of an originally 11-meter-wide street were reduced by 3 meters due to illegal additions, cutting the effective street width by more than half. These structures often suffer from poor maintenance, structural instability, damaged façades, or the use of bright-colored metal canopies that visually disrupt the streetscape. Some of these additions are currently vacant or used for construction waste storage. It is recommended that such illegal extensions, especially those severely impacting the street space, be demolished to restore functional and aesthetic order.

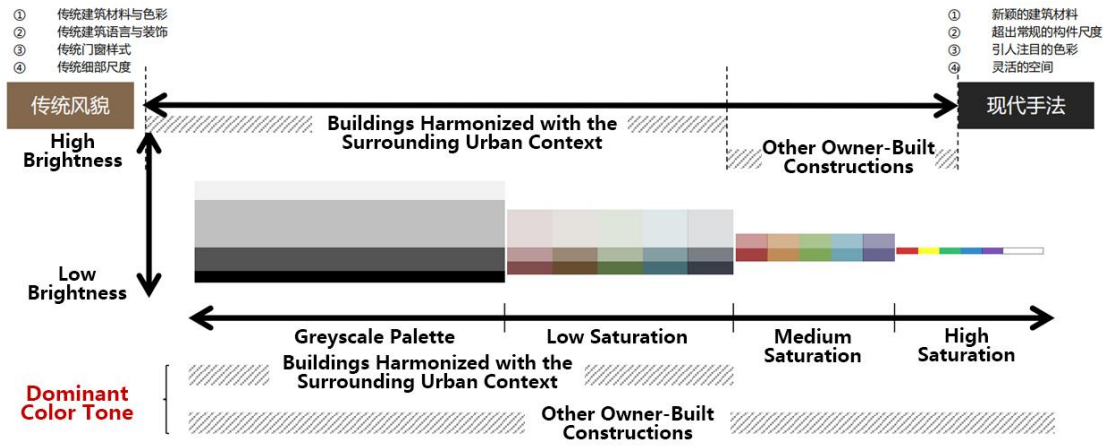


Figure4- 5 Architectural style and color guidance (Source: Redrawn based on the comprehensive

planning of the characteristic cultural blocks of Nantou Ancient City)

（5）Architectural Style and Color Guidance

A coherent visual identity for the streetscape can be achieved through the coordination of building colors, façade materials, and architectural detailing. Guidelines should propose a restrained palette and context-sensitive materials to harmonize the street's overall appearance and reduce visual clutter (Figure4- 5).

4.2.3 Design Elements of Streetside Space

The renewal of streetside space focuses on the modifiable elements between the building's lower façade and the curb-edge boundary. These elements include: Architectural façade components: walls, doors, windows, stairs, and ground-floor balconies; Building attachments: downspouts, exposed wiring, awnings; Greening elements: potted plants, tree pits; Urban furniture and public facilities: trash collection points, meter boxes, street lighting; Curb and paving materials.It is important to note that not every segment of streetside space includes all of these elements. Depending on the building's function (residential, commercial, institutional, etc.), different components have varying levels of impact on spatial quality and user behavior.

Thus, a context-sensitive classification should be applied, identifying the most influential elements in each typology and tailoring the design response accordingly. Design strategies must also consider indirect effects on surrounding buildings and users. Even subtle modifications at the street scale, such as repositioning a bench or altering a facade treatment, can significantly influence behavior, comfort, and perception in public space.

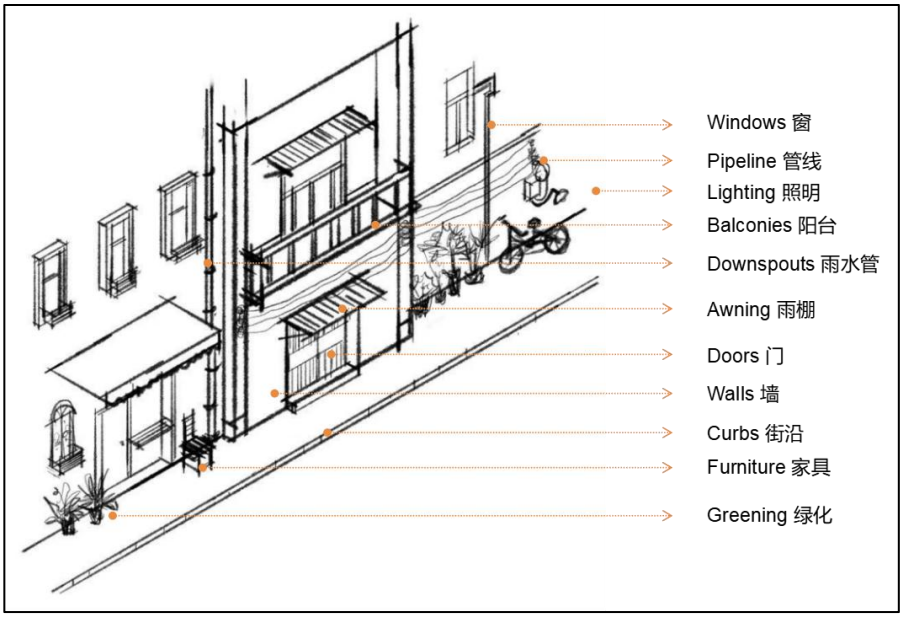


Figure4- 6 Streetside space design elements (Source: by the author)

Since their inception, street design guidelines have reflected a methodological shift away from engineering-centered approaches, instead emphasizing urban design research that foregrounds spatial functionality based on diverse user needs. Rather than focusing solely on technical specifications, these guidelines adopt a more holistic lens that integrates behavioral, perceptual, and contextual dimensions of street life. In China, the key control elements of current street design guidelines are generally categorized into four main groups:1. Traffic Function; 2. Landscape Environment; 3. Supporting Facilities; 4. Building-Street Interface.In contrast, international street design guidelines tend to encompass a broader and more detailed spectrum of spatial elements（Figure4- 7）.

空间要素		地区															
		纽约	波士顿	芝加哥	洛杉矶	旧金山	西雅图	纽黑文	伦敦	英国	奥克兰	悉尼	多伦多	阿布扎比	日本	北京	上海
人行区	建筑首层		●		●		●							●	●		●
	通行区	●	●		●	●	●		●		●	●	●	●	●	●	●
	街道材质	●	●		●	●	●	●	●	●		●	●	●	●	●	●
	绿化	●	●	●	●	●	●	●	●			●	●	●	●	●	●
	设施	●	●	●	●	●	●	●	●	●		●	●		●	●	●
	照明	●	●		●	●	●		●	●		●	●	●		●	●
	标志	●	●						●	●	●	●	●	●		●	●
	设备								●			●				●	●
间隔区	出入口设计		●	●	●	●	●			●				●			●
	机动车停车		●	●	●	●		●	●	●	●	●			●	●	●
	非机动车停车	●	●	●		●	●		●	●	●	●	●		●	●	●
	自行车道	●	●	●	●		●	●	●		●	●	●	●	●	●	●
车行区	机动车道	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	公交专用车道	●	●	●	●	●		●	●		●	●	●	●	●	●	●
中心区	中间分隔带	●			●	●	●	●	●	●	●	●	●	●		●	●
交叉口空间	转弯半径		●		●	●		●	●		●	●				●	●
	视距			●	●					●			●				
	行人安全岛	●	●	●	●	●	●		●		●	●	●	●		●	●
	过街设施	●	●		●	●		●	●		●	●	●	●		●	●
	交叉口设计	●	●	●	●	●		●	●		●	●	●	●		●	●
	路缘石处理	●	●		●	●	●	●	●			●	●	●		●	●
	节点广场	●	●			●									●	●	●

Figure4- 7 Spatial elements in urban street design guidelines (Source:reference[60])

4.2.4 Typological Design Guidelines for Streetside Space

To address the diversity of existing functions and spatial conditions, the streetside space in this district is categorized into four primary typologies: residential, commercial, kitchen back-of-house, and warehouse. Each type requires tailored design strategies that balance functional enhancement, heritage preservation, and community activation.

（1）Residential

The residential types in the site include zhutongwu, collective housing, and danwei compounds. Differentiated strategies should be developed for each, guided by the following principles:

Micro-Renewal Orientation: Favor light-touch interventions that improve functionality while preserving historical character, avoiding large-scale demolition or redevelopment.

Co-Governance Mechanisms: Encourage resident involvement through community advisory boards to discuss renovation plans and co-design flexible shared spaces, such as community gardens or market plazas.

Visual Harmony: Any new structures should use materials and colors that reflect the traditional aesthetic, ensuring continuity in streetscape appearance.

Table4- 1 Residential Renewal Guidelines

Category	Zhutongwu (Bamboo Houses)	Collective Housing	Danwei Compounds
Remove Clutter	- Clear illegal additions and clutter in alleyways- Restore original linear spatial pattern- Remove temporary structures blocking façades	- Demolish unauthorized ground-floor extensions- Improve corridor daylighting- Standardize external AC units and drying racks with unified grilles	- Remove debris and trash around perimeter walls- Designate parking zones- Consolidate scattered greenery into corner gardens
Repair Structural Risks	- Reinforce brick–timber walls and roofs- Repair decaying beams and columns	- Strengthen concrete slabs and stairwells- Fix damaged façades- Upgrade aged drainage systems to prevent water leakage	- Repair broken walls and gate structures- Reinforce red brick façades- Upgrade underground utility networks
Patch and Upgrade	- Repair damaged blue-brick walls, plaster motifs, and decorative windows- Replace aged pipelines; conceal modern equipment like air-conditioning units	- Restore broken unit entrance canopies and mailboxes- Add ramps and lighting to improve accessibility and elderly-friendliness	- Repair damaged communal sports courts and seating- Install amenities such as parcel lockers and EV charging stations
Preserve Cultural Elements	- Retain traditional features like tanglong sliding gates- Use local materials (granite paving, clay tiles) to preserve Lingnan style	- Retain era-specific details such as propaganda walls and terrazzo railings- Use murals or green walls to activate gray space and reinforce collective memory	- Preserve historical features like arched porticos- Use climbing plants to soften boundary walls and maintain a semi-open community feel

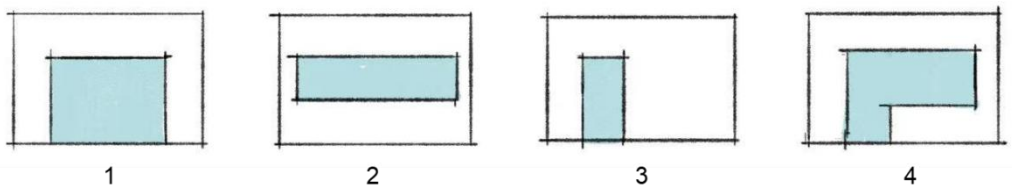
（2）Commercial

Flexible Regulation: Create differentiated guidelines based on commercial types—e.g., allow larger outdoor seating areas for food and beverage shops, and encourage artistic window displays for cultural retail outlets.

Participatory Design Review: All businesses must submit façade renovation proposals to a block management committee for review and record, ensuring coordinated visual impact.

Reversible Upgrades: Promote the use of non-permanent, reversible construction techniques to reduce renovation costs and support long-term adaptability.

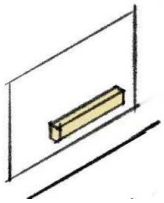
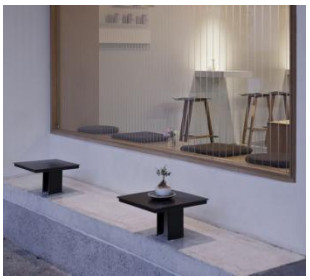
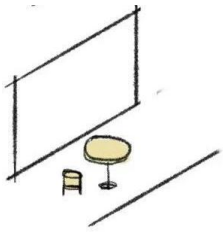
① Facade Transparency



Type	1.Large Transparent Façade	2.Horizontal Strip Window	3.Independent Entrance Only	4.Combined Door and Window
Applicable Scenario	Suitable for most cases; enhances visibility and street engagement.	Applied where the building's side elevation faces the street, allowing horizontal visual continuity.	Suitable for small-width storefronts or shops requiring privacy or a more enclosed environment.	Applicable in most scenarios; balances transparency and functionality.

② Outdoor Display Types

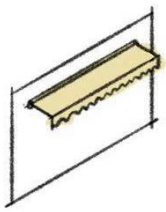
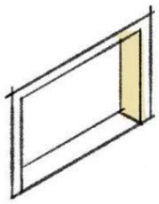
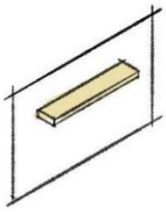
Table4- 2 Examples of external swing

Type	Diagram	Reference Case	Key Considerations
Narrow Street Width			Combine outdoor seating with façade elements (e.g., built-in benches, integrated window bars). Even in narrow alleys, this allows for a pleasant dining experience.
Wide Street Width			Direct placement of tables and chairs is feasible. Must clearly define space boundaries, usage times, and waste management protocols post-mealtime.

③ Canopies

Where required, canopy styles and colors should complement the architectural character. Unnecessary canopies should be avoided.

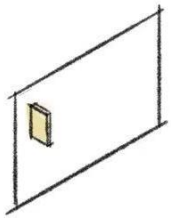
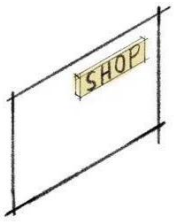
Table4- 3 Examples of awning types

Type	Diagram	Reference Case	Key Considerations
Canvas Awning			Use coordinated fabric colors to complement the building façade Flexible width adjustment for different times or weather conditions Minimizes interference with upper floors
Integrated with Façade Setback			Façade setback expands outdoor usable area Enhances the perception of a defined shop zone and improves pedestrian interaction
Attached to Façade Surface			Can be designed as part of the signage system Drainage should be considered—prolonged use may cause staining on the wall near bracket edges

④ Signboards

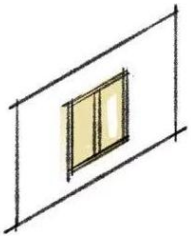
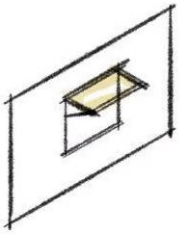
Current redesign practices often adopt a "uniform solution," standardizing size, shape, and color. While this enhances district cohesion, it risks producing monotonous, repetitive urban visuals and long-term aesthetic fatigue.

Table4- 4 Examples of store sign types

Type	Diagram	Reference Case	Key Considerations
Perpendicular to Facade			Ideal for narrow streets; enhances visibility from a distance and helps pedestrians identify the store ahead Should harmonize with surrounding environment Match signage style with business type Encouraged to diversify signage forms
Parallel to Facade			Suitable for standard-width streets Emphasizes alignment and continuity with the building façade Ideal for branding and subtle visual impact

⑤ Window Types

Table4- 5 Examples of window types

Type	Diagram	Reference Case	Key Considerations
Casement / Fixed Window			Recommend enlarging window area to enhance visual transparency and interface engagement. Fixed windows can be used for branding graphics or promotional displays. Can be integrated with outdoor seating design to form a cohesive streetside experience.
Folding Window			Offers large opening area and may serve as a canopy substitute when open. Allows customers to order or pick up directly from the sidewalk, without entering the store. Enhances permeability and interactive quality of the streetside facade.

（3）Kitchen Back-of-House

This typology often corresponds to food-service establishments located in qilou buildings. Backdoors typically open toward the streetside space and are associated with water accumulation, odor, and waste:

1. Installation of grease traps and drainage systems at service exits;
2. Requirements for waste enclosure and odor control;
3. Provisions for visual screening to mitigate conflict with nearby commercial or leisure spaces

Table4- 6 Kitchen Update Measures

Category	Measure	Impact on Streetside Space
Screening & Separation	Green wall / vertical greening	Improves visual quality and air purification; requires regular maintenance; may occupy pedestrian space if overgrown.
	Decorative fencing / grille panels	Enhances streetscape aesthetics and conceals cluttered back-of-house areas; height and style should coordinate with surrounding architecture.
Sanitation & Cleanliness	Anti-slip permeable pavement	Improves ground safety and hygiene; permeable bricks reduce surface water but must match the street's material and color palette.
	Sorted waste bins / concealed storage	Reduces visual pollution and odors; storage must be well-planned to avoid encroaching on pedestrian pathways.
Functional Optimization	Zoning of micro-functional areas	Allocates space for temporary shelves or delivery carts; ensures walkways remain unobstructed and organized.
Community-Friendly Practices	Waste removal during off-peak hours	Minimizes the impact of kitchen waste odors and residues on pedestrians; improves comfort in high-traffic timeframes.

（4）Warehouses

In the lanes adjacent to Wende Road—known for its concentration of bookstores and calligraphy shops—some ground floors serve as warehouses, primarily for storing wood and conducting light processing. These spaces present the following characteristics:

Facade Configuration: Facades prioritize wide door openings for loading/unloading. Curb areas are often converted into sloped ramps to facilitate trolley use, as delivery vehicles cannot enter narrow alleys.

Front-of-House Usage: Spaces in front of warehouse entrances are frequently cluttered with trolleys, packaging materials, and waste.

Worker Habits: Due to poor indoor air quality (e.g., odors, wood dust), workers often place chairs at the entrance for resting, informally converting the streetside space into semi-private break areas.

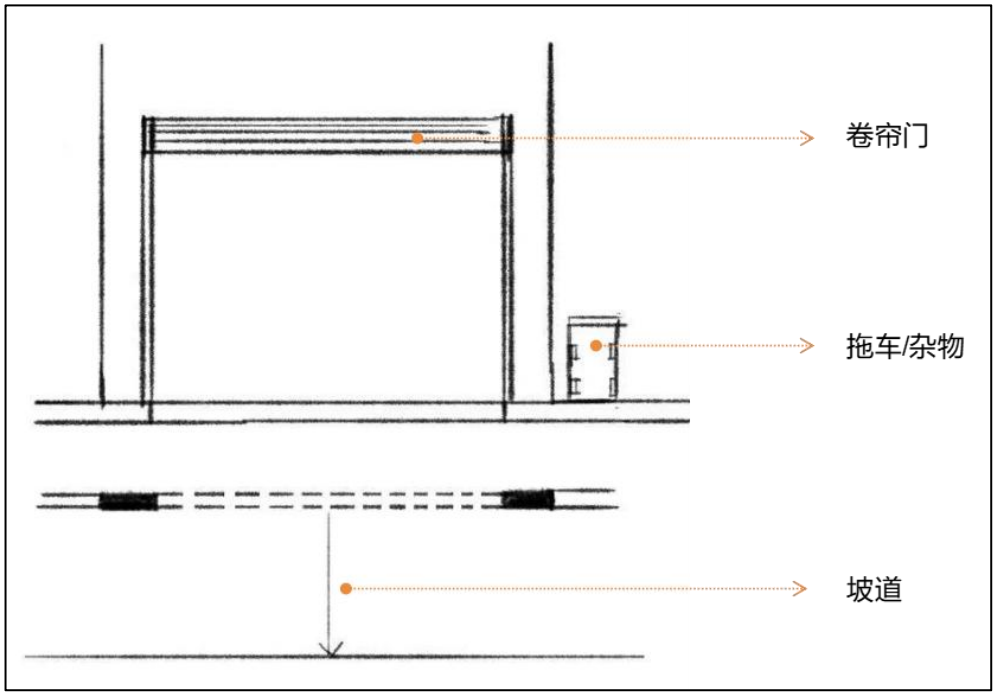


Figure4- 8 Warehouse update elements (Source: by the author)

Table4- 7 Warehouse update measures

Measure	Reference Case	Impact on Streetside Space
Vertical Storage Wall		Utilizes vertical surface area to reduce clutter at shop entrances. However, wall thickness must be controlled to avoid obstructing pedestrian movement.

Mobile Planter Box + Bench Combination		Provides both shading and seating; softens the industrial feel through greenery. Wheels must be secured to prevent unintentional movement into pedestrian paths.
Dust-Control Permeable Paving + Drainage Channel		Reduces dust and surface water accumulation; improves overall hygiene and walkability.

（5）Public Space

① Amplify Historical Narrative

Historical content should be enhanced beyond textual signage. For example, historical maps or illustrations could be embedded at ground level, allowing pedestrians to subconsciously engage with the area's historical storyline as they move through the space.

② Reduce Unnecessary Elements

Non-essential features should be carefully removed. For instance, the curb at the entrance of the Yudai Moat serves no vehicular purpose, yet divides the space into three fragmented areas with limited practical use. Removing such elements would restore spatial continuity and enhance usability.

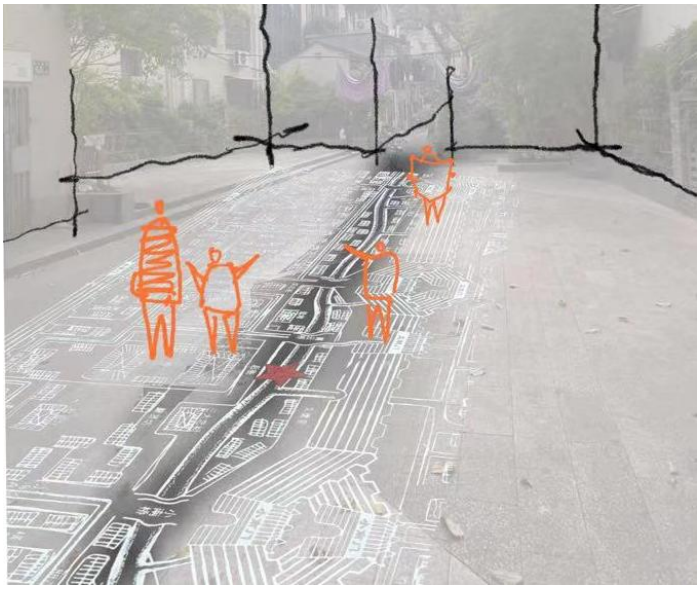


Figure4- 9 Renovation example (Source: by the author)

（6）Public Facilities

For facilities such as waste disposal units, shading canopies, and temporary green seating, the design should emphasize:

① Reversibility

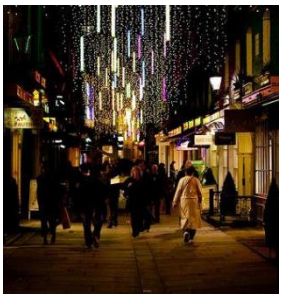
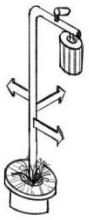
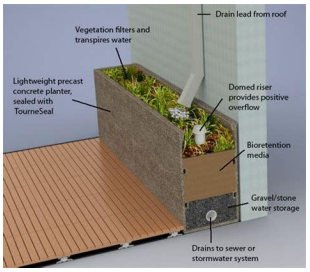
② Flexible deployment

③ Mobility

These characteristics allow for easy adaptation and seasonal reconfiguration.

Based on the component distribution shown in Figure4- 6, it is recommended that each segment of streetside space be equipped with a "modular micro-node toolkit" to facilitate small-scale, high-frequency interventions. This modular approach enables iterative upgrades without large-scale construction, supporting dynamic space management and long-term street vitality.

Table4- 8 Common element update examples

Element	Measure	Reference Case
Pipelines & Cabling	Organize and conceal cluttered utility lines Combine overhead crossings with lighting installations for unified visual effect	
Lighting & Surveillance	Use multi-function poles that integrate lighting, surveillance cameras, and signage into a single vertical structure	
Drainpipes	Plant greenery at the base of exposed drainpipes to soften appearance and manage runoff	

4.2.5 Recommendations for Overall Implementation Mechanisms

（1）Phased Renovation Strategy

The renewal of streetside spaces should follow the principle of "phased advancement and exemplary guidance," with a clearly defined timeline and roadmap. The initial phase should prioritize the segment connecting the "Yangzhonghui Commercial Complex" with Dongheng Street within the site. This area is ideal for a pilot project due to its high pedestrian traffic, concentration of commercial establishments, and strong willingness for renewal, along with the spatial dynamics created at the junction of old and new urban fabrics. The first-stage intervention may include curbline improvements, installation of nighttime lighting, placement of street-corner furniture and wayfinding systems, and the integration of "memory of the street" installations that narrate local history and culture. Such upgrades should go beyond physical changes to engage the public at the levels of perception and behavior. The demonstration section can serve as a model for subsequent district-wide renewal, fostering public consensus, attracting investment, and progressively enhancing the overall spatial quality of the area.

（2）Public Display System for Streetside Space Usage Guidelines

To guide rational use and standardized management of streetside spaces, it is recommended to implement a "Public Display System for Streetside Space Usage Guidelines" on every street segment. Illustrated signage should be posted in prominent locations to clearly show permitted and prohibited behaviors—such as the designated areas for outdoor commercial activities, parking zones for non-motorized vehicles, centralized garbage disposal points and their allowable time periods. A corresponding monitoring and feedback system should be established, such as QR codes linked to a digital community platform, enabling residents and merchants to anonymously report issues like illegal occupation or littering, thus facilitating real-time response and dynamic management. The visual design of the guidelines should be user-friendly and easily recognizable, incorporating local cultural elements to enhance acceptance. This mechanism not only reduces internal friction and disputes within the community but also improves the efficiency and transparency of administrative enforcement, laying the foundation for orderly, shared, and autonomous use of streetside space.

（3）Community Co-Governance Platform

To shift streetside space governance from a "top-down" control model to a "multi-stakeholder co-governance" paradigm, it is proposed to establish a "Streetside Space Residents Council" at the community level. This platform would consist of long-term residents, merchant representatives, sanitation workers, and neighborhood committee staff. Regular roundtable meetings would be held to jointly discuss and formulate usage rules and renewal recommendations for streetside space. The council could promote localized implementation of the "three-responsibility system" (cleanliness, order, and greening in front of one's property) and organize participatory activities such as Street Cleaning Days, Plant Care Initiatives, and Facade Beautification Contests, thereby fostering a stronger sense of ownership and belonging among residents. Institutional arrangements should clarify the rights and responsibilities of all stakeholders, ensuring that residents' voices are heard equitably, merchants' operational needs are respected, and sanitation/security personnel's insights are incorporated into feedback loops. Through the operation of such a council, streetside spaces will no longer be passive, ambiguously managed zones but will be transformed into platforms for community negotiation and cultural identity.

4.3 Node-Based Design

The selected key streetside space nodes: Qingyun Bridge, Yudai Moat entrance, Qingyun Straight Street mid-section, and Dongheng Street, were chosen based on a comprehensive analysis of the district's spatial structure and pedestrian behavior patterns. These nodes are both typical and representative. On one hand, they are located at spatial transitions or interface shifts within the district and serve as key convergence points for pedestrian movement, playing a crucial role in the triad of mobility–spatial hierarchy–visual orientation. On the other hand, these locations also integrate historical heritage, community life, and commercial vibrancy, making them hotspots of spatial conflict in the current streetside space. The Qingyun Bridge node is adjacent to a historic bridge relic and the Church of the Savior, giving it both cultural value and high spatial recognizability. The Yudai Moat street entrance connects the neighborhood with the broader urban transport system, serving as a gateway that defines the external image of the district. Qingyun Straight Street represents the internal, everyday residential life of the community and serves as a typical spatial form of traditional living. Dongheng Street is a high-traffic zone near the metro

station, frequented by commercial and tourist flows, with a notable presence of outdoor displays and dining. These selected nodes encompass multiple urban conditions—heritage, commerce, transit, and residence—and provide a comprehensive foundation for prototype-based design intervention.

4.3.1 Qingyun Bridge

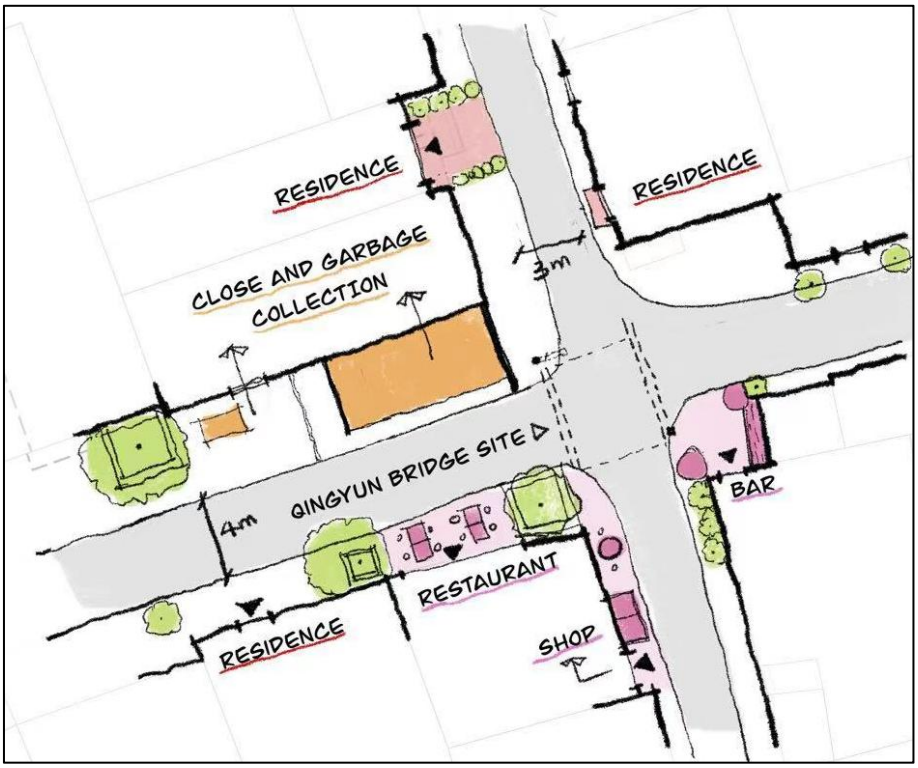


Figure4- 10 Current Conditions at Qingyun Bridge(Source: by the author)

Key Design Strategies:

1. Relocate the garbage collection point to the Yudai Moat entrance and transform the original location into a non-motorized vehicle parking zone.

2. Widen the streetside commercial area and use differentiated pavement materials to define activity zones.

3. Convert the residual open space into a corner pocket park, enhancing both functionality and aesthetics.

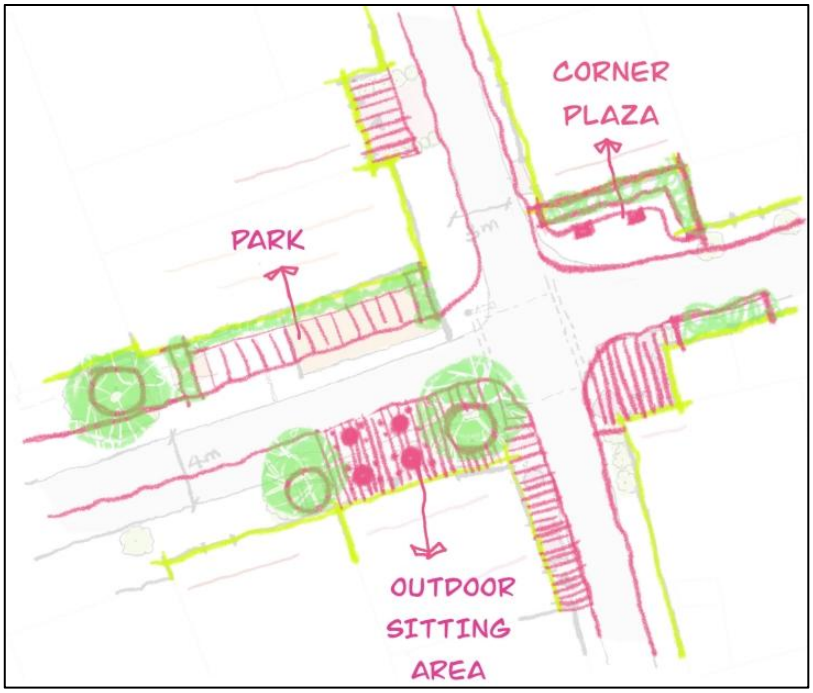


Figure4- 11 Qingyun Bridge Design Master Plan (Source: by the author)

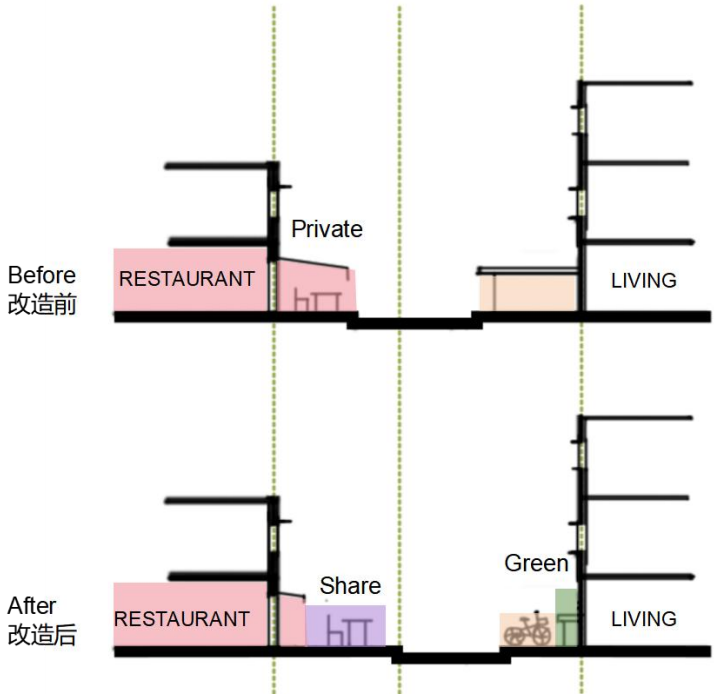


Figure4- 12 Before-and-After Section Comparison (Source: by the author)

Figure4- 13 Perspective Rendering of Design Proposal (Source: by the author)

4.3.2 Yudai Moat Entrance

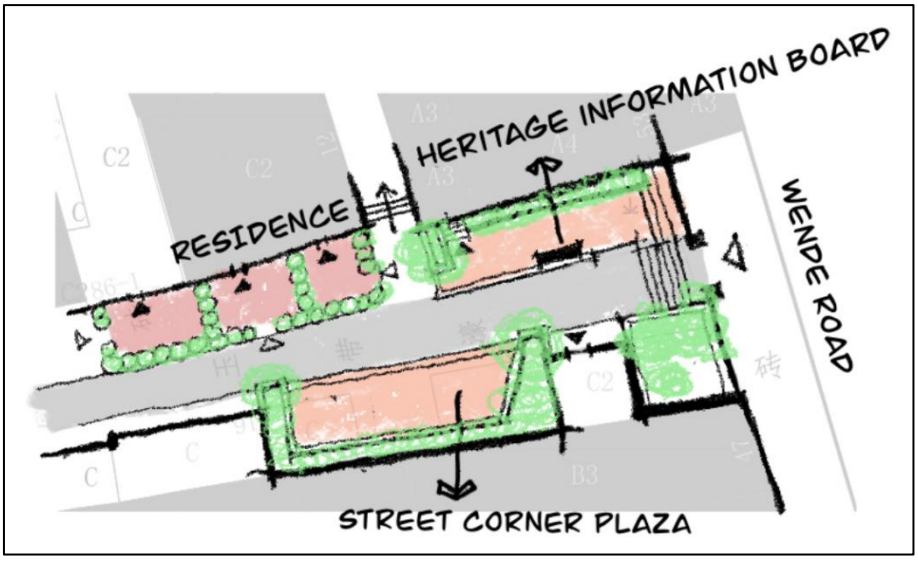


Figure4- 14 Current Conditions at Yudai Moat Entrance (Source: by the author)

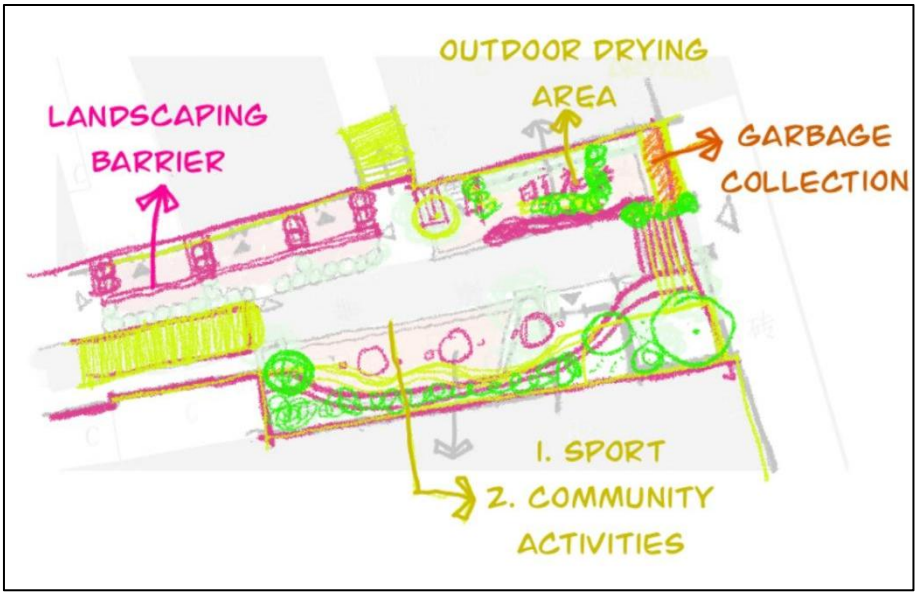


Figure4- 15 Yudai Moat Entrance Design Master Plan (Source: by the author)

Key Design Strategies:

1. Redefine curb boundaries to create a unified public activity space.
2. Install new garbage collection facilities and a dedicated drying zone.
3. Restrict the unauthorized appropriation of curb space by residential units.
4. Open up the entrance interface facing Wende Road to improve spatial visibility.
5. Pave a historical ground map of Yudai Moat as a narrative element embedded in the floor.

Figure4- 16 Perspective of Design Proposal (Source: by the author)

4.3.3 Qingyun Straight Street

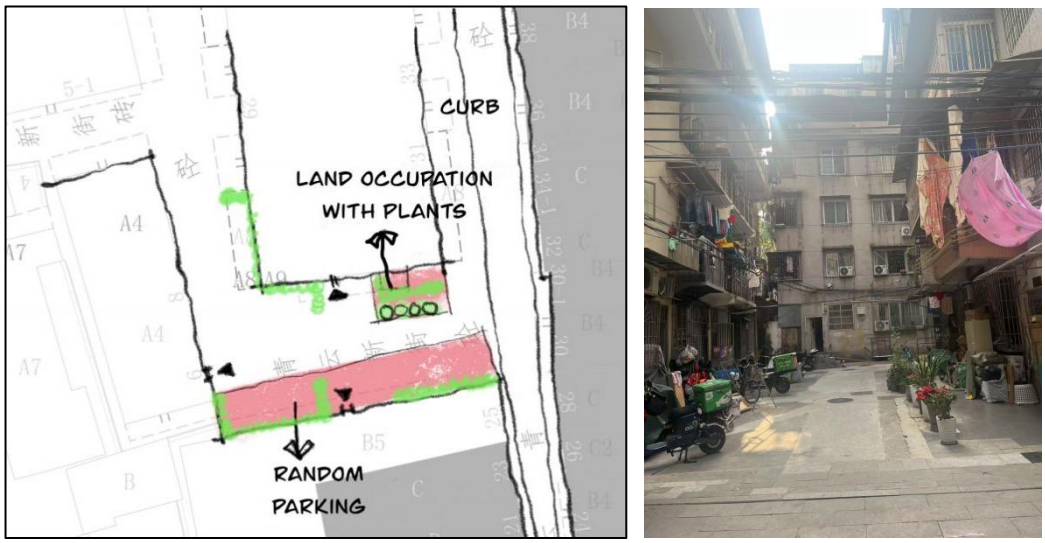


Figure4- 17 Current Conditions of Qingyun Straight Street Pocket Space (Source: by the author)

Figure4- 18 Qingyun Straight Street Design Master Plan (Source: by the author)

Key Design Strategies:

1. Set clear limits on residential spatial encroachment at the building frontage.

2. Demarcate parking zones to improve order and access.

3.. Introduce community vegetable gardens and small-scale greenery for resident cultivation.

4. Combine exercise facilities with household drying structures, maximizing multifunctionality in tight spaces.

Figure4- 19 Perspective of Qingyun Straight Street (Source: by the author)

4.3.4 Dongheng Street

Figure4- 20 Current Conditions at Dongheng Street (Source: by the author)

Figure4- 21 Dongheng Street Design Master Plan (Source: by the author)

Key Design Strategies:

1. Redesign the curb boundary to visually and functionally calm vehicle speeds.
2. Relocate garbage collection facilities to reduce conflict with adjacent active areas.
3. Restrict curb encroachment by residential units and shopfronts.
4. Define and organize parking spaces to improve circulation and avoid disorder.
5. Add greenery and rest areas to enhance walkability and user comfort.

Figure4- 22 Perspective of Design Proposal (Source: by the author)

Conclusion

This research focuses on the streetside space along the western segment of Wenming Road, Yudai Moat in Guangzhou, conducting an integrated analysis across three dimensions: historical evolution, spatial characteristics, and user behaviors. Through comparative analysis of representative domestic and international street design guidelines, it distills adaptive strategies that address both spatial phenomena and institutional mechanisms. The study not only identifies the challenges of spatial renewal in historic districts but also proposes a set of operable, locally grounded strategies.

To begin with, the research clarifies the multidimensional value of streetside space as the "capillary" of urban life. Beyond its role as a transition zone between transport infrastructure and building facades, it serves as a container of social interaction, micro-economy, and cultural heritage. In Yudai Moat, the spatial form has evolved from a waterway-trade-street pattern to danwei-enclosed compounds, and more recently toward mixed-use commercial revitalization. This transformation reflects how spatial adaptation must align with both urban memory and contemporary social needs.

Second, field observations reveal core issues in streetside spaces such as fragmented structure, usage conflict, and governance void. Problems in sidewalk design, blurred ownership, and weak spatial continuity indicate a mismatch between traditional spatial logic and modern administrative regimes. This phase of the study not only details these issues but also exposes the deeper tensions of spatial governance, providing a critical foundation for targeted solutions.

Building on this, the study proposes three adaptive design pathways through comparative review of regulations and guides from Italy, Japan, and China:

(1) clarification of spatial rights and responsibilities through legal-institutional support;

(2) user-centric interface strategies to enhance behavioral compatibility and interface flexibility;

(3) micro-intervention models that emphasize incremental and participatory processes. These strategies embody the integration of governance, livability, and cultural identity, offering both local relevance and broader applicability.

Nevertheless, the research has its limitations. The focus on a single site, though

representative, does not fully capture the diversity of Guangzhou's urban fabric. Furthermore, due to time constraints, dynamic user behavior data remains partial. Future studies should expand the spatial and temporal scales of analysis, incorporating longitudinal behavioral tracking to construct more robust urban models.

Looking forward, streetside space renewal will face increasing complexity in a context of spatial saturation and redistributive public demand. As the interface closest to everyday life, these spaces will carry greater symbolic and functional weight. Thus, future strategies must emphasize cross-disciplinary integration—bridging urban design with environmental psychology, transport engineering, and policy studies to create holistic evaluation frameworks. At the same time, normalized mechanisms for public participation should be established to transition from top-down control to co-governance.

Bibliography

[1] 关菲凡.广州城六脉渠研究[D].华南理工大学,2010.

[2] 奚健,沈伟.城市小街巷改造设计总结[J].城市道桥与防洪,2006,(02):24-26+150.

[3] 余晓丽. 微更新视角下背街小巷空间设计策略研究[D].北京建筑大学,2021.

[4] 贺璟寰.城市生活性街道界面研究[D].湖南大学,2008.

[5] 叶世荪.阶檐 阶沿 上街沿[N].新民晚报,2022-12-25.https://paper.xinmin.cn/html/xmwb/2022-12-25/15/152438.html.

[6] 邢启艳,陆琦,陈亚利.宋代海港商贸型城市功能分区演化及影响因素——以广州为例[J].南方建筑,2020,(03):120-126.

[7] 广州市规划和自然资源局.广东省历史文化街区广州市传统中轴线(近代)历史文化街区保护规划(2021-2035 年)[Z].广州:广州市人民政府,2023.

[8] 广州市规划和自然资源局.广东省历史文化街区广州市文德南历史文化街区保护规划(2021-2035 年)[Z].广州:广州市人民政府,2023

[9] 王天夫.空间,地点与城市社会学[J].武汉大学学报(哲学社会科学版),2021,74(2):172-184.

[10] 冯江.初访沙溪:地方性建造的智识与情感[J].建筑学报,2023,(08):17-22.DOI:10.19819/j.cnki.ISSN0529-1399.202308003.

[11] Carmona M. Public places urban spaces: The dimensions of urban design [M].Routledge,2021.

[12] World Resources Institute (WRI).(2016).Designing Safer Cities: How Street Design Can Reduce Traffic Deaths.

[13] Robinson M O N.Measuring Urban Design:Metrics for Livable Places,by Reid Ewing and Otto Clemente:(2013).Washington, DC:Island Press.[J].2015.

[14] Jacobs Jane. The Death and Life of Great American Cities[M].New York Random House,1961.

[15] [日]芦原义信.街道的美学[M].尹培桐译.天津:百花文艺出版社.2006.

[16] Lynch, K. The image of the city, MIT press[M],1960.

[17] Gehl J. Life between buildings[J].2011.

[18] Shirley P, Moughtin J C. Urban Design: Green Dimensions[M]. Routledge, 2006.

[19] Gibson T. Planning for real: the approach of the neighbourhood initiatives

foundation in the UK[J]. RRA Notes, 1991, 11: 29-30.

[20]时湘斌,覃晶."城市针灸"视角下历史地段有机更新路径研究——以南宁市三街两巷有机更新为例[J].安徽建筑,2024,31(11):59-62.

[21]石逸彬,王华.形态学视角下历史文化街区保护与更新策略探究——以成都市宽窄巷子为例[J].建筑与文化,2019,(08):88-89.

[22]杨扬."微更新"视角下兰州市老旧社区生活性街道空间改造策略研究[D]. 兰州交通大学,2021.

[23]余晓丽.微更新视角下背街小巷空间设计策略研究[D].北京建筑大学,2021.

[24]葛畅.北京老城区生活性街道空间更新设计方法研究[D].北京建筑大学,2020.

[25]张喆.基于场所精神的生活性街道空间设计研究[D].清华大学,2017.

[26]韩碧君,胡航军,张京祥.时空脱域视角下老城网红街巷空间的重构与应对——以徐州市醒狮小区为例[J].城市发展研究,2025,31(01):25-32.

[27]刘梓星.日常生活视野下的"重庆山洞传统风貌区"街巷空间更新研究[D].重庆交通大学,2024.

[28]李淮.城中村生活性街道活力保持与再塑研究[D].深圳大学,2018.

[29]黄秋实.南京老城社区型共享街道空间建构与活力营造[D].东南大学,2017.

[30]聂传恩.基于人际社会交往的生活性街道空间城市设计研究[D].吉林建筑大学,2018.

[31]陈轶男.基于街景的生活性街道微更新调研方法研究[A].人民城市,规划赋能——2023 中国城市规划年会论文集(02 城市更新)[C].中国城市规划学会:2023:1595-1607.

[32]韦笑,马强,吴斐琼.基于社会空间重构的城市街巷网络更新研究——以上海芷江西路街道为例[A].绿色数智 提质增效——2024 年中国城市交通规划年会论文集[C].中国城市规划学会城市交通规划专业委员会:2024:1724-1744.

[33]周钰.街道界面形态的量化研究[D].天津大学,2012.

[34]罗景文.基于城市公共空间构成的建筑界面设计研究[D].华南理工大学,2019.

[35]威廉·H·怀特.小城市空间的社会生活[M].上海译文出版社,2016.

[36]芦原义信.外部空间设计[M].中国建筑工业出版社,1985.

[37]Borgers, A. Timmermans, H. A model of pedestrian route choice and demand for retail facilities within inner-city shopping areas.[J].Geographical A

nalysis.1986.18(2),p115-128

[38]阿兰·B·雅各布斯. 伟大的街道[M]. 中国建筑工业出版社,2009.

[39]张娴,陈聪颖,李信.美学视角下社区街道界面微更新研究[J].上海城市规划,2024,(04):109-115.

[40]周钰,张玉坤.面向开放街区的街道界面形态控制指标研究[J].时代建筑,2022,(01):38-42.

[41]周钰,吴柏华,甘伟,耿旭初.街道界面形态量化测度方法研究综述[J].南方建筑,2019,(01):88-93.

[42]孙彤宇,许凯,杜叶铖.城市街道的本质步行空间路径一界面耦合关系[J].时代建筑,2017,(06):42-47.

[43]徐磊青,孟若希,陈筝.迷人的街道:建筑界面与绿视率的影响[J].风景园林,2017,(10):27-33.

[44]陈泳,赵杏花.基于步行者视角的街道底层界面研究——以上海市淮海路为例[J].城市规划,2014,38(06):24-31.

[45]陈畅,周威.把握街道性格塑造优质街道空间——借鉴美国城市设计导则的街道界面设计导则[J].城市,2013,(02):43-47.

[46]胡争艳.城市住区街道边界空间的公共性设计研究[D].导师:谢振宇.同济大学,2007.

[47]https://www.163.com/dy/article/HNEHMVJ605129QAF.html

[48]李宇海,徐正可.民国时期私立广州大学的学校体育[J].当代体育科技,2014,4(24):96-97.DOI:10.16655/j.cnki.2095-2813.2014.24.057.

[49]廖玉新.化溥岭南:私立广州大学研究(1927-1951)[D].华中师范大学,2021.DOI:10.27159/d.cnki.ghzsu.2021.000251.

[50]冯江,蒲泽轩,汪田.门·墙·院——广州泮塘五约"微改造"三辩[J].建筑学报,2020,(10):43-48.DOI:10.19819/j.cnki.ISSN0529-1399.202010007.

[51]REGOLAMENTO EDILIZIO. N. 381. http://www.comune.torino.it/regolamenti/381/381.htm#art087

[52]DISCIPLINA DELL'ALLESTIMENTO DI SPAZI E STRUTTURE ALL'APERTO SU SUOLO PUBBLICO, O PRIVATO AD USO PUBBLICO, ATTREZZATI PER IL CONSUMO DI ALIMENTI E BEVANDE ANNESSI A LOCALI Dl PUBBLICO ESERCIZIO DI SOMMINISTRAZIONE.N. 388. http://www.comune.torino.it/regolamenti/388/388.htm

[53]国土交通省都市局,国土交通省道路局. ｽﾄﾘｰﾄﾃﾞｻﾞｲﾝｶﾞｲﾄﾞﾗｲﾝ2.0[R].東京:国土交通省,2021.

[54]上海市规划和国土资源管理局.上海市街道设计导则[R].上海:上海市规划和国土资源管理局,2016.

[55]成都市规划和自然资源局.成都市"小街区"规划建设技术导则[Z].成都:成都市人民政府,2020.

[56]汪宇涛.日本《街道设计导则》解读及对中国的启示[J].城市交通,2023,21(02):38-49.DOI:10.13813/j.cn11-5141/u.2023.0011.

[57]赵鑫.街道设计导则与城市道路系统的转型[J].城市交通,2021,19(5):1-16.

[58]徐好好,李子墨,李芃."我们"的西关——广州历史街区改造的"学习式微介入"[J].世界建筑,2024,(08):14-20.DOI:10.16414/j.wa.2024.08.007.

[59]涂健.城市街道空间更新与街道活力营造方法探究[J].城市住宅,2021,28(9):238-239.

[60]马强,韦笑,任冠南.街道设计导则与城市道路系统的优化提升——从通行能力到空间品质的转变[J].城市交通, 2021,19(05):1-16.DOI:10.13813/j.cn11-5141/u.2021.0501.

Appendix1 Compilation of Regulations Related to Streetside Spaces in Turin, Italy

Original	English
N.381	
Art. 83 Aree per parcheggio	Art. 83 Parking Areas
1. Fermo restando quanto previsto nel REGOLAMENTO DEL VERDE PUBBLICO E PRIVATO DELLA CITTA' DI TORINO n. 317, all'articolo 63, gli stalli delle aree destinate a parcheggio posti su terrapieno devono essere realizzati con superficie drenante e inerbita nonché adeguatamente piantumati. 2. Non sono consentiti interventi per la realizzazione di parcheggi in struttura nel sottosuolo di aree verdi, giardini, parchi, e viali alberati, di proprietà pubblica nonché nei giardini privati di valenza storico-architettonica, fatto salvo quanto disposto dalle N.U.E.A. di P.R.G.. 3.Nei parcheggi all'interno dei cortili ricompresi nella Zona Urbana Centrale Storica e nelle Zone Urbane Storico-Ambientali, dovranno essere conservate le antiche pavimentazioni in selciato con i loro orditi, mantenendone la permeabilità, fermo restando quando previsto dall'allegato A alle N.U.E.A. di P.R.G.. 4. Gli stalli delle aree a parcheggio in superficie di nuova realizzazione su soletta, dovranno avere pavimentazioni permeabili e filtranti, nonché essere intervallati da adeguate piantumazioni o dovranno essere schermati per almeno il 50% della loro superficie da verde rampicante, al fine di garantire adeguato ombreggiamento. 5. Gli spazi a parcheggio da realizzare, in conformità al PRG, ai sensi dell'art. 41-sexies L. 1150/1942 e s.m.i., potranno essere destinati, in tutto o in parte, alla sola sosta di biciclette o di mezzi per la mobilità sostenibile, purché venga dimostrata l'impossibilità costruttiva di parcheggio per auto o la possibilità di modificare tali spazi nel tempo, con interventi di minima complessità, al fine di renderli convertibili in parcheggio per autoveicoli. Restano fatti salvi gli obblighi in materia di barriere architettoniche.	1. Without prejudice to the provisions of the Regulations on Public and Private Green Spaces of the City of Turin No. 317, Article 63, parking spaces located on embankments must be constructed with permeable and grassed surfaces and must be adequately planted with greenery. 2. It is not permitted to construct structured underground parking lots in green areas, gardens, parks, and tree-lined avenues that are publicly owned, as well as in private gardens of historical-architectural value, except as provided by the N.U.E.A. of the General Urban Plan (P.R.G.). 3. In parking areas located within courtyards included in the Central Historic Urban Zone and in Historic-Environmental Urban Zones, the ancient cobblestone pavements and their patterns must be preserved, maintaining their permeability, without prejudice to the provisions of Annex A of the N.U.E.A. of the P.R.G. 4. Surface parking spaces on newly constructed slabs must have permeable and filtering pavements and must be interspersed with adequate plantings or be screened for at least 50% of their surface area by climbing greenery in order to ensure sufficient shading. 5. Parking spaces to be built in accordance with the P.R.G., pursuant to Article 41-sexies of Law No. 1150/1942 and subsequent amendments, may be entirely or partially designated for the parking of bicycles or sustainable mobility vehicles, provided that the impossibility of constructing car parking or the potential to convert the space over time (through minimally complex interventions) into car parking is demonstrated. Obligations regarding accessibility for persons with disabilities remain in force.
Art. 85 Passaggi pedonali e marciapiedi	Art. 85 Pedestrian Crossings and Sidewalks
1. Nel centro abitato, tutte le vie di nuova formazione e, per quanto possibile, quelle esistenti devono essere munite di marciapiede o comunque di passaggio pedonale pubblico, realizzati in conformità alle norme di legge sull'eliminazione delle barriere architettoniche. 2. L'esecuzione dei marciapiedi, sia a raso che rialzati, se effettuata dai proprietari delle unità immobiliari che li fronteggiano, deve essere realizzata con modalità, materiali, livellette ed allineamenti indicati di volta in volta dal comune. I marciapiedi a raso possono essere mantenuti, di massima, in vie della Zona Urbana Centrale Storica o delle Zone Urbane Storico Ambientali di larghezza non superiore a metri 6,00. 3. I marciapiedi e camminamenti devono essere pavimentati in asfalto o altro materiale adatto e delimitati da cordone in pietra di sezione 30 x 25 centimetri, salvo diverse disposizioni dei competenti uffici comunali. I marciapiedi ed i passaggi pedonali realizzati su area privata non recinta ai sensi dell'articolo 89, sono gravati di servitù di pubblico passaggio. 4. I marciapiedidi nuova costruzione devono essere realizzati con larghezza minima di metri 1,50, dislivello rispetto al piano di transito veicolare non superiore a metri 0,15, pendenza longitudinale massima non superiore all'8% e pendenza trasversale massima non superiore all'1%. Ove questi fossero inesistenti nonché nelle aree di nuova urbanizzazione, devono essere realizzati, salvo diverse indicazioni specifiche, con le seguenti larghezze minime in relazione alla larghezza della via:	1. Within inhabited areas, all newly constructed roads and, wherever possible, existing ones must be equipped with sidewalks or, at minimum, public pedestrian pathways, constructed in compliance with legal provisions on the elimination of architectural barriers. 2. The construction of sidewalks—either flush with the street level or raised—when carried out by property owners of adjacent units, must be executed using methods, materials, slopes, and alignments as specified case-by-case by the municipality. Flush sidewalks may generally be maintained on streets within the Central Historic Urban Area or Historic-Environmental Urban Zones that are no wider than 6.00 meters. 3. Sidewalks and walkways must be paved in asphalt or another suitable material and bordered with a stone curb measuring 30 x 25 cm, unless otherwise directed by the relevant municipal offices. Sidewalks and pedestrian walkways constructed on unenclosed private land (as defined in Article 89) are subject to a public passage easement. 4. Newly constructed sidewalks must have a minimum width of 1.50 meters, a maximum height difference from the vehicular traffic plane of no more than 0.15 meters, a maximum longitudinal slope of 8%, and a maximum transverse slope of 1%. Where sidewalks are nonexistent or in newly urbanized areas, unless otherwise specified, they must be built with the following minimum widths in relation to the street width:

- per vie larghe metri 12: marciapiedi di metri 2,50;	Streets 12 m wide: sidewalks of 2.50 m
- per vie larghe metri 15: marciapiedi di metri 3,00;	Streets 15 m wide: sidewalks of 3.00 m
- per vie larghe metri 18: marciapiedi di metri 3,50;	Streets 18 m wide: sidewalks of 3.50 m
- per vie larghe metri 20 ed oltre: marciapiedi di metri 4,00.	Streets 20 m or wider: sidewalks of 4.00 m
5. Eventuali dislivelli per interruzioni localizzate, dovuti a raccordi con il livello stradale o ad intersezioni con passi carrabili, devono essere superati con rampe di pendenza non superiore al 8% ed in ogni caso dovrà essere garantita una superficie in piano sul marciapiede di larghezza non inferiore a metri 1,50.	5. Any height differences due to localized interruptions—such as street level transitions or driveways—must be overcome with ramps with a slope not exceeding 8%. In any case, a level area on the sidewalk with a width of no less than 1.50 meters must be guaranteed.
6. Qualora, per ragioni tecniche o di salvaguardia storico-architettonica, non sia possibile realizzare all'interno dei locali pubblici o privati aperti al pubblico, gli adeguamenti alle norme sull'eliminazione delle barriere architettoniche degli ingressi, è consentita, previo parere degli Uffici per l'Arredo Urbano, la realizzazione di rampe esterne opportunamente raccordate a condizione che lo spazio libero di marciapiede o percorso pedonale non sia inferiore a metri 2 e che le rampe siano opportunamente segnalate e dotate di idonee protezioni o transenne di sicurezza. Nel caso in cui non si riesca a garantire uno spazio di libero di 2 metri sul marciapiede, si dovrà di realizzare un raccordo/rampa di sezione pari alla larghezza del marciapiede, in modo da eliminare il dislivello tra il marciapiede stesso e l'accesso dei locali pubblici o privati aperti al pubblico.	6. If, due to technical reasons or historic-architectural preservation, it is not possible to make entrances to public or private premises accessible within the building itself, the construction of external ramps is allowed—with prior approval from the Urban Furnishing Office—provided that the free sidewalk or pedestrian path width is no less than 2 meters, and that the ramps are properly marked and equipped with suitable safety protections or barriers. If a 2-meter clear width cannot be guaranteed, the ramp must match the full width of the sidewalk, eliminating the level difference between the sidewalk and the entrance.
7. Qualora, per situazioni ambientali o dipendenti dal traffico veicolare, possano risultare situazioni di pericolo o per motivazioni di carattere ambientale, il Comune dispone che i marciapiedi ed i passaggi pedonali siano protetti con paracarri, barriere metalliche, o dissuasori idonei allo scopo.	7. If, due to environmental or traffic-related circumstances, safety concerns arise or there are environmental motivations, the municipality may require that sidewalks and pedestrian paths be protected with bollards, metal barriers, or other suitable deterrents.
8. E' consentita l'apposizione di messaggi pubblicitari sulle transenne parapedonali di cui al comma precedente, in conformità alle disposizioni del "Codice della Strada" e del suo regolamento di esecuzione e di attuazione e del vigente regolamento per la pubblicità.	8. The placement of advertising messages on the pedestrian-protection barriers mentioned above is permitted, in accordance with the provisions of the Italian Highway Code and its implementing regulations, as well as the current advertising regulations.
9. I passi carrabili sono consentiti, in conformità alle norme del vigente Codice della Strada, e con l'osservanza degli obblighi fissati nel successivo articolo 86, a condizione che non costituiscano pericolo per la circolazione.	9. Driveway accesses (curb cuts) are permitted, in accordance with the applicable provisions of the current Italian Highway Code, and subject to compliance with the requirements outlined in the following Article 86, provided they do not pose a danger to traffic circulation.
Art. 88 Decoro degli spazi pubblici e servitù pubbliche di passaggio sui fronti delle costruzioni e per chioschi/gazebi/dehors posizionati su suolo pubblico e privato	Art. 88 – Aesthetic Quality of Public Spaces and Public Rights-of-Way on Building Fronts and for Kiosks/Gazebos/Dehors Located on Public and Private Land
1. Le strade, le piazze, i suoli pubblici o assoggettati ad uso pubblico, all'interno del centro abitato, devono essere provvisti di pavimentazione idonea allo scolo delle acque meteoriche e di mezzi per lo smaltimento delle stesse, sistemati nel sottosuolo, secondo quanto stabilito dai competenti Uffici comunali. La sistemazione e la manutenzione dei suoli privati, anche se gravati da servitù di pubblico passaggio, è a carico dei proprietari.	1. Streets, squares, and publicly owned or publicly accessible land within the inhabited area must be paved appropriately to allow for rainwater drainage and must include underground drainage systems, as determined by the competent municipal offices. The arrangement and maintenance of private land, even when subject to public rights-of-way, is the responsibility of the property owner.
2. E' vietata la formazione di nuovi frontespizi ciechi (se non preordinati alla successiva costruzione in aderenza) visibili da spazi pubblici o assoggettati all'uso pubblico; le fronti di testata dei fabbricati devono risultare oggetto di composizione architettonica alla pari delle altre, prevedendo elementi edilizi o architettonici riferiti a funzioni ed usi propri dell'edificio. In caso di preesistenza degli stessi sul confine di proprietà, il Comune, sentita la competente Commissione, può imporre l'edificazione in aderenza, ove questa sia tra le soluzioni previste dalle N.U.E.A. del P.R.G. vigente, ovvero ingiungere al proprietario del frontespizio di sistemarlo in modo conveniente.	2. The creation of new blank facades (unless intended for future adjoining construction) that are visible from public or publicly accessible spaces is prohibited. The terminal façades of buildings must receive the same level of architectural design as the main façades, incorporating building or architectural elements related to the building's intended function and use. If such blank façades already exist along property boundaries, the Municipality, after consulting the relevant Commission, may require adjoining construction—if permitted under the current N.U.E.A. of the General Urban Plan (P.R.G.)—or may order the owner to appropriately treat the existing façade.
3. Chiunque intenda occupare porzioni di suolo pubblico per attività temporanee, per eseguire lavori o per depositarvi materiali deve chiedere al Comune la specifica concessione, indicando l'uso, la superficie che intende occupare e le opere che intende eseguire ai sensi dei vigenti Regolamenti Comunali; l'occupazione delle sedi stradali è comunque regolata dalle leggi vigenti in materia di sicurezza della circolazione.	3. Anyone wishing to occupy portions of public land for temporary activities, construction works, or material storage must request a specific permit from the Municipality. The request must state the intended use, the surface area to be occupied, and the works to be carried out, in accordance with applicable Municipal Regulations. The occupation of roadways is additionally governed by existing road safety laws.
4. Salve restando le disposizioni di carattere tributario, la concessione per l'occupazione temporanea del suolo pubblico è rilasciata in forma precaria e può essere subordinata alla corresponsione di un canone per l'uso, disciplinato dagli appositi	4. Without prejudice to applicable tax provisions, any permit for temporary occupation of public land is granted on a provisional basis and may be subject to a usage fee, as defined by relevant regulations, and to the payment of a security deposit

Regolamenti vigenti ed al versamento di un deposito cauzionale per la rimessa in pristino del suolo e del mantenimento del decoro originario. 5. La concessione contiene le prescrizioni da seguire per l'occupazione e indica il termine finale della medesima. 6. Scaduto il termine di cui al precedente comma, senza che ne sia stato disposto il rinnovo, il titolare della concessione ha l'obbligo di sgomberare il suolo occupato, ripristinando le condizioni ambientali preesistenti. 7. In caso di inottemperanza, il ripristino è eseguito dall'Amministrazione a spese del concessionario; tali spese devono essere rimborsate entro quindici giorni dalla richiesta; in difetto, salve restando eventuali disposizioni speciali di legge, esse sono riscosse coattivamente con la procedura di cui al R.D. 14 aprile 1910, n. 639.	to cover restoration of the area and preservation of its original appearance. 5. The permit will include specific conditions to be followed during the occupation and will specify the end date of the permit. 6. Once the term stated in the permit has expired and if no renewal has been granted, the permit holder is required to vacate the occupied area and restore it to its prior condition. 7. In case of non-compliance, the Municipality will carry out the restoration at the expense of the permit holder. These costs must be reimbursed within fifteen days of the request; otherwise, unless other legal provisions apply, the amount will be recovered through enforced collection in accordance with Royal Decree No. 639 of April 14, 1910.
Art. 105 Pubblico decoro, manutenzione e sicurezza delle costruzioni e dei luoghi	Art. 105 – Public Decorum, Maintenance, and Safety of Buildings and Spaces
1.Le costruzioni, le singole parti delle stesse e le aree di pertinenza debbono essere mantenute in buono stato per quanto attiene ai contenuti estetici originari, quando riconosciuti validi, o comunque di pregio, o di decoro ed efficienti per quanto concerne alla sicurezza e all'igiene e al superamento delle barriere architettoniche. 2. E' prescritta la conservazione degli elementi architettonici aventi caratteristiche storico-artistiche di pregio, nonché interesse di testimonianza storica, quali fontane, esedre, lapidi, bassorilievi, edicole sacre, antiche targhe, meridiane e simili. 3. Il proprietario ha l'obbligo di eseguire i lavori di manutenzione, riparazione e ripristino necessari, nonché quelli di intonacatura e ritinteggiatura degli edifici o manufatti deterioratesi, con particolare attenzione alla conservazione e valorizzazione di tutti gli elementi architettonici di pregio. 4. Non sono ammessi interventi casuali o sporadici, che riguardino singole parti della costruzione con particolare riferimento alla forma, al posizionamento e alle dimensioni delle aperture nelle facciate, sia verso spazio pubblico sia verso cortile. Eventuali soluzioni in contrasto con quanto sopra, dovranno essere preventivamente valutate dalla competente commissione. I prospetti architettonicamente unitari debbono essere tinteggiati in modo omogeneo; detta omogeneità va mantenuta anche se gli interventi di tinteggiatura avvengono in tempi diversi e riguardano proprietà diverse. 5. La scelta del colore della tinteggiatura di edifici non soggetti a specifico vincolo di tutela è sottoposta all'approvazione degli uffici comunali competenti presso i quali deve essere esibita e depositata specifica campionatura, secondo prescrizioni e procedure contenute nell'apposito Regolamento del Piano del Colore, ed in altri regolamenti o provvedimenti di indirizzo e tutela di cui è dotata o di cui potrà dotarsi la Città. 6. Le aree libere inedificate, a destinazione non agricola o di pertinenza delle costruzioni, devono essere convenientemente recintate e mantenute dal punto di vista del decoro e dell'igiene: è vietato procurarne o consentirne lo stato di abbandono ed è altresì vietato l'accumulo e l'abbruciamento di materiali o di rifiuti. 7. Ove le condizioni delle costruzioni e delle singole parti delle stesse o lo stato delle aree di pertinenza o inedificate siano degradati tanto da arrecare pregiudizio all'ambiente, all'immagine del sito o alla sicurezza ed alla salute delle persone, l'Autorità comunale ha facoltà di ingiungere, entro un termine prestabilito, al proprietario o al possessore dell'immobile l'esecuzione dei lavori necessari per rimuovere ogni inconveniente; in caso di inottemperanza, totale o parziale, l'Autorità comunale può disporre l'esecuzione d'ufficio a spese dell'inadempiente; tali spese devono essere rimborsate entro quindici giorni dalla richiesta; in difetto, salve restando eventuali disposizioni speciali di legge, esse sono riscosse coattivamente con la procedura di cui al Regio Decreto 14 aprile 1910, n. 639. 8. Tutte le costruzioni devono essere inserite armonicamente nel contesto urbano ed architettonico. 9. I fabbricati di nuova costruzione, o soggetti a ricostruzione o a recupero, devono armonizzarsi nelle linee, nei materiali di rivestimento, nelle tinteggiature e nelle coperture con gli edifici circostanti, in particolare con quelli costituenti matrice ambientale,	1. Buildings, their individual components, and their related areas must be maintained in good condition, preserving original aesthetic qualities (where recognized as valid), or otherwise ensuring elegance and decorum. They must remain safe, hygienic, and accessible, with architectural barriers removed where applicable. 2. Architectural elements with historical-artistic value or historical testimonial significance—such as fountains, exedras, plaques, bas-reliefs, sacred shrines, antique signs, sundials, etc.—must be preserved. 3. The property owner is responsible for carrying out all necessary maintenance, repair, and restoration work, including plastering and repainting of deteriorated buildings or structures, with particular attention to the preservation and enhancement of all architectural elements of value. 4. Random or sporadic interventions affecting only portions of a building are not permitted, especially regarding the shape, placement, and size of facade openings—whether facing public space or courtyards. Any solutions in contrast must be pre-approved by the competent commission. Architecturally unified facades must be painted uniformly, and this homogeneity must be maintained even when painting occurs at different times and on separate properties. 5. The color choice for buildings not subject to specific protection must be approved by the relevant municipal offices. A color sample must be presented and filed in accordance with the regulations of the City's Color Plan, or other related regulations and protection guidelines, whether current or forthcoming. 6. Unbuilt private lots that are non-agricultural or are related to building lots must be properly enclosed and maintained in terms of cleanliness and visual appearance. It is prohibited to allow such areas to fall into abandonment, and the accumulation or burning of materials or waste is strictly forbidden. 7. If the condition of a building, its parts, or its associated land is so degraded that it negatively affects the environment, site image, safety, or public health, the municipal authority may, within a set time, order the property owner or occupant to perform the necessary corrective work. In case of full or partial noncompliance, the Municipality may execute the work at the defaulting party's expense. These expenses must be reimbursed within 15 days of the request or they will be collected through enforcement as provided under Royal Decree No. 639 of April 14, 1910. 8. All constructions must be harmoniously integrated into their architectural and urban context. 9. New buildings, or those undergoing reconstruction or restoration, must harmonize in form, cladding materials, paint, and roofing with surrounding buildings—particularly with those constituting the environmental matrix—even without necessarily mimicking them. They must integrate well with the urban or natural environment, respecting its specific characteristics. Buildings and base walls of fences that front public or publicly accessible spaces must have a plinth made of

anche senza essere necessariamente simili a questi, nonché inserirsi convenientemente nell'ambiente urbano o naturale rispettandone le caratteristiche peculiari. Gli edifici, e i basamenti delle opere di recinzione, nelle parti fronteggianti il suolo pubblico o di uso pubblico, dovranno essere muniti di zoccolo di pietra naturale o artificiale o di altro materiale idoneo, di altezza media non minore di metri 0,40, misurati sul marciapiede. 10. Il Comune, sentito il parere della Commissione competente, in sede di formazione dell'idoneo titolo abilitativo all'edificazione, ha facoltà di richiedere, con congrua motivazione, soluzioni progettuali specifiche dirette ad ottenere migliori risultati di inserimento ambientale. 11. Il Comune, sentita la Commissione competente, può altresì disporre la sostituzione o la rimozione di elementi accessori esistenti - quali scritte, insegne, decorazioni, sovrastrutture, eccetera - che non si accordano con le caratteristiche ambientali. 12. I lavori e le opere necessarie per l'arredo complementare, in coerenza con il progetto autorizzato e/o secondo le prescrizioni imposte negli atti di assenso all'edificazione, devono essere totalmente compiuti allo scadere del periodo fissato, ai sensi della normativa vigente. 13. Il Comune ha facoltà di applicare o fare applicare e mantenere sui fronti delle costruzioni pubbliche e private, previo avviso alla proprietà, apparecchi indicatori, tabelle e altri oggetti di pubblica utilità quali: - targhe della toponomastica urbana e numeri civici; - piastrine e tabelle per indicazioni planimetriche ed altimetriche, di tracciamento, di idranti e simili; - apparecchi e tabelle di segnalazione stradale; - cartelli indicatori relativi al transito, alla viabilità, ai pubblici servizi; - sostegni per gli impianti dei pubblici servizi con targhe ed apparecchi relativi; - orologi ed avvisatori stradali di data, temperatura, condizioni del traffico, eccetera; - lapidi commemorative; - ogni altro apparecchio od impianto che si renda necessario a fini di pubblica utilità. 14. Gli indicatori e gli apparecchi di cui al comma precedente possono essere applicati sul fronte di costruzioni soggette a specifici vincoli, soltanto se non esistono ragionevoli alternative e, comunque, previo parere dell'organo di tutela. 15. L'installazione deve essere effettuata producendo il minor danno e disagio alla proprietà privata, compatibilmente con il soddisfacimento dell'esigenza pubblica per cui è effettuata 16. La manutenzione degli oggetti, elencati al comma 13, nonché delle parti di facciata da essi direttamente interessate, è a carico degli enti o dei privati installatori. 17. I proprietari, i possessori e i detentori degli immobili hanno l'obbligo di non rimuovere gli oggetti di cui al comma 13, di non sottrarli alla pubblica vista, di ripristinarli a loro cura e spese, quando siano stati distrutti o danneggiati per fatti a loro imputabili. 18. Gli interventi edilizi sugli edifici ove sono installati gli oggetti di cui al comma 13, debbono essere effettuati garantendo le opere necessarie per il mantenimento del servizio pubblico; tali oggetti dovranno essere rimessi debitamente in posizione qualora, per l'esecuzione dei lavori, sia stato indispensabile rimuoverli.	natural or artificial stone or other suitable materials, with an average height of no less than 0.40 meters, measured from the sidewalk. 10. During the approval process for a building permit, the Municipality, after consultation with the competent Commission, may request specific design solutions with justifications, to achieve better environmental integration. 11. The Municipality, after consulting the competent Commission, may also require the replacement or removal of existing accessories (e.g., signs, decorations, overstructures, etc.) that are incompatible with the environmental character. 12. Any complementary furnishings must be completed in full by the deadline set by applicable regulations, in accordance with the authorized design and/or imposed conditions. 13. The Municipality may install, or require to be installed and maintained, on the facades of public or private buildings—after notifying the owner—devices or items of public utility, including: Street name plates and house numbers; Plates and signs for mapping, elevation markers, hydrants, etc.; Road signage and traffic signs; Transit, mobility, and public service indicators; Supports for public service systems and related signage; Clocks and traffic/date/temperature information boards; Commemorative plaques; Any other device or installation deemed necessary for public utility. 14. The items listed above may be installed on protected buildings only if no reasonable alternatives exist and only with approval from the relevant heritage protection body. 15. Installation must be carried out with minimal disruption and damage to private property, consistent with fulfilling the public utility objective. 16. Maintenance of these devices—and the parts of the building facades they affect—is the responsibility of the entities or private parties that installed them. 17. Property owners, occupants, and holders must not remove, hide from view, or damage any of the items listed above. If they are damaged or destroyed due to their actions, they must restore them at their own expense. 18. Any construction or renovation on buildings that host such public utility elements must guarantee continued service. If removal is necessary for the work, the items must be properly reinstalled afterward.
Art. 107 Elementi aggettanti delle facciate, parapetti e davanzali	Art. 107 – Projecting Elements of Facades, Railings, and Window Sills
1. Parapetti e ringhiere devono essere posizionati laddove sussista pericolo di caduta da uno spazio praticabile, indipendentemente dalla funzione di quest'ultimo. In particolare devono essere sempre previsti a protezione di balconi, logge e terrazzi. 2. Gli elementi di cui sopra:	1. Railings and parapets must be installed wherever there is a risk of falling from an accessible space, regardless of that space's function. They must always be present to protect balconies, loggias, and terraces. 2. The above-mentioned elements:

- devono avere altezza, misurata dalla superficie praticabile più elevata presente a ridosso del parapetto, non inferiore a metri 1,10 e non superiore a metri 1,20;	Must be at least 1.10 meters and no more than 1.20 meters in height, measured from the highest walkable surface adjacent to the parapet;
- presentare notevole resistenza agli urti ed alla spinta in conformità alle vigenti leggi in materia;	Must be highly resistant to impact and pressure, in compliance with current laws;
- non devono essere scalabili ovvero presentare punti di appoggio che ne favoriscano lo scavalcamento né presentare aperture o interspazi di larghezza libera superiore a metri 0,10.	Must not be climbable or include footholds that facilitate climbing over, nor have openings or gaps wider than 0.10 meters.
3. Per la realizzazione di parapetti e ringhiere sono ammessi tutti i materiali tecnicamente adatti allo scopo di garantire sicurezza purché compositivamente coerenti all'immagine dell'edificio nel suo contesto ambientale. Il vetro è ammesso solo in presenza di requisiti di resistenza e di non frammentazione agli urti, debitamente certificati.	3. All technically suitable materials may be used for the construction of parapets and railings, provided they are architecturally consistent with the building and its surroundings. Glass is permitted only if it meets certified resistance and anti-shattering standards.
4. Costituiscono chiusura di perimetro le pareti, i pannelli e le vetrate frangivento o di separazione fra le logge, i balconi e i terrazzi, con altezza superiore a 2/3 dell'altezza netta di piano e, comunque, superiore a metri 2,50. Tali manufatti sono sempre consentiti con altezza massima di metri 2,20, fermo restando che dovrà essere sempre garantita una porzione aperta non inferiore a metri 0,5 di altezza. Con tali manufatti non potrà mai essere delimitato uno spazio per più di 2/3 del suo perimetro.	4. Windbreak walls, panels, and glazed dividers between loggias, balconies, and terraces are considered perimeter enclosures if they exceed two-thirds of the floor height, or in any case 2.50 meters. These installations are permitted up to a height of 2.20 meters, as long as a minimum open portion of 0.5 meters in height is maintained. Such structures may not enclose more than two-thirds of the perimeter of any space.
5. Dal filo di fabbricazione delle costruzioni prospettanti su spazi pubblici o di uso pubblico sono ammesse sporgenze per elementi decorativi, cornici, davanzali, soglie, copertine, gocciolatoi, zoccolature, inferriate, vetrine, pensiline, balconi, tende ed altri corpi aggettanti; sono invece vietati posizionamenti di strutture o impianti tecnologici sporgenti dallo stesso filo di fabbricazione che creino ostacoli o difficoltà alle persone con ridotte o impedite capacità motorie o sensoriali; i "bow-window", le verande e gli elementi portanti verticali in risalto costituiscono filo di fabbricazione ai sensi dell'articolo D, comma D2, dell'Appendice 1.	5. From the building alignment line facing public or publicly accessible spaces, projections are allowed for decorative elements, cornices, window sills, thresholds, ledges, drip edges, base moldings, grilles, display windows, canopies, balconies, awnings, and other projecting structures. However, projecting technological structures or equipment that hinder accessibility for individuals with limited mobility or sensory impairments are prohibited. Bow-windows, verandas, and prominent vertical load-bearing elements are considered part of the alignment line per Article D, paragraph D2, of Appendix 1.
6. Ove non escluse o limitate dall'applicazione delle vigenti leggi e dei loro regolamenti di attuazione, sono ammesse le seguenti sporgenze massime:	6. Unless otherwise restricted by current laws or regulations, the following maximum projections are permitted:
a) elementi decorativi, cornici, davanzali, soglie, copertine, gocciolatoi, zoccolature, inferriate, vetrine e coibentazioni relative a fabbricati esistenti comprese nell'altezza di metri 3,00 dal piano del marciapiede, possono sporgere non oltre centimetri 4,00 dal filo dell'allineamento sullo spazio pubblico. Maggiori sporgenze, contenute complessivamente in centimetri 35,00 dal suddetto filo, sono consentite per le inferriate poste ad altezza superiore a metri 2,20 dal piano del marciapiede, per maggiori spessori delle coibentazioni relative a fabbricati esistenti vedasi la successiva lettera a-bis);	a) Decorative elements, cornices, sills, thresholds, drip edges, moldings, grilles, windows, and insulation (up to 3.00 m in height from the sidewalk level) may project up to 4 cm from the building line over public space. Projections up to 35 cm are allowed for grilles above 2.20 m or thicker insulation—see a-bis; a-bis) Greater insulation thicknesses (up to 15 cm projection) for existing buildings within 3.00 m in height are allowed if:
	A minimum 10% reduction in thermal transmittance is achieved (certified as per Legislative Decree No. 192/2005);
	A clear sidewalk width of at least 1.50 m remains, excluding fixed obstacles;
	The projection is finished with a convex or 45° inclined edge to prevent visual hazards;
	Prior authorization for occupying public space is obtained.
a-bis) maggiori spessori - contenuti nei centimetri 15,00 dal filo dell'allineamento sullo spazio pubblico - necessari esclusivamente per le coibentazioni di murature relative a fabbricati esistenti, compresi nell'altezza di metri 3,00 dal piano del marciapiede, sono consentiti a condizione che:	b) Balconies, bow-windows, insulation on existing buildings, and continuous projections may extend up to 25 cm beyond the building line above a height of 3.00 m. Greater projections are allowed above 4.25 m (slab soffit) and 3.50 m (lowest decorative elements).
1. si ottenga una riduzione minima del 10% dei limiti di trasmittanza previsti dal Decreto Legislativo 19 agosto 2005, n. 192, e successive modificazioni, certificata con le modalità di cui al medesimo decreto legislativo;	c) Balconies and bow-windows (even if part of continuous projections) must not project more than 1/12 the width of the street, with a maximum of 1.40 meters.
2. la residua larghezza del marciapiede libero, al netto di ogni ostacolo fisso esistente, non sia inferiore a metri 1,50;	d) Continuous projections must not exceed:
	1/40 of the street width for streets <15 m wide;
	1/30 of the street width for wider streets;
	Maximum of 1.00 m projection.
3. la nuova sporgenza sia raccordata, con idonea porzione convessa o inclinata a 45° rispetto al filo edilizio, al fine di non costituire elemento di pericolo per le persone con difficoltà visive;	e) Awnings and canopies at ground level may project up to 1.40 m from the alignment line, provided they do not exceed the width of the sidewalk and maintain a minimum bottom height of 2.20 m from the sidewalk or ground level.
4. sia preventivamente ottenuto idoneo titolo per l'occupazione del suolo pubblico;	6-bis. Once insulation work is completed on existing buildings, a signed declaration of proper installation must be submitted by both the contractor and the project supervisor.
b) balconi, bow-window, coibentazioni relative a fabbricati esistenti e sporti continui possono sporgere fino a centimetri 25,00 dal filo dell'allineamento sullo spazio pubblico oltre l'altezza di metri 3,00 dal piano del marciapiede. Maggiori sporgenze possono essere consentite oltre le altezze di metri 4,25 e metri 3,50 dal piano del marciapiede, misurate rispettivamente all'intradosso della soletta e in corrispondenza del punto più basso degli eventuali elementi ornamentali e modiglioni;	
c) i balconi, anche se inseriti in zone di sporti continui, e i bow-window non dovranno sporgere dal filo dell'allineamento sullo spazio pubblico oltre 1/12 della larghezza della via con il limite	

massimo di metri 1,40; d) gli sporti continui non dovranno sporgere dal filo dell'allineamento sullo spazio pubblico oltre 1/40 della larghezza della via per vie inferiori a metri 15,00 e oltre 1/30 per vie e spazi pubblici di maggiore ampiezza, con il limite massimo di metri 1,00; e) tende parasole e pensiline al piano terreno degli edifici possono sporgere dal filo dell'allineamento sullo spazio pubblico fino a metri 1,40, non possono comunque superare la larghezza del marciapiede e devono avere il bordo inferiore ad una altezza minima di metri 2,20 dal piano del marciapiede medesimo o del suolo. 6-bis. Ultimati gli interventi edilizi che prevedono la posa di coibentazioni esterne in edifici esistenti, deve essere presentata una specifica dichiarazione di "corretta posa in opera" a firma dell'impresa esecutrice e del direttore dei lavori. 6-ter. La posa di coibentazioni esterne dovrà essere oggetto di uno studio d'insieme inerente l'intera facciata realizzata in base ad unico titolo abilitativo, atto a dimostrarne un idoneo inserimento architettonico e ambientale, rispettoso dell'equilibrio compositivo, riprendendo i caratteri stilistici dell'edificio. 7. Viene considerato bow-window un balcone aggettante dal corpo di fabbrica per l'altezza di un solo piano o di più piani successivi se i balconi sono in colonna, chiusi sui lati esterni con pareti piene o vetrate, avente una lunghezza non superiore a metri 4,00 misurata parallelamente alla facciata dell'edificio fra i massimi sporti estremi. I bow-window dovranno essere distanziati fra di loro di almeno il doppio della loro lunghezza. 8. Viene considerato sporto continuo oltre il filo di fabbricazione quello che oltrepassa i metri 4,00 di lunghezza misurati come sopra. 9. I bow-window e gli sporti continui verso via devono distare dal confine con le proprietà contigue di almeno il triplo della loro massima sporgenza. 10. Non sono ammessi sporti continui né bow-window verso le vie di larghezza inferiore a metri 11,00. 11. I bow-window e gli sporti continui verso gli spazi pubblici aventi sporgenza superiore all'aggetto del cornicione dovranno essere limitati al penultimo piano 12. Gli sporti continui verso cortile sono considerati nel computo della superficie coperta. 13. La collocazione di tende parasole aggettanti su aree pubbliche può essere vietata dall'Autorità comunale per motivi di inserimento ambientale e decoro urbano è disciplinata dal Regolamento di polizia urbana n. 221.	6-ter. External insulation must be part of a unified facade project approved under a single building permit, demonstrating architectural and contextual coherence while respecting compositional balance and building style. 7. A bow-window is defined as a projecting balcony extending for one or more vertically stacked floors, enclosed by solid or glazed walls, and measuring no more than 4.00 m in length (parallel to the facade). Bow-windows must be spaced at least twice their length apart. 8. A continuous projection extends beyond 4.00 m in length (measured as above). 9. Bow-windows and continuous projections must be set back from adjacent property boundaries by at least three times their maximum projection depth. 10. Bow-windows and continuous projections are not allowed on streets narrower than 11.00 meters. 11. Bow-windows and continuous projections exceeding the cornice projection on public spaces must be limited to the second-to-top floor. 12. Continuous projections into courtyards count toward the total covered building area. 13. The placement of awnings projecting over public areas may be prohibited by the Municipality for environmental or aesthetic reasons, as governed by Urban Police Regulation No. 221.
Art. 108 Allineamenti	Art. 108 – Building Alignments
1. L'allineamento con edifici o manufatti preesistenti è quello riferito alla costruzione più arretrata rispetto al sedime stradale, salvo che, per garantire il rispetto dell'unitarietà compositiva o il mantenimento di caratteri formali, non risulti più conveniente allineare la costruzione in progetto ad una cortina più avanzata. 2. Una costruzione si considera allineata al prescritto filo di riferimento quando la linea di spiccato risulta insistere su questo per più della metà del suo sviluppo lineare e il piano di facciata del fronte per più della metà della sua superficie. 3. Si considera piano di facciata, ai fini di tale verifica, la superficie costituita da pareti o dal piano delimitato da una adeguata successione di strutture portanti principali, verticali ed orizzontali.	1. The alignment with pre-existing buildings or structures is determined based on the one that is set back the farthest from the street boundary, unless aligning the proposed construction with a more forward building line is deemed more appropriate for maintaining compositional unity or preserving formal characteristics. 2. A building is considered aligned with the prescribed reference line when: The base line (line of emergence) overlaps this reference for more than half of its linear development; And the facade plane overlaps the reference line for more than half of its surface area. 3. For the purposes of this verification, the facade plane is defined as the surface formed either by walls or by a plane outlined by a consistent sequence of primary structural elements, both vertical and horizontal.
Art. 109 Piano del colore	Art. 109 – Color Plan
1. Presso la Città è vigente il Piano del Colore - Regolamento n. 239.	1. The City of Turin enforces the Color Plan – Regulation No. 239.

Art. 111 Illuminazione pubblica	Art. 111 – Public Lighting
1. Presso la Città è vigente il Piano Regolatore dell'Illuminazione Comunale.	1. The City of Turin enforces the Municipal Lighting Master Plan.
Art. 115 Insegne commerciali, mostre, vetrine, tende, targhe	Art. 115 – Commercial Signs, Displays, Shop Windows, Awnings, Nameplates
1. Le caratteristiche e le modalità di installazione di tutti i tipi di mezzi pubblicitari (insegne, sorgenti luminose, cartelli - esclusi quelli di cantiere -, manifesti, striscioni, locandine, stendardi, segni reclamistici, impianti di propaganda in genere) da collocarsi sia sugli edifici che su manufatti vari o su propri sostegni, sono ammissibili in conformità al "Codice della Strada" ed al suo regolamento di esecuzione e di attuazione, e nel rispetto delle specifiche norme e regolamenti vigenti. 2. L'installazione di mezzi pubblicitari non deve essere fonte di molestia o di nocumento per l'ambiente circostante: in particolare le insegne luminose e la cartellonistica motorizzata non devono provocare alcun disturbo ai locali adiacenti e prospicienti. 3. Nel caso in cui nei nuovi edifici siano previsti al piano terreno locali a destinazione commerciale, a pubblici esercizi o similari, devono essere predisposti appositi spazi per le insegne, che consentano collocazioni ordinate, allo stesso livello e con pari sporgenza. 4. Il rilasciodei provvedimenti comunali autorizzativi alla installazione di tutti i tipi di mezzi pubblicitari, è subordinato alla presentazione di apposita istanza al Servizio competente corredata di tutta la documentazione necessaria. 5. Il rilascio dei provvedimenti autorizzativi per aree o edifici soggetti a specifici vincoli, è subordinato all'acquisizione del parere favorevole dell'organo di tutela del vincolo medesimo per la fattispecie richiesta. 6. I provvedimenti autorizzativi sono temporanei e rinnovabili; possono essere revocati in qualsiasi momento se lo richiedono ragioni di interesse pubblico. 7. Nel caso in cui sia concessa l'occupazione di suolo pubblico per l'installazione di mezzi pubblicitari, valgono le disposizioni per il pubblico decoro. 8. Restano comunque confermato e prevalente, ove difforme da quanto sopra riportato, le disposizioni previste dal Regolamento Comunale n. 248 - Piano generale degli impianti pubblicitari - norme tecniche ambientali.	1. The characteristics and installation methods of all types of advertising media (including signs, light sources, boards—excluding construction signs—posters, banners, flyers, pennants, promotional symbols, and other propaganda installations), whether affixed to buildings, structures, or their own supports, are permitted in accordance with the Italian Highway Code and its implementing regulations, and must comply with current laws and local regulations. 2. Advertising installations must not cause nuisance or harm to the surrounding environment. In particular, illuminated signs and motorized billboards must not disturb adjacent or facing premises. 3. When new buildings include commercial premises or public businesses on the ground floor, dedicated sign spaces must be provided to allow for uniform placement, at the same height and with equal projection depth. 4. The authorization for installing any type of advertising medium must be requested through a formal application to the competent municipal service and must include all required documentation. 5. For areas or buildings subject to specific protection restrictions, authorization is subject to prior approval by the competent heritage or regulatory authority. 6. Advertising authorizations are temporary and renewable; they may be revoked at any time for reasons of public interest. 7. If the occupation of public land is granted for the purpose of installing advertising media, the rules governing public decorum shall apply. 8. In any case, Regulation No. 248 – General Plan for Advertising Installations – Environmental Technical Standards shall remain in force and prevail in case of conflicting provisions.
N.388	
Art. 3 Classificazione e caratteristiche	Art. 3 – Classification and Characteristics of Dehors
1. I dehors (D) vengono classificati a seconda degli elementi che lo compongono in: - TIPO D1: spazio all'aperto allestito per il consumo di alimenti e bevande senza pedana e senza delimitazioni fisiche fisse, eventualmente limitato con soluzioni autoportanti o fioriere. Tale spazio potrà essere occupato da: sedie, tavoli, eventuali arredi di complemento (mobile di servizio, panche, lavagne, porta menù, cestini, fioriere o vasi ornamentali), eventuali coperture in tessuto (ombrelloni o tenda a falda tesa), eventuali apparecchi illuminanti e riscaldatori che non necessitino di allacciamento alla rete; - TIPO D2: spazio all'aperto allestito per il consumo di alimenti e bevande su pedana e perimetrato necessariamente da opportuna delimitazione fissa, consentito solo in presenza di accentuate discontinuità o forti dislivelli del suolo, o per ragioni di sicurezza dettate dal contesto viabile, o volte a garantire il superamento delle barriere architettoniche, costituito da: sedie, tavoli, eventuali arredi di complemento (mobile di servizio, lavagne, porta menù, bacheche, cestini), eventuali coperture in tessuto (ombrelloni o tenda a falda tesa), pedana, relativa ringhiera di altezza pari a metri 1,10 a giorno o trasparente, fioriere purché integrate in modo armonico con la balaustra e incluse nell'occupazione della pedana, eventuali apparecchi illuminanti e riscaldatori che non necessitino di	1. Dehors (D) are classified based on the elements that compose them into the following types: TYPE D1: An open-air space arranged for the consumption of food and beverages without a platform and without fixed physical boundaries, possibly enclosed with freestanding elements or planters.This space may include: chairs, tables, optional accessory furniture (service carts, benches, blackboards, menu holders, waste bins, ornamental planters or pots), optional fabric covers (umbrellas or taut awnings), and optional lighting or heating devices that do not require connection to the electrical grid. TYPE D2: An open-air space arranged for the consumption of food and beverages with a platform, necessarily enclosed by fixed boundaries.Permitted only in cases of significant surface irregularities or elevation changes, or for safety reasons related to the road context, or to overcome architectural barriers.The setup may include: chairs, tables, optional accessories (service furniture, blackboards, menu holders, bulletin boards, waste bins), fabric covers (umbrellas or taut awnings), platform, railing (height 1.10 meters, open or transparent), planters (must be harmoniously integrated with the railing and included within the platform footprint), and optional lighting/heating devices

allacciamento alla rete; - TIPO D3: spazio all'aperto allestito per il consumo di alimenti e bevande con delimitazione fissa o autoportante (senza pedana) di altezza massima centimetri 160 da collocarsi su suolo pubblico per un periodo massimo di 180 giorni tra il 15 ottobre e il 15 aprile. Il dehors tipo D3 dovrà avere le stesse caratteristiche, allestimenti e collocazione dei D1 o D2 con l'unica differenza che la delimitazione potrà avere esclusivamente pannelli trasparenti con altezza massima di metri 1,60 che dovranno terminare in sommità con un profilo privo di cornici, finiture orizzontali e/o mancorrenti, con identiche caratteristiche e allestimenti dei D1 senza pedana o D2 su pedana. 2. Le caratteristiche formali e dimensionali dei dehors D1, D2 e D3, dovranno rispondere a quanto specificamente definito nelle Norme Tecniche - Allegato A al presente Regolamento.	that do not require grid connection. TYPE D3: An open-air space for food and beverage consumption with fixed or freestanding boundaries (without platform), with a maximum height of 160 cm, to be installed on public land for a maximum of 180 days between October 15 and April 15. The D3 dehors must follow the same formal characteristics, furnishings, and placement as D1 or D2, with the only difference being that the boundary may consist exclusively of transparent panels, maximum height 1.60 m, which must terminate at the top without cornices, horizontal finishes, or handrails, and must be otherwise identical to D1 (no platform) or D2 (with platform). 2. The formal and dimensional characteristics of D1, D2, and D3 dehors must comply with the specific provisions set forth in the Technical Standards – Annex A of this Regulation.
Art. 4 Modalità di presentazione dell'istanza e del rilascio della concessione per occupazione del suolo pubblico con dehors (D)	Art. 4 – Procedures for Submitting Applications and Granting Permits for the Occupation of Public Land with Dehors (D)
1. 1. Il titolare di un pubblico esercizio di somministrazione che intenda collocare un dehors (D) su suolo pubblico deve ottenere preventivamente un provvedimento di concessione, rilasciato dagli uffici comunali competenti. 2. A tale fine, il titolare del pubblico esercizio di somministrazione deve presentare formale istanza, sul portale telematico della Camera di Commercio "impresainungiorno", corredata di dichiarazione di conformità a tutte le prescrizioni tecniche, generiche e specifiche per tipologia di occupazione scelta (D1/D2/D3), contenute nel Regolamento e nell'allegato A "Norme tecniche" e dovrà altresì contenere tutte le ricevute dei pagamenti così come determinati dal richiedente relativi a COSAP, TARI e TEFA. 3. Il procedimento amministrativo si conclude in 30 giorni dal ricevimento dell'istanza, salvo interruzioni dei termini dovute a richieste di integrazioni da parte dell'ufficio competente al rilascio del provvedimento ovvero richieste di pareri di enti esterni. 4. Le domande dovranno essere corredate dalla documentazione le cui specifiche sono espressamente indicate nelle Linee guida approvate con apposita determinazione dirigenziale e dovranno essere presentate almeno 30 giorni prima della decorrenza dell'occupazione richiesta. 5. L'istanza presentata, le certificazioni allegate nonché l'allestimento e collocazione dei dehors saranno sottoposti, mediante controllo a campione, a verifica da parte dei Servizi comunali, della Soprintendenza Archeologia, Belle Arti e Paesaggio per la Città Metropolitana di Torino ed altri Enti e/o Autorità competenti per le occupazioni in zone soggette a vincolo. Tale verifica è applicata a tutte le tipologie di istanza (nuova installazione/proroga/rinnovo/voltura).	1. The owner of a public food and beverage service business who intends to install a dehors (D) on public land must first obtain an official permit (concession) issued by the competent municipal offices. 2. To this end, the business owner must submit a formal application via the "impresainungiorno" online portal of the Chamber of Commerce. The application must be accompanied by a declaration of compliance with all technical requirements (both general and specific) corresponding to the chosen type of occupation (D1/D2/D3), as stated in the Regulation and its Annex A – Technical Standards. It must also include proof of payments made by the applicant for COSAP (public land use fee), TARI (waste tax), and TEFA (provincial tax on waste management). 3. The administrative process is to be completed within 30 days from the date of receipt of the application, unless the timeline is interrupted due to: Requests for additional documents by the competent office; or Requests for opinions from external bodies. 4. Applications must be accompanied by documentation as explicitly specified in the Guidelines approved by an official managerial decree. Applications must be submitted at least 30 days prior to the requested start date of occupation. 5. The submitted application, attached certifications, as well as the setup and location of the dehors will be subject to random inspections by: Municipal services, The Superintendence for Archaeology, Fine Arts, and Landscape of the Metropolitan City of Turin, And any other competent agencies or authorities, especially for occupations in areas subject to heritage or landscape protection constraints. This verification applies to all types of applications, including new installations, extensions, renewals, and transfers of ownership.
Art. 10 Prescrizioni generali	Art. 10 – General Provisions
1. I dehors e i padiglioni dovranno essere realizzati e mantenuti in modo conforme al progetto asseverato presentato. Tutti gli elementi dei dehors e dei padiglioni devono essere manutenuti sempre in ordine, puliti e funzionali. Eventuali elementi a verde dovranno essere sempre adeguatamente manutenuti e potati. 2. È fatto obbligo di mantenere lo spazio pubblico dato in concessione in perfetto stato igienico-sanitario, di nettezza, di sicurezza, di decoro e nelle stesse condizioni tecnico-estetiche con cui è stato concesso. 3. La concessione di occupazione di suolo pubblico non costituisce autorizzazione ad effettuare interventi sull'area verde eventualmente occupata o potatura delle alberature esistenti, salvo diversi accordi o prescrizioni del Servizio competente. 4. Allo scadere del termine della concessione di occupazione suolo pubblico e/o in caso di revoca del provvedimento, il titolare della concessione è tenuto a rimuovere dal suolo pubblico medesimo ogni singolo elemento del manufatto, ripristinando lo stato dei luoghi ai sensi dei Regolamenti Comunali in materia di verde pubblico e sedimi stradali secondo le indicazioni della Città.	1. Dehors and pavilions must be built and maintained in full compliance with the certified design submitted. All elements of the dehors and pavilions must be kept in good condition, clean, and fully functional at all times. Any greenery or planted elements must be properly maintained and pruned. 2. It is mandatory to maintain the public space granted by concession in a perfect state of hygiene, cleanliness, safety, and decorum, and in the same technical-aesthetic condition as it was at the time of concession. 3. The concession to occupy public land does not authorize any interventions on green areas or the pruning of existing trees, unless otherwise specified by agreements or explicitly permitted by the competent municipal service. 4. Upon expiration or revocation of the public land occupation concession, the permit holder is required to remove every individual element of the installation from public land and to restore the area in accordance with Municipal Regulations on public greenery and street surfaces, following the instructions of the City.

5. Resta ferma l'applicazione delle normative specifiche che disciplinano la materia relativa all'uso a cui le strutture all'aperto sono destinate e alle condizioni in esse stabilite. 6. Si richiama l'obbligo dell'osservanza della normativa in materia di superamento ed eliminazione delle barriere architettoniche. 7. Fatte salve le ulteriori limitazioni disposte dai Regolamenti in materia, sono consentiti piccoli intrattenimenti musicali; è vietato l'utilizzo di qualsiasi impianto di amplificazione e l'installazione di apparecchi e congegni da divertimento o intrattenimento. In ogni caso non si deve creare pregiudizio al riposo delle persone. 8. Le aree concesse ai sensi del presente Regolamento non possono essere utilizzate per attività, usi ed eventi di natura diversa da quelli per cui sono state concesse. 9. E' fatto obbligo ai titolari di apporre in modo visibile all'ingresso dell'attività, l'indicazione della capienza massima consentita all'interno dei dehors o dei padiglioni.	5. The specific laws and regulations that govern the intended use of outdoor structures and their associated conditions shall remain in full force and effect. 6. The obligation to comply with laws concerning the removal of architectural barriers is reiterated. 7. Subject to any additional restrictions established by relevant regulations, small-scale musical entertainment is allowed; however, the use of any amplification equipment and the installation of amusement or entertainment devices is prohibited. In all cases, no disturbance to residents' rest may be caused. 8. The areas granted under this Regulation may not be used for activities, uses, or events that differ from those for which they were authorized. 9. Permit holders are required to display in a clearly visible location at the entrance of the establishment the maximum occupancy allowed within the dehors or pavilion.
Art. 11 Orario	Art. 11 – Operating Hours
1. Il dehors o il padiglione osservano l'orario di apertura dell'esercizio a cui sono annessi. Le attività di somministrazione e/o consumo di alimenti e bevande svolte nei dehors e padiglioni collocati su suolo pubblico e privato devono cessare alle ore 02.00 salvo che per le giornate di venerdì e prefestive quando è consentito posticipare il termine delle attività alle ore 03.00 del giorno successivo. 2. I piccoli intrattenimenti musicali dovranno terminare non oltre le ore 24.00. 3. L'orario di cui ai commi 1 e 2 può essere modificato con ordinanza del Sindaco. 4. La Giunta Comunale può individuare con apposita deliberazione specifiche aree interessate da un afflusso particolarmente rilevante di persone, ove gli orari di cessazione di cui ai commi 1 e 2 del presente articolo possono essere anticipati sino alle ore 22.00, anche in modo differenziato all'interno della medesima area, quando tale misura sia effettivamente funzionale - in esito all'analisi dei dati rilevabili dalle attività di monitoraggio - alla necessità di riportare entro i limiti della soglia di tollerabilità notturna le emissioni delle fonti di rumore. 5. Allo scadere dell'orario disposto per l'interruzione del servizio all'aperto, gli elementi di arredo dei dehors (D) dovranno essere tassativamente ritirati e custoditi in luogo privato, o ove presente, sulla pedana, all'interno della apposita delimitazione pena l'applicazione delle sanzioni pecuniarie per la violazione del presente Regolamento, nonché la sospensione ed in caso di recidiva la revoca della concessione. In quest'ultimo caso dovrà essere garantita la messa in sicurezza di tali arredi, in modo che non siano facilmente asportabili e non ne possa essere fatto uso improprio. Nel caso di dehors di tipo D1/D3 (senza pedana), è facoltà del titolare dell'esercizio cui è annessa la struttura di non ritirare gli elementi componenti il dehors allo scadere dell'orario disposto per l'interruzione del servizio all'aperto, esclusivamente nei casi in cui l'intervallo di chiusura notturna dell'esercizio commerciale non superi le 10 ore, a condizione che gli elementi di arredo rimangano collocati come da progetto e che ne venga assicurata la sorveglianza al fine di garantire la sicurezza e l'igiene ambientale previste dalla normativa vigente. Per la sicurezza sono ammessi solo vincoli tra le sedute e il tavolo di riferimento.	1. The dehors or pavilion must observe the opening hours of the business to which it is attached. Food and beverage service and/or consumption activities carried out in dehors and pavilions placed on public or private land must cease by 2:00 AM, except on Fridays and the eves of public holidays, when activity is allowed to continue until 3:00 AM the following day. 2. Small-scale musical entertainment must end no later than midnight (24:00). 3. The hours specified in paragraphs 1 and 2 may be modified by ordinance of the Mayor. 4. The Municipal Executive Board may, by specific resolution, identify specific areas experiencing particularly high foot traffic, in which the closing times stated in paragraphs 1 and 2 may be brought forward to 10:00 PM. This may apply differently within the same area, if monitoring data shows that this measure is effective in keeping noise emissions within nighttime tolerability thresholds. 5. Upon reaching the designated closing time for outdoor service, the furnishings of the dehors (D) must be strictly removed and stored in a private space, or, if applicable, secured on the platform within the designated enclosure. Failure to comply will result in monetary fines, suspension, and in the case of repeated violations, revocation of the permit.In the case of revocation, furnishings must be made secure so that they cannot be easily removed or misused.For D1/D3 type dehors (those without a platform), the business owner may choose not to remove the furnishing components after closing time, only if the overnight closure period of the establishment does not exceed 10 hours, and only if: The furnishings remain in their approved layout; Supervision is guaranteed, in compliance with current regulations on safety and hygiene. For safety, only physical connections between seating and the corresponding table are permitted.