

# **A Study on the Renovation of the Largo Space of Historic Centre of Macao Based on Place Making**

A Dissertation Submitted for the Degree of Master

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# ABSTRACT

The Historic District of Macao has distinct characteristics of the integration of Chinese and Western cultures. It is one of the few residential world cultural heritage sites in my country. It is currently in a critical stage of rapid development and transformation into a tourist city. However, the Historic District of Macao, which is in urgent need of development, has realistic problems such as insufficient vitality of the historical district, underutilization of public space, and lack of sense of belonging of residents. It is in urgent need of urban renewal. Public space is the key interface for the renewal of the Historic District of Macao. The Largo space is the core component of the public space of the Historic District of Macao. It is the main body of the urban texture "straight street-Largo-alley". It is the core node of the daily social network and leisure of residents in a high-density environment. It is also the main experience place for tourists to perceive the history and culture of Macao. Therefore, the uniqueness of the Largo space lies in the need to balance the inheritance of historical and cultural heritage with the daily life of community residents, the public life of residents and the tourist experience of tourists. These two aspects are in line with the research focus of Place Making and Sense of Place theory and have strong adaptability.

Therefore, this paper takes the Largo space as the anchor point for renewal to study the renewal strategies and methods of the Historic District of Macao. It uses the PPS research method on Place Making. Based on the Place Making theory, it integrates the Sense of Place theory as a supplementary perspective. After the index correction, it builds a Place Making adaptive research framework suitable for the Historic District of Macao. This framework is used to study St. Augustine's Square and Lilau Square, and the design practice is carried out as an example. The purpose is to update the Largo space in the Historic District of Macao by studying the current problems and spatial development advantages of the space, to a certain extent, to solve the existing problems of the Historic District of Macao, and to provide reference for the subsequent renewal of the Largo space in the Historic District of Macao. At the same time, it also makes up for the current lack of domestic research on the Place Making theory at the theoretical level, and provides new perspectives and methods for the localized research and practice of the Place Making theory.

The first chapter is the introduction, which explains the research background, purpose and significance of this topic, defines the research concept, introduces the research object and scope, namely the Largo space in the Historic District of Macao, and finally introduces the research methods and framework used.

The second chapter is a theoretical study, which sorts out the theoretical background of Place Making and the development context at home and abroad. At the same time, it reviews the research on the historical city of Macao at home and abroad, finds the limitations of the domestic research on Place Making theory and the gaps in the research on the historical city of Macao, so as to support the adaptability of the Place Making theory and the research on the Largo space in the historical city of Macao. Then the PPS research method on Place Making is selected, and its various indicators are introduced in detail.

The third chapter is a study of the current status of the site, which explains the current status and characteristics of the Largo space in the historical city of Macao, emphasizes the reasons for using Largo as the anchor point for transformation, and selects St. Augustine's Square and Lilau Square as the Largo space for in-depth research. Through preliminary investigation and reference to relevant research literature, the research indicators of the Place Making method are adaptively modified, and a Place Making adaptive research framework based on the Largo space in the historical city of Macao is established.

The fourth chapter is a design practice, which proposes two Largo space renewal frameworks based on the above research, including renewal design guidelines and public participation in the process. According to the renewal framework, the two Largo spaces were designed in detail, and finally manifested as a pedestrian network in the historic district of Macao.

Finally, this study was summarized, and the future research directions were proposed based on the limitations of this study. On this basis, the current status of Place Making in China was reflected and prospected.

**Keywords:** Place Making; Historic Centre of Macao; The Largo space; Urban renewal

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# Chapter 1 Introduction

## 1.1 Research Background

Macao Peninsula is one of the three main areas that make up Macao, China. It is the earliest developed area in Macao, with a history of 400 years. Macao Peninsula has experienced six stages of urban development: "free development, the era of traditional Chinese fishing villages" (before 1557), "Macao's opening as a port, the exploration period of urban construction" (1557-1586), "lease development, steady urban development period" (1586-1840), "colonial development, urban breakthrough and expansion period" (1840-1974), "autonomy transition, steady urban development period" (1974-1999), "Macao's return, rapid urban construction period" (1999 to present)<sup>[1]</sup>. Influenced by special historical factors and geographical conditions, the current urban environment has been formed with diverse architectural styles and coexistence of Chinese and Western cultures.

The Historic Centre of Macao is the oldest, largest and best-preserved complex of Chinese and Western-style buildings in China<sup>[2]</sup>, which has witnessed the history of Macao's 400-year integration of Chinese and Western cultures. It has important historical and cultural value and was listed as a World Heritage Site in 2005, becoming one of the few residential world cultural heritage sites in my country<sup>[3]</sup>. The Historic Centre of Macao is a historical district with the old town of Macao as its core, consisting of a core area and a buffer zone. The core area covers an area of about 0.16 square kilometers, mainly consisting of 22 assessed historical buildings and the adjacent eight Largo spaces and the surrounding historical environment with a strong urban style; the buffer zone covers an area of about 1.07 square kilometers and is located outside the core area. The urban texture of the Historic Centre of Macao is mainly based on the "straight streets" with the characteristics of Portuguese cities, connecting various churches and squares. The herringbone streets on both sides spread along the terrain and grow into narrow and winding streets and alleys, interspersed with the architectural texture of "Li and Wei" where Chinese people live<sup>[4]</sup>.

In January 2009, the State Council's *Outline of the Reform and Development Plan for the Pearl River Delta Region* positioned Macao's urban development as a "world tourism and



leisure center"<sup>[5]</sup>, which shows that tourism and cultural resources have always been a top priority for Macao's development, and urban renewal is an indispensable part of Macao's urban tourism development plan. The Historic Centre of Macao is the area in Macao's old city with the most Macao's historical and cultural characteristics and value. Its effective renewal and revitalization is of great significance for Macao to become a tourism and leisure center and a livable city.

However, the Historic Centre of Macao, which is in urgent need of development, has many practical problems. The historical city lacks vitality, and its sense of existence is occupied by entertainment venues; the public space in the city is not fully utilized and is seriously fragmented; the residents lack a sense of belonging, and the living environment needs to be improved. These problems have led to the current complex renewal needs of the Historic Centre of Macao. As a rare residential world cultural heritage, it is necessary to pay attention to the improvement of the environment of the community residents, enhance their sense of belonging and cultural identity, and give tourists a good experience of Macao's cultural history. The public space is the key interface for the renewal of the Historic Centre of Macao, and the Largo space is the main component of the public space of the Historic Centre of Macao. Therefore, taking the Largo space of Historic Centre of Macao as an important starting point for Macao's urban renewal, while protecting historical and cultural heritage, improving the quality of life of residents and the quality of experience of tourists, is of far-reaching significance to the development of Macao. In the renewal of the Largo space of Historic Centre of Macao, how to balance the inheritance of history and culture with the daily life of community residents, and how to balance the public life of residents with the travel experience of tourists are the main issues that need to be considered in this study. Through in-depth research on the Largo space of Historic Centre of Macao, we can not only provide theoretical support for the sustainable development of the Historic Centre of Macao, but also provide reference for other similar historical urban renewal projects.

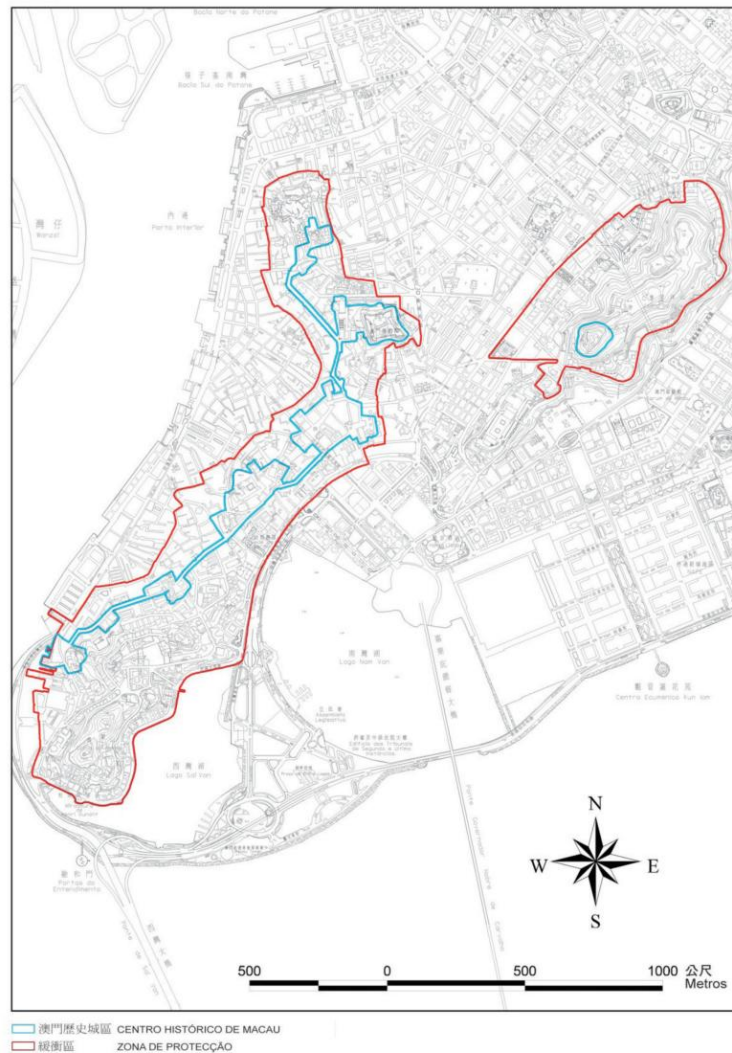


Fig.1-1 Area of Historic Centre of Macao (Source: Macao Cultural Affairs Bureau)

## 1.2 Research Concept Definition

### (1) Place Making

Place Making is translated as "Chang Suo Ying Zao" in China. The theory originated from the Spirit of Place theory (also known as "Genius loci") in Europe in the 20th century. Scholars began to discuss the connotation of the Spirit of Place theory in the 1960s. Later, in 1979, the famous Norwegian architect and phenomenologist Norberg Schulz published *Genius Loci: Towards Architectural Phenomenology* to explore Genius Loci, which brought scholars' discussion to a peak. Subsequently, people's interpretation of the Spirit of Place theory continued to mature and diversify, presenting a wide range of concepts, which not only include physical entities, but also sensory perceptions, spiritual experiences and intangible

interactions. In the process of scholars' continuous research on the Spirit of Place theory, two related debates have emerged. One is about the different focuses of the generation and expression of the Spirit of Place, and the debate on whether the best person to experience and express the Spirit of Place is tourists or residents; the second is about whether the Spirit of Place can be created. These two debates led to the differentiation of later scholars' research on the Spirit of Place theory, which resulted in the Place Making and Sense of Place theories.

The Place Making theory is closely related to urban design and planning. In the early research on the Place Making theory, scholars tended to create and improve the social space environment through physical intervention. Later, they studied the importance of intangible elements such as activities, events, and history to the place, emphasizing the symbiotic relationship of mutual influence and promotion between Place Making and the Spirit of Place.

In recent years, the study of the Place Making theory has gradually transformed its meaning into a community practice that ordinary people can participate in. It is an activity that integrates the views of various participants to change the urban space. Not only does it regard the place as a static spatial aspect and design the physical form, but it also considers the social process of constructing the place.

Domestic research on the Place Making and Spirit of Place theories all come from foreign countries, but there is very little discussion on their meanings, and they are very limited. They are basically based on foreign theoretical frameworks. Most of the related research is based on the design practice of cases or specific projects, focusing on their physical space and social and cultural identity. In recent years, there have also been interpretations of their public participation and social practice related meanings, but there are few related studies and they are not of much reference significance.

Therefore, based on the current mainstream views and personal understanding, the author defines Place Making as a complete social process in urban new construction or renewal projects, which not only includes the final physical product and vision realization of the project, but also includes the social practice of building places. It is the cooperation of all stakeholders and the joint promotion of urban space and social environment.

## **(2)The Largo**

"Qian Di" is a public space unique to Macao. Its English name is usually called "Largo". In Portuguese, "Largo" means "square" or "open space", which usually refers to smaller open spaces or squares in the city, especially the open space in front of churches, municipal buildings or other important facilities. When translating Portuguese place names in Macao into Chinese, they often use literal translation. In Macao, "Largo" is translated as "Qian Di", which literally means "open space in front of buildings", which not only retains the original meaning but also conforms to Chinese expression habits.

The earliest Largo in Macao was formed by the Portuguese opening up open space in front of important buildings (churches or public buildings). This type of Largo has similar functions to the squares in Western colonial cities, but the reasons for its formation are different, so it is mostly irregular and it is difficult to accurately reflect the central axis symmetry. After the Portuguese brought the "Largo" urban construction form, the Chinese in Macao also called the activity venue in front of Chinese religious buildings "Temple Largo", and then developed a type of Largo formed by widening the streets. It can be seen that the traditional Western square form has been spread, developed and evolved in the oriental city of Macao, and finally formed the Macao Largo with unique local characteristics today.

This name has been passed down from the Portuguese colonial period, reflecting the historical background and cultural integration of Macao. "Largo" is a special urban form generated in Macao's urban construction. It is somewhat different from the "square" often mentioned in urban design. Its scale is smaller than the general square. The layout continues the Portuguese style. The plane shape is irregular and of different sizes. It is usually evolved from the open space in front of important buildings or streets.

It is an important part of the public space of the Historic Centre of Macao. It originated from the urban planning concept of the Portuguese colonial period, that is, taking the "straight street" as the axis, and connecting churches, temples and other historical buildings through the Largo. The Largo is usually located at the intersection of the "straight street" and the "fishbone street". It is not only a key node of the "straight street-Largo-alley" urban texture of the Historic Centre of Macao, but also a core place for residents' daily social activities, cultural activities and religious ceremonies.

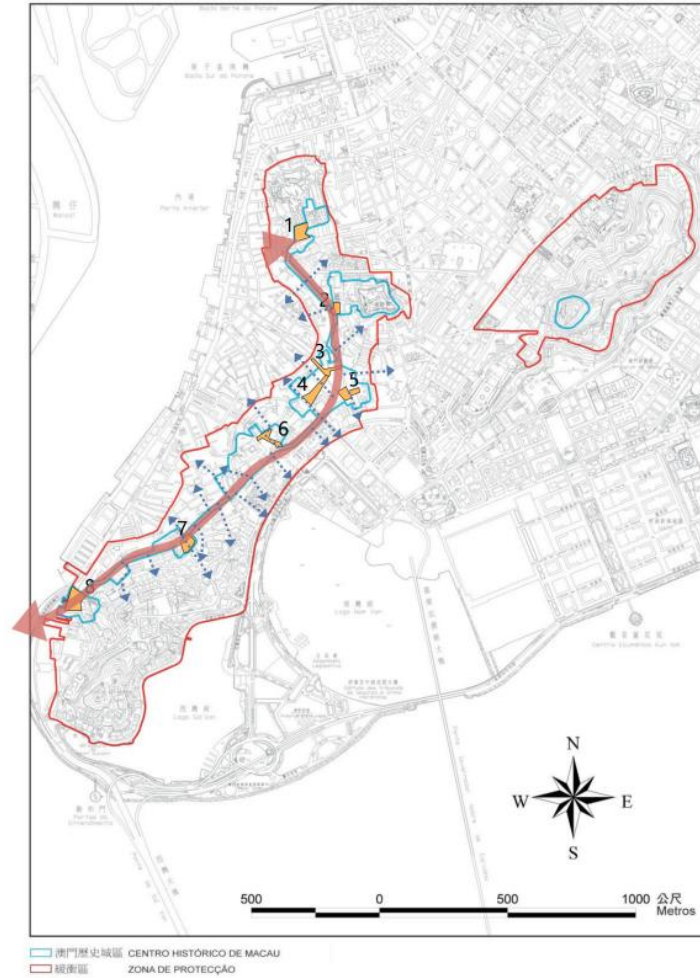


Fig.1-2 Historic Centre of Macao Urban Texture (The author redraws based on relevant materials from the Macao Cultural Affairs Bureau)

### 1.3 Research Object and Scope

This study selected the Largo space of Historic Centre of Macao as the research object and used it as the anchor point for the renewal of the Historic Centre of Macao. There are reasonable and practical reasons for this: the Largo space is an important connection point of the urban texture of the Historic Centre of Macao; the Largo space is the core node of public life and a key place for tourism experience; the transformation of the Largo space is low-cost and high-yield. Through the renewal of the Largo node, it is expected to improve the current practical problems of the Historic Centre of Macao, enhance the vitality and attractiveness of the historical city, ensure the continuity of the historical landscape, and improve the quality of life of residents and the historical and cultural experience of tourists.

The Largo space is a core component of the public space of the Historic Centre of Macao,

carrying a rich historical memory of the fusion of Chinese and Western cultures. The population density of the buffer zone of the Historic Centre of Macao is as high as 120,000 people/square kilometer. The Largo space has become the core node for residents' daily social network and leisure in a high-density environment; it is also the main experience place for tourists to perceive the history and culture of Macao. The activity space of residents and tourists overlaps, and the needs of residents and tourists need to be balanced. Therefore, the uniqueness of the Largo space of Historic Centre of Macao lies in the need to balance historical and cultural heritage with the daily life of community residents, the public life of residents and the tourist experience. These two aspects are consistent with the research focus of Place Making and Sense of Place theory, and are also highly adaptable to the theory.

This study takes eight Largo spaces of Historic Centre of Macao as a whole and builds a research framework suitable for Place Making in the Largo space of Historic Centre of Macao. Then, two Largo spaces with distinctive characteristics are used for in-depth research and design practice, namely St. Augustine's Square and Lilau Square. They are important representatives of the Largo of public buildings and the Largo of street in the Largo of Historic Centre of Macao, which are of great help to the author in understanding the characteristics of different types of Largo and the focus of renewal. This study takes St. Augustine's Square and Lilau Square as examples for design practice, aiming to discover the current problems and spatial development advantages of the two Largo spaces through in-depth research, to update them, to a certain extent solve the existing problems of the Historic Centre of Macao, and to provide reference for the subsequent updating of Largo spaces.



on relevant materials from the Cultural Affairs Bureau of Macao)



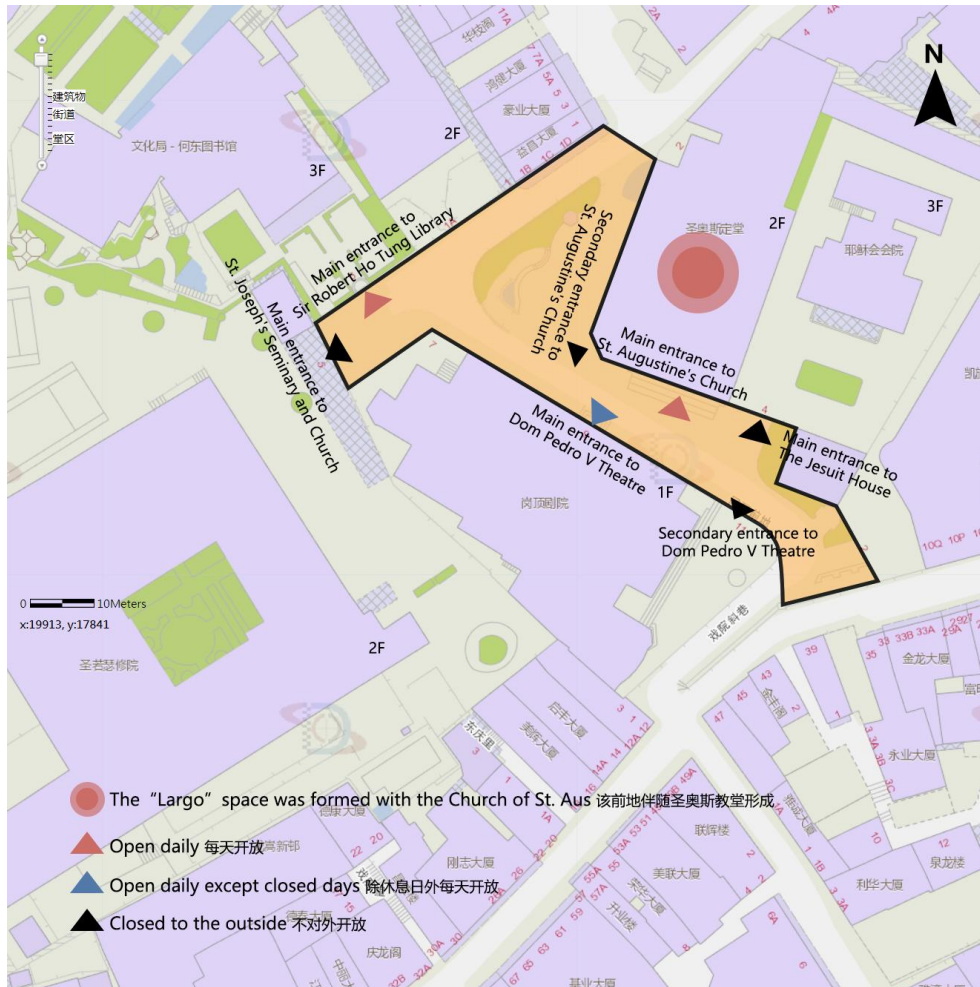


Fig.1-4 The total area of St. Augustine's Square (Drawn by the author based on relevant information)

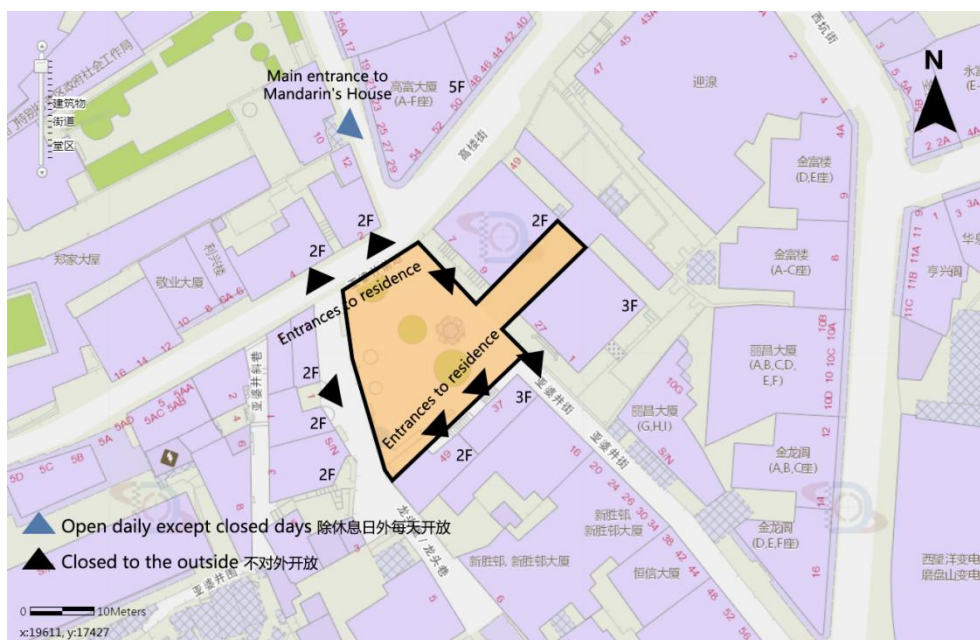


Fig.1-5 The total area of Lilau Square (Drawn by the author based on relevant information)



## **1.4 Research Purpose and Significance**

### **1.4.1 Research Purpose**

At present, the research on Place Making theory in China is very limited. It mostly stays at the level of physical space analysis, lacks consideration of intangible elements such as cultural memory, events, and daily practices; the depth of community participation is insufficient; there is path dependence on tourism-oriented place creation, etc. This study aims to sort out the development and current status of Place Making theory at home and abroad, and use relevant research methods to apply it locally in my country, fill the research gap of Place Making theory in my country compared with the international level, and introduce relevant research methods for adaptive research, so as to point out the reference direction for relevant scholars to study this theory and research methods in the future.

Secondly, the use of this research method can effectively solve some practical problems faced by the current urban renewal of Historic Centre of Macao. Taking the Largo space as the renewal anchor, a Place Making research framework that adapts to the Largo space of Historic Centre of Macao is constructed, aiming to provide reference and research framework for the future renewal of the Largo space of Historic Centre of Macao.

### **1.4.2 Research Significance**

#### **(1) Theoretical significance**

This paper studies and sorts out the Place Making theory, and studies and uses the PPS(project for public spaces) research method on Place Making. After testing and revising the research indicators of this method, an adaptive research framework for Place Making suitable for the Largo space of Historic Centre of Macao was established, and further tested and applied through the design practice of two Largo spaces. This study improves the localization of Place Making theory in China, provides a reference for scholars to use Place Making theory and research methods to study other public spaces in my country in the future, and has certain guiding significance for urban renewal based on Place Making theory in the context of current stock renewal in China.

## **(2) Practical significance**

From the perspective of urban design research value, the Largo space of Historic Centre of Macao provides a rich case for exploring the renewal and transformation, cultural integration and social functions of urban public spaces. Its unique characteristics of the integration of Chinese and Western cultures, the spatial utilization model in a high-density urban environment, and the balance between historical and cultural heritage and the daily life of community residents, as well as the balance between residents' public life and tourists' travel experience, all provide important practical references for research in the fields of urban design, cultural heritage protection and community development. Through in-depth research on the Largo space, it can not only provide theoretical support for the sustainable development of the Historic Centre of Macao, but also provide reference for other similar historical urban renewal projects.

Based on the Historic Centre of Macao itself, the author has built a Place Making research framework that is suitable for the Largo space of Historic Centre of Macao, and used two Largo spaces as examples for design practice, providing an operational template and implementation framework for the renewal of other Largo spaces in the future sustainable development of the Historic Centre of Macao.

## **1.5 Research Methodology and Framework**

### **1.5.1 Research Methodology**

Starting from theoretical research, this paper reviews the development of Place Making and Spirit of Place theories in the field of urban design, and clarifies the current progress and limitations of Place Making theory in China. At the same time, a review and analysis of the Historic Centre of Macao is conducted, and the research value and existing contradictions of the Largo space as a key interface for the renewal of the Historic Centre of Macao are found. Based on this, the Place Making theory suitable for studying the Largo space of Historic Centre of Macao is determined as the main body, and the Sense of Place theory is supplemented, which makes up for the current lack of research on this theory in China.

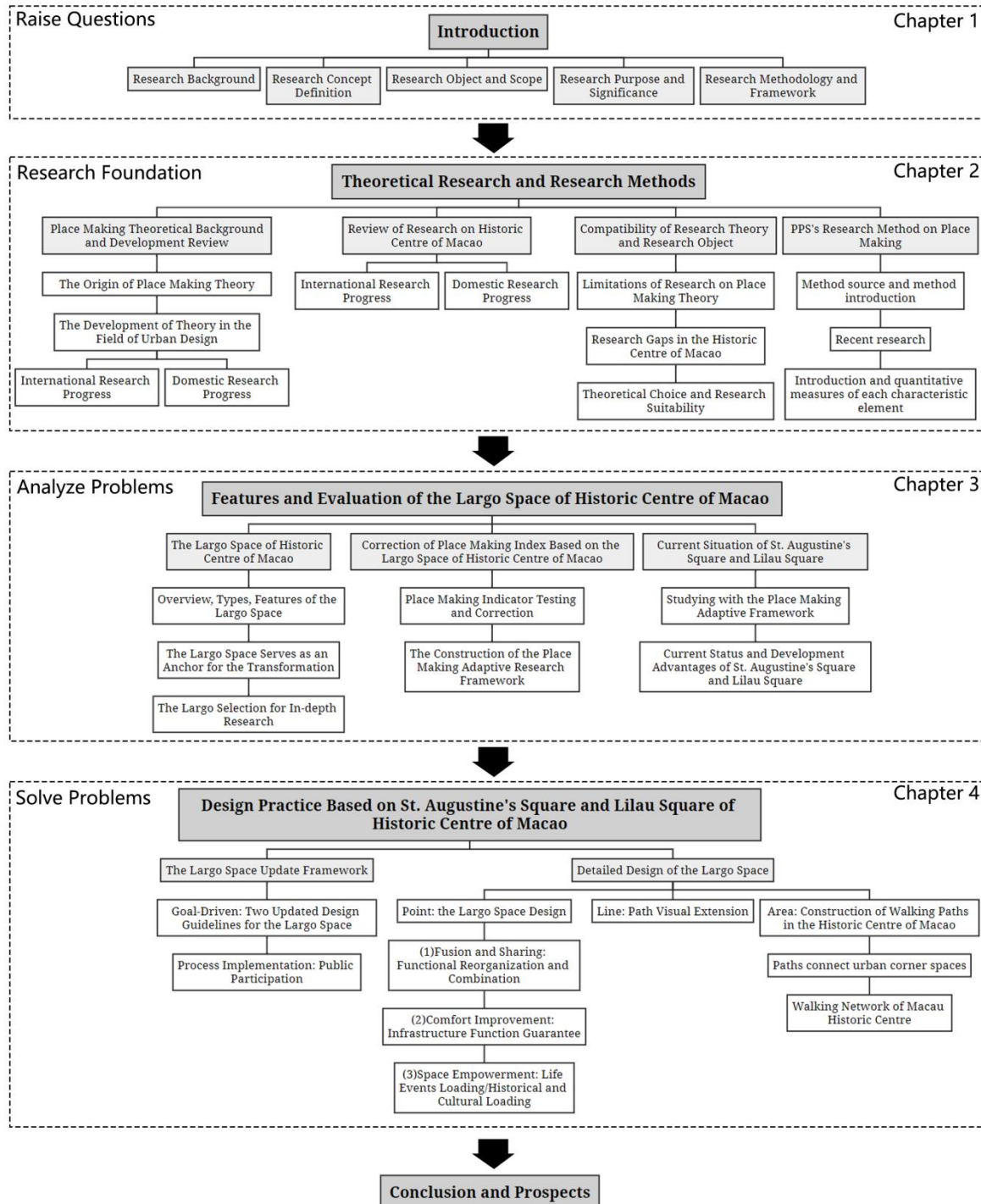
Through the analysis of relevant literature on Place Making and the study of related

research by previous scholars, the research method of PPS on Place Making was selected as the main method of this study, and the method was sorted out and summarized.

In terms of site research, data analysis and on-site pre-investigation were conducted on the Largo space of Historic Centre of Macao to clarify the types and characteristics of the Largo space of Historic Centre of Macao, and two largo spaces that need in-depth research and design practice were identified. Through the above research, combined with the relevant research literature of this research method, the research method of PPS on Place Making was adaptively modified, and finally a Place Making research framework adapted to the Largo space of Historic Centre of Macao was established, with additional quantitative standards and research methods.

This adaptive method is used to conduct an in-depth investigation of St. Augustine's Square and Lilau Square space, sort out its existing problems and development advantages, propose an update strategy based on the Place Making adaptive research framework, and carry out design practice taking St. Augustine's Square and Lilau Square space as an example based on the update strategy, in order to provide domestic scholars with an innovative framework combining theory and practice for the research on Place Making, and to provide replicable technical paths and localized experience references for the protection of cultural heritage and host-guest shared Place Making in high-density historical urban areas.

### **1.5.2 Research Framework**



## **Chapter 2 Theoretical Research and Research Methods**

### **2.1 Place Making Theoretical Background and Development Review**

#### **2.1.1 The Origin of Place Making Theory: Spirit of Place**

The meaning of Spirit of place continued to change over two centuries. Spirit of place originated in the ancient Roman religion and was called "Genius loci" in Roman terminology, and is still sometimes used to refer to the Spirit of place.

Early people used the concept of Genius loci mainly for aesthetic appreciation of countryside and garden landscapes, such as romantic poems and paintings. Later, the concept shifted from technical to modern uses. People often use Spirit of place to describe the atmosphere and environmental quality of a place, and explore it in the context of the city<sup>[6]</sup>.

Many scholars who study urban form and design combine "Spirit of place" with the "character" of a place. They have discussed the "character" of place, with some using the term Spirit of place or Genius loci either implicitly or directly. For example, in the "Townscape" debate and visual analysis, Gordon Cullen believes that Townscape is the "art of relationship" and emphasizes the use of vision and appearance to study place, focusing on "streets scene" (the elements that create an environment)<sup>[7]</sup>. Cullen introduces a systematic framework for these abstract qualities, which influence the emotional experience of place. In this way, the Spirit of place is more closely linked to character. Lowenthal believed that group identity is closely related to the form and history of place, and that the same cultural groups share common values and experiences, which create a sense of place and Spirit of place<sup>[8]</sup>. Jakle, on the other hand, holds different views on Spirit of place. He believes that the individuality and subjectivity of place are very important, and the best person to experience and express Spirit of place is not the resident, but the tourist, because tourism needs to deliberately seek the experience in different places<sup>[9]</sup>. Walter also used this concept implicitly, arguing that these personalities can only be perceived as a whole through memory, intelligence, sensation, and imagination<sup>[10]</sup>.

In addition to the scholars mentioned above, the famous Norwegian architect and

phenomenologist Norberg Schulz has been exploring the concept of "Spirit of place" based on Heidegger's phenomenology of existence. In his book *Genius Loci: Towards an Architectural Phenomenology*, he describes Genius Loci as a person's feeling about a place and the sum of all physical and symbolic values in nature and the human environment. Taking natural conditions as a special concept of Genius Loci, he distinguished three basic landscape characteristics: romantic, cosmic and classical<sup>[11]</sup>. Later, Norberg Schulz's scope of analysis expanded from visual impressions to the realm of life and experience. His four methodological stages (imagery, space, character, Genius Loci) illustrate people's experience of the physical environment. His goal is to achieve an atmospheric, sensory-related experience where genius resides.

With the subsequent maturity and diversification of people's interpretation of Spirit of place, a wide range of concepts emerged. For example, from the physical entity of a place and its sensory-based perception to spiritual experiences and intangible interactions, the relationship between spatial and social processes is emphasized<sup>[12]</sup>. In 2008, at the 16th General Assembly of ICOMOS, scholars proposed QUÉBEC DECLARATION, which attempts to define the transmission and maintenance process of Spirit of Place, go deeper into social interaction, and more effectively protect, utilize and enhance the spirit of place. They define the spirit of place as composed of tangible elements (buildings, sites, landscapes, routes, objects) and intangible elements (memories, narratives, written documents, festivals, commemorative activities, rituals, traditional knowledge, values, textures, colors, smells, etc.)<sup>1</sup>.

Through the above exploration, it can be found that the concept of Spirit of place is complex and multi-level, and scholars have different understandings of it and hold different views.

## **2.1.2 The Development of Theory in the Field of Urban Design**

### **2.1.2.1 International Research Progress**

#### **2.1.2.1.1 Early Development of Spirit of Place Theory**

Initially, Spirit of place were associated with many design-led considerations for traditional settlements. In addition, aspects related to the importance of the natural

environment, such as landscape design theory and practice, are well reflected. This is consistent with Norberg Schulz's original exploration of natural landscapes.

For much of the second half of the 20th century, the concept of Spirit of place was used in various design planning documents, with Britain's post-war reconstruction plans providing good examples. At a critical moment in urban design, when modernism and the International Style were about to dominate the sweeping post-war reconstruction of Britain and much of the Western world, Spirit of place was revised as a transformation of the physical townscape. Urban morphologist and planner Cozen uses the concept of Spirit of place to describe geographical changes in town planning, building pattern, and land and building use<sup>[13]</sup>. Norberg schulz assesses what is right or wrong about one urban form relative to others based on his understanding of traditionally built European cities<sup>[11]</sup>. Neither of them suggested that an understanding of Spirit of place might mean physical design form.

In some planning documents, the importance of creating and enhancing "character" and a "sense of place" is emphasized, whether for historic sites or new builds<sup>[14]</sup>. The design layout must not only consider the immediate buildings, but also the townscape of the wider area. In this context, the characteristics of successful places are proposed in an increasingly influential design paradigm, "New Urbanism", namely elements that contribute positively to "personality", which can be identified and reinterpreted, and can create a unique physical character and sense of place. Urban planning and design in the post-war period therefore tended to make indiscriminate use of "sense of place", "character" and "The spirit of place". In contrast to what Norberg Schulz said, this behavior is one-sided, and sense of place and Spirit of place should operate on different levels. Jane Jacobs criticized modernist planning's indifference to daily life in *The Death and Life of Great American Cities*, which gave rise to the participatory renewal model. She believed that the essence of a city lies in its complexity and diversity, and that only diverse urban communities are vibrant, and that cities should be viewed from the perspective of the citizen collective. Some scholars believe that Spirit of place and "character" can be created through proper planning and design. But this runs counter to the idea that these characteristics arise from the perceptions, experiences, and values of individuals and communities. Another statement tends to show that the Spirit of place cannot be intentionally created or recreated because they happen by chance<sup>[12]</sup>. So

although this approach can produce a place with recognizable features, it is the integration of these features by people and society through the same values and perceptions that forms a Sense of place. This ongoing debate has never produced a clear and correct answer, which requires more practice cases to try in the future.

#### 2.1.2.1.2 The Differentiation of Spirit of Place Theory and the Emergence of Place Making

From the above, we know that scholars have had two ongoing debates in their research on the Spirit of Place. The first is about the different focuses on the creation and expression of the Spirit of Place. Some scholars believe that the same cultural groups have common values and experiences and group identity, which has led to the creation of the Spirit of Place and the Sense of Place; while some scholars believe that the best candidates for experiencing and expressing the Spirit of Place are not residents, but tourists, because tourism requires deliberately looking for experiences in different places. The second is about whether the Spirit of Place can be created. Under the influence of "New Urbanism", many scholars believe that elements that contribute positively to the "character" of a place can be identified and reinterpreted to create unique physical features and a Sense of Place; while other scholars believe that the Spirit of Place cannot be intentionally created or recreated, and that these features stem from the perceptions, experiences and values of individuals and communities.

Table 2-1 Analysis of two debates on Spirit of Place at the end of the 20th century (Drawn by the author)

	Key Point of Debate	Place Making	Sense of Place
<b>Debate1</b>	The generation and expression of Spirit of Place	The individuality and subjectivity of a place are important. The best people to experience and express the Spirit of Place are not residents, but tourists.	Shared values and experiences of the same cultural group
<b>Debate2</b>	Can a Spirit of Place be created?	Elements that contribute positively to the "character" of a place can be identified and reinterpreted to create unique physical features and a sense of place	Characteristics arise from individual and community perceptions, experiences and values and cannot be intentionally created or recreated

These two debates promoted the emergence and development of two sub-research fields



of Spirit of Place, Place Making and Sense of Place, which were paid the most attention by scholars in the later period and were closely related to urban design and planning.

In the early stages of the development of each field, it had its own focus and research scope.

### **(1)Sense of Place**

Some scholars believe that Sense of Place is the core of the concept of place and is closely related to the community. Sense of Place is our experience of the Spirit of Place and everything in the place in a specific place<sup>[15]</sup>. Sense of Place is generated through the interaction between people and places. It is people's emotions and attachment to the environment. It is rooted in people's subjective experience (memory, history, culture, tradition) and is influenced by the objective external environment (landscape, sound, smell)<sup>[16]</sup>. Relph argues that Spirit of Place exists externally—experienced through memory and intention, but Sense of Place exists internally—stimulated by the landscape encountered, so while it is possible to enhance Spirit of Place through design, it is generally impossible to design Sense of Place<sup>[17]</sup>. Stedman, based on the previous studies that only mentioned the social construction of sense of place, proved through empirical model testing that the physical environment can also make an important contribution to sense of place, supporting the three-element view of sense of place - physical environment, human behavior and social<sup>[18]</sup>. Jackson mentioned that people often associate Sense of Place with certain events, not just buildings, monuments or spaces. These places can be public places, crowded streets or natural environments, embedded in people's daily lives<sup>[19]</sup>. J.B. Jackson believes that the worship of gods in a place prompts people to hold sacred worship ceremonies at specific times, thus leaving memories attached to the place in people's minds. He believes that the sense of place is created by people over time (emphasis on the time process), which will be strengthened by repeated events, thus forming customs, and then generating, often accompanied by a sense of sharing and belonging.

Place attachment refers to the emotional impact of a place, where people are drawn to it by emotional and cultural ties, with shared collective memories and identities<sup>[16]</sup>. It is the core concept of Sense of Place, a positive emotional bond that develops between people and their

environment<sup>[20,21]</sup>. Place attachment can result from a positive perception of the neighborhood and is directly related to interest in place. Place attachment is important because it generates identification with the place and promotes social and political participation to protect the physical and social features of the neighborhood's identity<sup>[22]</sup>. Altman et al. also mentioned a similar description: Place attachment is established by an individual's interest, understanding and experience of the place, which is based on various characteristics of individuals, groups and cultures and their social interactions<sup>[23]</sup>. These social interactions include conscious and unconscious behaviors as well as emotional and cognitive interactions<sup>[24]</sup>. Some scholars have studied the specific factors that influence place attachment. Moore and Graefe tested the model through user samples and supported the two dimensions of place attachment: place dependence, which reflects the importance of the place in promoting user activities; and place identity, which reflects the importance that individuals attach to the place for emotional reasons<sup>[25]</sup>. Hashemnezhad et al. divided the factors that affect the generation and promotion of place attachment into physical, social, cultural, personal, memories and experiences, place, interaction and activity, and time factors<sup>[16]</sup>.

## **(2)Place Making**

Among the various sub-fields of Spirit of Place, Place Making is most closely related to urban design and planning. In the early stages of its research, scholars tended to create and improve the social space environment through physical intervention. Day believes that the focus of Place Making should be on the development of the physical elements of the corresponding project<sup>[26]</sup>. For example, Samadhi uses local spatial elements of Bali as physical features to carry out Place Making practice in urban design<sup>[27]</sup>. Salah Ouf uses Place Making to create a heritage-inspired tourist route in Sharjah and create a place that resembles a traditional core<sup>[14]</sup>. In the process of Place Making, designers should absorb the views and opinions of the direct participants of the site to a greater extent<sup>[28]</sup>, and putting the description of these site characteristics in the context of other aspects such as activities and intentions can better describe personality<sup>[29]</sup>.

Cultural tourism has now become the main source of funding for many urban conservation projects with historical characteristics, and urban designers have also noticed the

importance of creating places that attract tourists. Salah Ouf believes that the focus of urban conservation may be street priority, creating a coherent tourist route by dealing with the characteristics of urban space along the street; a regional approach may also be adopted to deal with the characteristics of urban space in a specific area; another approach is to use Place Making to create a Sense of Place in a certain core to anchor the character of the heritage. That is, to create a clear and strong meaning and function for a small section of urban streets or an urban space<sup>[14]</sup>. Spirit of Place has a great cultural impact. National cultures express their identity through local differences and can work with geographical places to protect and nourish the Spirit of Place<sup>[30]</sup>. Therefore, Place Making and Spirit of Place can become a symbiotic relationship that influences and promotes each other. Passfield mentioned that Spirit of Place is evoked by the physical characteristics of cultural resources in their environment and the dynamic activities carried out at different levels. It locates visitors, conveys a sense of functionality and continuity, and embodies a traditional way of life that connects the present with the past<sup>[31]</sup>.

In Cresswell's narrative, the most important characteristics of place are repeated social practices, inclusion, performativity, and dynamic quality<sup>[32]</sup>, and Friedmann added "a certain pedestrian scale", "inhabited" and "place attachment", as well as "the presence of one or more central spaces for gathering"<sup>[33]</sup>. Othman et al. found that there are three main factors that influence people's memory and perception in Place Making: the memory of events, history and monuments of a place<sup>[34]</sup>. Recently, Lak and Hakimian proposed a similar theoretical framework for collective memory and perception: "Place, Activity/Event, and History"<sup>[35]</sup>. These all contribute to Place Making and giving Spirit of Place.

Table 2-2 Initial research focus of two key sub-sectors (Drawn by the author)

	<b>Research Population</b>	<b>Cross-cutting Fields</b>	<b>Research Subjects</b>	<b>Research Focus</b>
<b>Place Making</b>	Tourist	Cultural Tourism	Historical and cultural space	Physical characteristics and activities
<b>Sense of Place</b>	Resident	Social Psychology	Community	Community participation and group identity

### **2.1.2.1.3 Later Development of Place Making Theory**

As the theory of Place Making continues to develop, there has been a shift in research methods and definitions. Place Making has also been described as the collective efforts of individuals living in a specific environment<sup>[36]</sup>. Such individuals, including individuals, families, groups, organizations, etc., construct the surrounding environment and shape the characteristics of the place through special activities related to a specific place. Place Making is no longer just the final physical product, but is gradually being valued as a democratic intervention process. This process requires the cooperation of all stakeholders (such as residents, local authorities, organizations, etc.) and the joint promotion of the construction of the social environment<sup>[37,38]</sup>. Planners should adapt to specific communities and cultural forms, build bridges between cultures and individuals, between regions and cities, and promote dialogue and exchange among all parties<sup>[39]</sup>.

After 2010, Place Making gradually transformed into a community practice that ordinary people can participate in. The process of Place Making is also an important part of the Place Making product. Place Making is a powerful tool, and space planners are the promoters of Place Making<sup>[40]</sup>. UR[BNE]'S case is to enliven underused spaces in the city through festivals, events and spatial transformation, connecting social media and Place Making through action<sup>[41]</sup>. These studies redefine Place Making as a social activity that is rooted in the urban environment and is formed through ongoing social practices. These practices and meanings are created and reshaped every day<sup>[42]</sup>.

In summary, Place Making initially focused on the physical changes created by designers, and later incorporated theories related to Sense of Place and community research, gradually transforming into an auxiliary tool and practice process to promote the joint creation of non-professionals such as residents and organizations. Place Making is defined as an activity that integrates the views and functions of various participants to change urban space; it not only regards places as static spatial aspects and designs physical forms, but also considers the social process of constructing places. In other words, Place Making focuses more on the process itself rather than the results<sup>[43]</sup>.

### 2.1.2.2 Domestic Research Progress

The research on Spirit of Place started relatively late in China. Only in the late 20th century and early 21st century did some scholars begin to pay attention to the theories related to Spirit of Place. For example, Fei Yan explored the phenomenological theory and Norberg Schulz's place theory<sup>[44]</sup>, Chen Yuxia analyzed Norberg Schulz's place theory, affirmed its value, and pointed out its limitations in urban design practice<sup>[45]</sup>, and Hu Bin interpreted the characteristics of places from the perspective of events, pointing out that events are tools for studying the Spirit of Place and that the Spirit of Place can be constructed and is constantly evolving<sup>[46]</sup>. Yi-Fu Tuan is a famous human geographer in my country in the 20th century. He conducted in-depth research on Sense of Place from the perspective of human geography, exploring the emotional, psychological and cultural connection between humans and the environment, and emphasizing the importance of subjective experience in understanding space and place. He believes that place is not just a geographical coordinate or physical space, but a space that is endowed with meaning through human subjective experience, memory and cultural activities. In his masterpiece *Space and Place: An Experiential Perspective*, he pointed out that sense of place is the product of the interaction between humans and the environment, reflecting people's deep attachment to "home", community or familiar environment.

However, unlike foreign scholars who focus more on theoretical research on Spirit of Place, except for a few purely theoretical studies, most of the research belongs to the category of theoretical design application, mostly in the fields related to architecture and urban planning and design, which are closely related to architectural design, urban space, history and culture, etc. For example, Tian Yinsheng and Tao Wei analyzed the development of urban order in Western cities from the 10th to the 20th century and the loss of the spirit of urban space, that is, the gradual weakening of people's ownership of urban space, and pointed out that the true meaning of "spirit of place" lies in "the use of public life" mentioned by Camillo Sitté<sup>[47]</sup>. Li Dongjun and Chen Yu studied residential environment design and believed that the community center is the concentrated expression of the Spirit of Place, that is, the community civilization and cultural characteristics, reflecting the living habits and sense of belonging of a specific group of people<sup>[48]</sup>. Suzuki Hiroyuki and Wu Yaodong pointed out that buildings are

located in specific places and reflect specific cultures. They should embody the Spirit of Place<sup>[49]</sup>.

At the beginning of the 20th century, scholars' research on Spirit of Place continued to expand in related fields, such as historical and cultural blocks, landscape design, architectural space, campus planning and other fields. However, most of them were based on the Spirit of Place theory and cases for design thinking. Zhang Yanling used Atlanta's Centennial Olympic Park as an example to study how landscape design respects the Spirit of Place<sup>[50]</sup>, Li Yuhong and others talked about the design of Finland's KIASMA and analyzed how Hall interpreted architectural phenomenology<sup>[51]</sup>, and Xiao Yiqiang et al. proposed suggestions on how to continue and shape the Spirit of Place in my country's township planning through a study of the urban design of a Swiss town<sup>[52]</sup>.

With the further development of the Spirit of Place theory in China, scholars have gradually begun to explore how to create the Spirit of Place in design, rather than simply relying on the Spirit of Place theory for design analysis and thinking. This is similar to the scope of Place Making abroad. For example, Liu Xianghua pointed out that the individual subconscious is the driving force for creating the Spirit of Place in buildings and cities, and the collective subconscious is the material<sup>[53]</sup>, and Wang Xingquan and Wang Huimin explored ways to create places through the infusion of cultural elements, and constructed a two-dimensional model of cross-stakeholders and cultural resources<sup>[54]</sup>. There is Place Making in urban planning and design. There are relatively many studies on this part. For example, Deng Shuyang and Ye Hong studied the spatial Place Making methods of traditional blocks<sup>[55]</sup>, Yang Guiqing and others discussed the importance of Place Making in small-scale public spaces to achieve community function regeneration<sup>[56]</sup>, Wei Yuanli proposed the spatial creation strategy of Spirit of Place from the aspects of respecting the already formed Spirit of Place, reproducing and continuing the historical context, creating a space with a sense of belonging, multi-functional complex, and in-depth participation of the public<sup>[57]</sup>, Liu Yixuan and Lu Bin innovated the place-making approach for urban restoration in old urban areas<sup>[58]</sup>, Deng Zhituan and Chen Yujiao conducted a study on the place-making of innovative blocks<sup>[59]</sup>, and Luo Mingjun and Xiao Jiaxin explored sustainable design and place-making of community public spaces<sup>[60]</sup>. There is Place Making of architectural space. For example, Li

Bing and Li Guiwen proposed the construction method of mausoleum architectural space and the creation of its Spirit of Place<sup>[61]</sup>, Wang Ling studied the Place Making method of public space in large cultural building clusters<sup>[62]</sup>, Zheng Xiaodong and Wang Xiaoling studied the Place Making method of new vernacular architecture<sup>[63]</sup>, and Fu Zijie applies the Spirit of Place theory to heritage conservation, management and revitalization<sup>[64]</sup>. There are Place Making in landscape design, but it is relatively rare. For example, Tao Feng and others conduct sustainable landscape design and use the concept of "balance and continuity" to reshape the Spirit of Place in residential landscapes<sup>[65]</sup> etc.

Through the study of relevant domestic literature in the past five years (relying on China National Knowledge Infrastructure), regional culture, public space, architectural design, historical blocks, etc. are hot research topics in recent years. Sense of Place, urban renewal, urban memory, etc. also appear frequently. The practice of creating Spirit of Place is increasing. In addition to the existing physical urban renewal, the scope of Place Making also includes historical and cultural reproduction, spatial experience with a sense of belonging, public participation, etc. There are many inspiring and referenceable design thinking. Bian Simin and Wang Xiangrong regard landscape as an experience and understand it as an "event" with the subjective experience and time attributes of the participants, rather than a simple "object". The landscape as an "event" is subdivided into short-term (instantaneous), long-term (walking), and mixed (montage-like) in the time dimension to shape the Spirit of Place<sup>[66]</sup>. Wang Yifan and others believe that Place Making has the duality of "place making" and "context", that is, the superposition of the top-down "urban governance" administrative system and the bottom-up "local belief" organizational system. They mentioned the connotation of place emphasized by John Friedman: one is the material space inhabited; the other is the internal lifestyle and rhythm of life, and Lefebvre's discussion on the "daily life" and "living space" of place, and carried out the portrayal practice of "living space", "living rhythm" and "historical continuity" in the Pujing neighborhood of Quanzhou<sup>[67]</sup>. Liang Hongfei and others conducted research on the revitalization of New York's urban public space and Place Making, providing reference for my country's urban public space governance under the guidance of Place Making<sup>[68]</sup>, and Zhuang Yu et al. studied the problems and issues of urban public space and proposed four basic principles for the creation of public space<sup>[69]</sup>. In

addition, a large number of architectural, urban or landscape design practices based on the Spirit of Place have emerged, such as the empirical evidence of the Place Making strategy of urban quasi-public space<sup>[70]</sup>, Community Place Making<sup>[71]</sup>, Design of interactive exterior space of building landscape<sup>[72]</sup>, Rural Greenway Planning and Design<sup>[73]</sup>, Urban green space renewal<sup>[74]</sup>, Industrial Heritage Renewal and Reconstruction<sup>[75]</sup>, and Archaeological Park Place Making<sup>[76]</sup>.

In summary, the research on Place Theory in China has experienced a gradual deepening process from theoretical exploration to practical application, from the initial basic theoretical research and application model discussion based on Spirit of Place, to design thinking based on cases, research on the concrete construction strategy of Spirit of Place in design, and then to the design practice oriented to Place Making in recent years. Among them, Place Making research with Spirit of Place as the core, as the core issue linking spatial materiality and social and cultural identity, has gradually become the research focus in this field since the 20th century, and related research has shown an increasing trend, especially urban public space is a research hotspot.

## **2.2 Review of Research on Historic Centre of Macao**

### **2.2.1 Domestic Research Progress**

This paper analyzes the latest research in the field of Historic Centre of Macao in China. Combining the research objects, contents and keywords of the obtained literature, the research hotspots can be roughly divided into three categories: protection of Historic Centre of Macao, urban renewal of Historic Centre of Macao, and analysis of the characteristic spatial morphology of Historic Centre of Macao.

#### **2.2.1.1 Historic Centre of Macao Protection**

Macao introduced a series of measures to protect historical relics in the last century. It started to protect cultural relics since the 1950s and promulgated the first cultural relics protection decree in 1976<sup>[77]</sup>, and a classified list of cultural relics was drawn up in 1984 and 1992. However, in the subsequent urban construction process, many buildings with the same protection value around historical relics were not taken seriously, and no effective control



protection was given, and the complete old city style was not preserved. It was not until 2005 when the Historic Centre of Macao was included in the World Cultural Heritage List that Macao improved the regulations on the protection requirements for the area, and the Historic Centre of Macao was given attention and protection as a whole area<sup>[4]</sup>. In 2014, the Macao *Cultural Heritage Law* was officially implemented, covering real estate, movable property, archaeological heritage, intangible cultural heritage and the protection of ancient and famous trees, which will have a more far-reaching impact on the future development of Macao<sup>[78]</sup>.

However, due to the high-intensity development of Macao Peninsula in recent years, the limited geographical environment, and the pressure from tourism and transportation, the protection of the Historic Centre of Macao has had a certain negative impact.

Zhang Song and Zhen Xuefeng analyzed the formation process and characteristics of Macao's historic urban landscape based on the basic concepts and methods of historic urban landscape protection (HULs: Historic Urban Landscapes), and explored how to effectively protect the historic urban landscape of Macao Peninsula from the aspects of heritage protection strategies and landscape management systems<sup>[79]</sup>. Guo Zhan elaborated on the key points of protecting the "Historic Centre of Macao" world heritage and the need to coordinate with the overall development of Macao<sup>[80]</sup>. Zhai Leilei and others summarized the protection and development characteristics of Macao's representative heritage and put forward subsequent heritage protection suggestions<sup>[81]</sup>. Liang Zhiyao et al. analyzed the characteristics and threats of Macao's historical landscape based on the theory and methods of Historic Urban Landscape (HUL), and summarized the methods of protection and management of the Historic Centre of Macao<sup>[82]</sup>.

### **2.2.1.2 Historic Centre of Macao Urban Renewal**

Macao currently has insufficient land resources and fragmented land use functions, which greatly hinders Macao's urban development. Especially in the old city, the high building density, large population density, and low living environment quality are all problems that need to be solved urgently. Urban renewal is currently an important channel for Macao to optimize space besides land reclamation. Since 2013, Macao has experienced a system transformation from "old district reconstruction" to "urban renewal"<sup>[83]</sup>, especially in the

Macao Peninsula, where aging residential buildings and low-quality living environments need to be updated and renovated.

The buffer zone of the Historic Centre of Macao is a large residential area, which is a typical area that needs urban renewal. However, the renewal of the historical district is subject to many constraints and is prone to various contradictions. The protection requirements of the historical district need to be coordinated with the needs of residents to improve their living environment. The renewal and development of the historical district must be approved by the Cultural Affairs Bureau. The fragmented ownership relationship has hindered the revitalization of the historical district to a certain extent<sup>[83]</sup>.

Wei Gang and Zhu Ziyu analyzed the characteristics and problems of the construction of public spaces in the Macao Peninsula and proposed strategies to optimize its public spaces and views<sup>[84]</sup>. Xu Leiqing et al. explored the basis for the revitalization of the Historic Centre of Macao from the perspective of visitor distribution and proposed a revitalization strategy for the Historic Centre of Macao<sup>[85]</sup>. Ye Anqi and Liu Su combined the green way theory to study the public space of the Historic Centre of Macao and proposed specific optimization strategies for the public space<sup>[86]</sup>. Angie Yeh introduced the concept of urban humanism into the conservation of the Historic Centre of Macao and proposed three strategies for the transformation of its public space to revitalize the area<sup>[87]</sup>.

### **2.2.1.3 Analysis of the Characteristic Spatial Form of Historic Centre of Macao**

Due to the influence of special historical and geographical factors, the Historic Centre of Macao has gradually developed an urban form that is different from other cities, with diverse architectural styles and coexistence of multiple cultures. Whether it is the "straight street" with Portuguese urban characteristics, the "Li, Wei" where Chinese live, or the Largo, they are all the presentation of Macao's unique culture after the geographical environment and historical social changes, reflecting Macao's unique urban style and historical and cultural value.

Many scholars have conducted research and analysis on the unique urban texture and place space of the Historic Centre of Macao. Wu Xin and Liu Jing analyzed the spatial texture characteristics of the basic components of the Historic Centre of Macao's architectural

combination and residential areas, "Li" and "Wei", and compared them with "Linong" in Shanghai and "Nong" in Qingdao, exploring the impact of Western colonial culture on Chinese residential areas<sup>[88]</sup>. Gao Wei and Cheng Zhuo analyzed the spatial characteristics of the Largo of Macao, showing the local characteristics of the Largo that integrates Chinese and Western cultures<sup>[89]</sup>. Fan Feihao analyzed the Largo, Lilau Square and the Largo in the Historic Centre of Macao, exploring how to preserve cultural characteristics through public space restoration<sup>[90]</sup>.

## 2.2.2 International Research Progress

Similar to domestic research hotspots, international research on the Historic Centre of Macao mainly focuses on three areas: historical heritage protection, urban renewal, and cultural tourism integration.

In recent years, international research on the Historic Centre of Macao has mostly focused on the field of historical heritage protection. The rapid development of the gaming industry and urban transformation in the 21st century have led many Macao residents to believe that the city is losing its urban characteristics. Heritage protection has received more attention from the public, and people are calling for a better protection framework and community participation<sup>[91]</sup>. Pereira M et al. explored the application of historical urban landscape methods and believed that in the protection of Macao's historical heritage, buildings need to be adaptively reused<sup>[92]</sup>, Suntikul W et al. studied the Historic Centre of Macao from the perspective of tourists' experiential value of different heritage sites, providing insights into the experience profile of general cultural heritage tourist attractions<sup>[93]</sup>, Chua M H Y uses the plaza of the Historic Centre of Macao as a case study to investigate the triadic semiotic framework of heritage conservation<sup>[94]</sup>, Wu Y, Zhu H et al. proposed a BIM-based intelligent protection and inheritance method for the Historic Centre of Macao<sup>[95]</sup>, and Li X et al. used eye tracking to explore the relationship between tourists' perception, positive emotions and behavioral intentions of the visual elements of Macao's architectural heritage, aiming to focus on the protection of the visual elements of architectural heritage<sup>[96]</sup>.

In addition to the protection of historical heritage, urban renewal is also a hot topic in related research. In recent years, urban renewal has become a top priority for the Macao

government, aiming to improve the quality of residents' living environment, but its implementation has been unsatisfactory. The Urban Renewal Act passed in 2022 focuses on redeveloping old buildings rather than improving urban blocks to provide livable communities, which is somewhat far from the expectations of the masses<sup>[97]</sup>. In particular, the urban living space that carries the lives of residents is the center of sustainable development of the historical city and a vivid carrier of historical features and humanities<sup>[98]</sup>. Wang Y et al. studied Macao's efforts to renew its historic district, the Largo, to achieve urban revitalization, providing a path for protecting and revitalizing Macao's urban heritage<sup>[99]</sup>, and Yang S et al. investigated residents' satisfaction with the urban landscape features near the Historic Centre of Macao and found areas that need to be optimized in future planning and design, such as square layout, commercial colors and materials, and signage systems<sup>[100]</sup>.

At the same time, the combination of Historic Centre of Macao and tourism is also a research focus. Because Macao has long relied on the gaming industry and its single market, mainland China, it has led to a single tourist structure and a tourism model that cannot attract international tourists. Therefore, in recent years, Macao has been committed to transforming itself into a world tourism and leisure center, reducing its economic dependence on the gaming industry, further strengthening its opening up to the outside world, and increasing its attractiveness in the world tourism market<sup>[97]</sup>. Sheng N et al. studied the impact of pedestrian exposure to traffic noise along cultural and heritage routes by visualizing the acoustic comfort along tourist routes, supporting effective tourism planning in the future<sup>[101]</sup>, Au W I proposed a series of measures to increase the possibility of Macao as a tourist destination, and mentioned that some local people in Macao have a weak sense of belonging and cultural pride, and should also pay attention to the problem of residents' "urban rights" being weakened due to the influx of tourists to cultural heritage sites<sup>[102]</sup>, and Zandonai S S also mentioned that some Macao residents feel deprived of a sense of belonging and "ownership" of the city, and have lost the power to influence the development process. "Urban rights" refer to the power to influence the construction and reconstruction of the city in the process of urban modernization<sup>[103]</sup>. Based on the analysis of the survey results of tourists in the historic district of Macao, Suntikul W et al. proposed combining tourists' local experience with the concept of co-creation to create value through interaction with tangible tourism assets<sup>[104]</sup>, Wu H C et al.

analyzed the tourist data of Historic Centre of Macao and examined the relationship between heritage tourists' experience quality, perceived value, heritage image, experience satisfaction and behavioral intention<sup>[105]</sup>, Sheng E L et al. believe that Macao can unleash its urban development potential by promoting the revitalization of its own urban culture to enhance its attractiveness as a tourist destination<sup>[97]</sup>, Jia M et al. conducted a visual analysis of social media data and found that tourists' perception of the Historic Centre of Macao was mainly based on culture, emotion, and landscape. There were also negative comments such as overcrowding, lack of interactive experience at attractions, excessive commercialization, and insufficient public recreational facilities<sup>[106]</sup>, and Wan Y K P examined the accessibility of heritage spaces to Macao tourists and mentioned that the current allocation of resources is biased towards heritage spaces located in popular tourist attractions (such as the Ruins of St. Paul's), resulting in tourists not being able to fully understand the existence of different heritage spaces along the historical corridor<sup>[107]</sup>.

## **2.3 Compatibility of Research Theory and Research Object**

### **2.3.1 Summary and Limitations of Research on Place Making Theory**

As can be seen from the above, in the field of urban planning and design, Spirit of Place was based on Norberg Schultz's phenomenology in the early stage, emphasizing the shaping of the place character by natural landscape and physical environment. Later, due to the different research focuses of scholars, theoretical differentiation was formed. Among them, Place Making focused on physical intervention to shape the characteristics of the place, and later added social processes such as public participation. Sense of Place is more concerned with the emotional attachment and cultural identity of specific groups to specific places. It can be seen that although Place Making and Sense of Place theory are two research branches, they are mutually reinforcing and symbiotic. The process of Place Making can enhance the Sense of Place, and the enhancement of Sense of Place can make residents willing to participate in and feed back the Place Making process.

In contrast, domestic related research started late. Although there were a small number of theoretical introductions in the early stage, the focus of later research gradually emphasized

practical application, focusing on public spaces, historical blocks and other fields. The advantage of relevant domestic practical research lies in localized practice, combining the Spirit of Place and Place Making theories with the actual needs of urban renewal in my country. However, existing research still has certain limitations. First, the exploration of Place Making theory mostly stays at the level of physical space analysis, lacking consideration of intangible factors such as cultural memory, events, and daily practices; second, the depth of community participation is insufficient, and residents' subjectivity is often simplified to the "opinion solicitation" link; third, there is path dependence in tourism-oriented place creation, which fails to effectively balance residents' living needs and tourists' experience demands.

### **2.3.2 Research Gaps in the Historic Centre of Macao**

Foreign research on the Historic Centre of Macao focuses on heritage protection and urban renewal, but domestic research focuses more on material issues such as physical space protection and urban texture, while international research focuses more on social and cultural dimensions. This reflects the special dilemma of Macao as a colonial heritage site - it needs to protect and enhance its integrity and attractiveness as a world cultural heritage, while it faces the realistic pressure of improving the quality of life of residents in a high-density urban environment. Existing research focuses more on the protection and renewal technology at the material space level, and pays insufficient attention to the social and cultural attributes of the historical city as a living heritage. At the same time, most studies adopt a macro narrative perspective and pay insufficient attention to the micro daily life space.

### **2.3.3 Theoretical Choice and Research Suitability**

As can be seen from the above, there is a certain trend of integration between Place Making and Sense of Place theories, which are differentiated from the later stage of Spirit of Place theory. This study selects Place Making theory as the main research framework and integrates Sense of Place theory as a supplementary perspective, including physical space level updates, additional considerations of intangible factors such as events and historical memory, and public participation and community practice, which makes up for the current lack of research on Place Making theory in China.

At the same time, the existing texture and public space of Historic Centre of Macao are not only the material remains of the spatial form of the colonial period, but also a "social-spatial complex" shaped by various groups through daily life practices. From the physical intervention practice of Place Making to the process of public participation, all are adapted to the current situation of the Historic Centre of Macao, which is in urgent need of spatial renewal and transformation. As a rare residential world cultural heritage, it is necessary to pay attention to the improvement of the environment of the community residents, and to protect their "urban rights" of public participation, and to enhance their sense of belonging and cultural identity. Therefore, the Sense of Place theory is supplemented as an emotional dimension to ensure the comprehensiveness of the study of Spirit of Place. Combining the two can deal with the complex renewal needs of the Historic Centre of Macao.

Public space is the key interface for the renewal of the Historic Centre of Macao. As the main body of the urban texture of the Historic Centre of Macao, "straight street-Largo-alley", it connects 22 historical buildings and carries the important functions of historical and cultural dissemination and daily life. Among them, the Largo space is the core component of the public space of the Historic Centre of Macao, carrying a rich historical memory of the fusion of Chinese and Western cultures. In addition, the population density of the buffer zone of the Historic Centre of Macao is as high as 120,000 people/square kilometer. The Largo space has become the core node of residents' daily social network and leisure in a high-density environment; it is also the main experience place for tourists to perceive the history and culture of Macao. The activity spaces of residents and tourists overlap, and the needs of residents and tourists need to be balanced. Therefore, as an important place to express the Spirit of Place, the Largo space of Historic Centre of Macao must have both livability and historical and cultural communication functions, and has important research value and design space, providing an operating interface for the collaborative design of physical space renewal and cultural memory activation.

From the above, it can be seen that the uniqueness of the Largo space of Historic Centre of Macao lies in the need to balance historical and cultural heritage with the daily life of community residents, the public life of residents and the tourist experience of tourists. These two aspects are in line with the research focus of Place Making and Sense of Place theory, and

are highly adaptable to the theory. Through the Place Making theory, the Largo space of the Historic Centre of Macao is studied, and urban renewal is carried out to meet Macao's needs for developing tourism while ensuring the lives of residents, safeguarding residents' "urban rights" and improving their sense of belonging, and also improving tourists' perception of Macao's history and culture.

The main groups of the Historic Centre of Macao are local residents and tourists, which are consistent with the main groups of research on Spirit of Place at home and abroad. The research is mainly focused on improving the community life of residents, because the survival of the Sense of Place depends on the continuous experience, memory and practice of the local groups. At the same time, the Historic Centre of Macao currently has real problems that need to be solved, such as the lack of public space and the low sense of existence of historical blocks. At the same time, the double-track is to increase the tourists' experience of the place, promote the dissemination of historical culture and drive economic development. Therefore, the design should pay attention to the importance of sustainable development and community participation, avoid excessive commercialization, and enhance the experience of tourists, echoing the positioning of Macao as a tourism and leisure center.

## **2.4 PPS's Research Method on Place Making**

In recent years, a number of universities and organizations have jointly carried out a practical learning project called "Valuing creative placemaking: Development of a toolkit for public and private stakeholders", which aims to develop a Place Making method and toolkit prototype to help public and private stakeholders measure the value of Place Making in the urban environment. Place Making here refers to physical and tangible interventions, as well as the intangible creative process carried out in community-centered urban revitalization activities<sup>[108]</sup>. The project was eventually compiled into a document published in 2018, which studied the existing toolkits, research frameworks and methods of Place Making, and tested and analyzed a variety of methods. These methods have far-reaching significance for subsequent researchers to quantify the value of place and Place Making and to carry out effective Place Making practices.

After reading the literature carefully and referring to the previous studies on Place



Making, the author finally selected one of the research method indicators that best fits the author's research to conduct in-depth place research. This method comes from the evaluation criteria of the successful places created by Place Making in public spaces by Project for Public Spaces (PPS). PPS is one of the outstanding organizations in the field of space in the world. It was founded in 1975 and is a non-profit planning and design organization specializing in Place Making research<sup>[108]</sup>. The organization has a multidisciplinary team that has helped thousands of communities in 52 countries create inclusive places. After summarizing their experience, they have come up with a chart of the most important aspects of shaping a place, explaining what factors should be considered when creating a successful place. These standards should focus on the needs of local society and residents and be adapted according to each place<sup>[109]</sup>.

Some scholars have used this research method to analyze Place Making in different places. For example, Santos Nouri A et al. studied Place Making in response to climate change and added climate adaptability-related indicators to the original model of Place Making in PPS to guide the design of climate-responsive public spaces<sup>[110]</sup>. Mohamed A et al. added two important attributes, "context and conservation" and "site interpretation", to the original index when conducting a study on the revitalization of World Heritage sites. The former focuses on the physical environment of the heritage site, including preserved, protected, valuable, aesthetics and urban context integration, while the latter refers to the intangible factors of the heritage itself, including memorable, soulful, authentic, informative and human-oriented experience<sup>[111]</sup>. Ali A S et al. used this framework to evaluate the livability of commercial streets<sup>[112]</sup>. Sharaf F M et al. discussed the quality and evaluation of urban public space characteristics and the criteria for the success and value of public space, and conducted case study analysis based on the evaluation indicators of Place Making of PPS<sup>[113]</sup>. Based on the Place Making index, Yazgan B et al. explored the basic characteristics that a child-friendly airport should have, expanding the theoretical applicability of the model<sup>[114]</sup>. There are many related studies that are relatively new and have been a research hotspot in recent years. They have certain similarities with the research logic of this article.

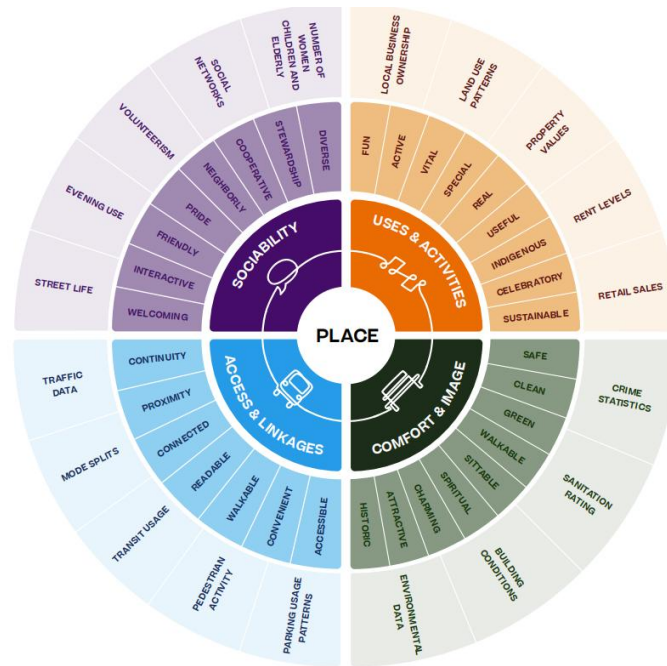


Fig.2-1 PPS's research method on Place Making (Source: PPS)

In this evaluation standard, there are four key aspects, Access & Linkages, Comfort & Image, Uses & Activities, Sociability. The innermost ring is the four key attributes, the middle ring is the qualitative standards for these attributes, and the outer ring is the quantitative methods that can be used to measure these attributes. It basically covers the key theoretical elements of Place Making and Sense of Place, and is highly compatible with the author's research on the public space of the Historic Centre of Macao.

The following is a detailed indicator evaluation method compiled with reference to relevant journals of PPS<sup>[115]</sup>.

## 2.4.1 Access & Linkages

### (1)Attribute Meaning

The Access & linkages attribute focuses on the behavior and transportation network of entering and exiting a place. It studies the connection between places, the surrounding transportation system, basic utilities and various convenience services. Its purpose is to provide users with convenient basic services and high-accessibility activities through convenient, safe, clear and readable design.

The accessibility of a place can be judged by paying attention to its physical and visual connection with the surrounding environment. Physical connection means that a good public

space can be easily reached and traversed by walking, ideally by public transportation, and has a high parking turnover rate. Visual connection means that it is readable, that is, most of the events in this place can be clearly seen from a distance or close. The edges of public spaces are also an important factor affecting their accessibility. For example, a row of shops on both sides of the street is more interesting and safer than a blank wall or a vacant lot.

Access & linkage connects people to places. Questions to consider about Access & linkages include:

Continuity—Does this place have some connection and connection with other public spaces around it? Is it part of the surrounding environment visually and physically? Does the place have direct access to other public spaces and buildings?

Proximity—Is it close to service places with different functions that people need, such as commercial facilities (providing convenient services and attracting people), communities (daily use by residents), schools (serving family groups and increasing children's activity needs), cultural places (enhancing cultural atmosphere and hosting public events), and transportation stations (improving accessibility and increasing people flow)?

Connected—Is this place well connected to neighboring buildings? Is it surrounded by blank walls, ground parking lots, windowless buildings, or any other elements that prevent people from entering and enjoying this place? Is it connected to several roads?

Readable—Is this space visible from a distance? Can the interior of this space be clearly seen from the outside? Does the place have distinctive features or unique landmarks that are independent of the urban environment and recognizable?

Walkable—Can people walk there easily? For example, do they need to shuttle between moving vehicles to reach the place? Or are they afraid to approach because of congested traffic or desolate streetscapes? Do the sidewalks lead to other areas? Do the paths throughout the space take people to where they want to go?

Convenient—Is this space suitable for people with disabilities and other special needs? Does the space have facilities that are convenient for visitors, such as clear signs, maps, tourist services, etc.?

Accessible—Can people use various means of transportation (bus, private car, bicycle) to reach the site? Is the site adjacent to the main road or is it located in a remote area? Is the

surrounding road terrain flat or are there all stairs with height differences?

## (2) Design Points and Cases

First, public use can transform obstacles into bridges of connection.

As urbanization continues to accelerate, more and more abandoned marginal spaces under various highway or road bridges have emerged, and the emergence of these infrastructures has caused adverse effects. PPS designed a park space under the bridge in San Antonio, Texas, with a basketball court and swings to provide a gathering place for children and teenagers. Through bright colors and newly placed facilities such as basketball hoops, visual connections are established to improve readability and attract surrounding residents to see and walk in. As a result, this place has been transformed from a dividing line into an important node connecting the school campus and the market square.

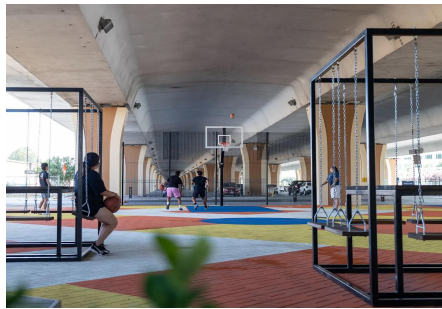


Fig.2-2 PPS Bridge Park Space Transformation (Source: PPS)

There are similar designs in China. For example, the Shenzhen Xiwan-Qianhaiwan slow-moving public space is a project in which designers transformed the "lost urban space" into a sports park by reshaping the space under the viaduct.



Fig.2-3 Reshaping the space under the viaduct: Shenzhen Xiwan-Qianhaiwan slow-moving public space (Source: Youfang)

Second, pay attention to pedestrian accessibility.

Paseo Park in New York, USA, has designed quiet streets and car-free plazas for people

to rest. Curb extensions, boulders and curves on "shared streets" help slow down cars. In 2021, the Chicago Loop Alliance launched the "Sunday State Street" event, a weekly event that closes State Street, the main corridor in the city center, to vehicles to hold temporary markets and public events. When I was studying in Turin, Italy, I also experienced occasional festivals and fairs, and the main street was closed to vehicles to hold festive events that were popular with everyone.



Fig.2-4 Quiet streets and car-free squares (Source: PPS)

Third, make full use of transportation hubs.

People usually spend some time at transportation hubs, such as when transferring or waiting for a bus. PPS has set up some seats, bulletin boards and leisure spaces at MARTA stations for people to share ideas and vote and make suggestions on the venue space.



Fig.2-5 Public space engagement activities at MARTA stations (Source: PPS)

Fourth, the continuity of a place is also important.

People's perception and experience of a place creates an impression that can discourage or increase the frequency of people's visits. The built environment needs to create a friendly image. In Waco, Texas, the Magnolia Market is several blocks away from the city center, and visitors need to pass through many alleys and intersections. Designers connected the two

destinations by setting up navigation signs and colorful sidewalks, expanding the design focus from the destination to the entire place or environment, weaving an urban network. After implementation, the number of pedestrians soared by 30% and traffic speed decreased by 23%.



Fig.2-6 Graffiti walls and colorful signs in Waco, Texas (Source: PPS)

## 2.4.2 Comfort & Image

### (1) Attribute Meaning

The Comfort & Image attribute focuses on people's needs and satisfaction, as well as the perception of visual images, which is very important for the livability of the place and people's experience.

Comfort includes the perception of cleanliness, safety and seat availability. People want to sit where they want and can choose whether to be exposed to sunlight. At the same time, people hope that there is enough vegetation to bring fresh and pleasant air, and the beautiful image brings a comfortable feeling.

Comfort & Image is the key to the attraction of a place. Questions to consider about Comfort & Image include:

Safe — Are there as many women as men here? Is this place safe? Are there security guards on duty? Are there surveillance equipment? Is there enough lighting at night?

Clean — Is the space clean and free of garbage? Is someone responsible for maintenance?

Green — Is there enough vegetation in the place and in the rest area? Is the plant maintained? Is the green environment sufficient and comfortable?

Walkable — Do vehicles dominate pedestrians' use of the space or prevent them from easily reaching the space?

Sittable—Are there enough seats here? Are the seats conveniently located? Can people choose where to sit, in the sun or in the shade? Is there a space that can adapt to different weather conditions, such as a canopy or other shelter?

Spiritual—What is the spiritual perception of the place?

Charming—Does this place leave a good first impression? Is anyone taking photos?

Attractive—Do people often stay or gather in the place? Do people passing by stay for a while?

Historic — Does this place contain historical and cultural elements? How are they expressed? Does the place carry iconic historical events/people?

## **(2)Design Points and Cases**

First, pay attention to barrier-free design for different special groups.

Barrier-free facilities require that people with special needs can not only reach a place smoothly, but also enjoy the place freely like ordinary people. However, many spaces currently have remote ramps, sidewalks blocked by electric vehicles and bicycles, or wheelchair lifts that cannot be used normally, which cuts off their connection with the place and hinders their ability to gain a sense of belonging and social participation.

Barrier-free design not only needs to be used for people with physical disabilities, but also needs to consider some individuals with different mental conditions (social disorders, emotional disorders, etc.). For example, adjust the sound or mild color to increase the inclusiveness of the place, have clear and visible signs, reduce noise and mild odors, and divide the activity area and rest area/private area to allow self-selection of social distance.

Second, climate and environmental adaptability.

In bad climate or weather conditions, whether there is shelter, shade, and shelter can greatly improve the practicality and comfort of public space. Many cities are using public space to adapt to climate change. For example, Rotterdam in the Netherlands combines physical resilience to weather such as rainfall with Place Making, with a rainwater retention facility that doubles as an ice skating basin and a sunken basketball court with a stepped edge for spectator seating. In this way, Rotterdam not only enhances the social resilience of the residents who gather there, but also enhances the physical resilience of the city square to



disasters such as heavy rain.



Fig.2-7 Rotterdam City Square, Netherlands (Source: PPS)

Third, it should be suitable for the elderly and children.

Safety and comfort are also important factors in ensuring that a place attracts people of all ages. We need a vibrant space where all kinds of people can participate in a variety of different activities, and there are barrier-free facilities suitable for all ages in the space, creating a space for all people to gather with social groups, opportunities to meet other friends, and channels to participate in festivals and events.

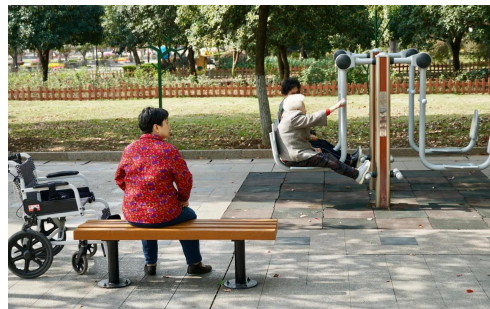


Fig.2-8 Multi-generational space in Wuhan, China (Source: PPS)

Fourth, vibrant public spaces require public participation.

Public spaces need to be regularly maintained, cleaned, and updated, and displayed to the public for public scrutiny. In addition to physical element transformation, they can also become true community parks by collecting ideas and hosting events that people want to participate in.

In Buffalo, New York, Place Making activities are concentrated on the previously underutilized large lawn area around the historic Art Deco train station Buffalo Central Terminal. The Central Terminal Restoration Company (CTRC) is responsible for the ongoing restoration of the building and the maintenance of the historic site. Designers designed a series of simple but beautiful furniture that echoes the architectural design of the terminal. At



the same time, various activities are held in collaboration with local artists and organizations, such as terminal Shakespeare plays, trick-or-treating activities, Beau Fleuve music and art celebrations, community public art exhibitions, summer concert series, and Eid celebrations marking the end of Ramadan. Each event is also used to collect ideas from participants in order to plan next year's activities.



Fig.2-9 Summer concerts held on the lawn at Buffalo Central Station (Source: PPS)

## 2.4.3 Uses & Activities

### (1) Attribute Meaning

The Uses & Activities attribute focuses on the occurrence of activities and events in the venue and the supporting services and facilities. It attracts residents and tourists to use it in a short period of time, makes people better understand it, and enhances a sense of belonging and pride.

Activities are often the reason why tourists visit for the first time, the reason why they keep returning, and what makes a venue unique. When a venue has no interesting activities or events, it often leads to vacancy. Different activity time ranges help a venue attract different people at different times, such as a playground attracts young people who exercise during the day, many elderly people and children who walk in the evening, and concerts attract everyone at night.

Although relatively intangible, Uses & Activities are the basic components of a vibrant place, reflecting the functions that a place can achieve and the degree to which the place serves people best. Questions to consider about Uses & Activities include:

Fun—How many different types of activities are happening—people walking, eating, playing baseball, playing chess, resting, reading? Is the venue diverse and has many different

functions?

Active—Are people in the venue in groups? How many people use this venue? Is the venue used all day? Are there any vacant spaces in the venue? Which parts of the space are used and which parts are not?

Vital—Do you think this is an important core in the urban space?

Special—Does the place have characteristics and features that are different from other nearby urban spaces? Or special activities and suitable uses?

Real—Can people have a real experience of the place physically and perceptually? In what aspects can the experience leave a deep impression?

Useful—Is anyone using this place? Or is it empty? Does the place have space for single use and group use? What are the needs of tourists? What are the needs of residents?

Indigenous—Does the place have elements that express local characteristics, or festivals or events with local characteristics? Does the place have local spatial features or building materials? Is the place regarded as a cultural/spiritual place by the local community?

Celebratory—Does the place have occasional cultural celebrations?

Sustainable—In what aspects is the sustainability of the place reflected?

## **(2) Design Points and Cases**

First, localization is achieved from facilities to planning.

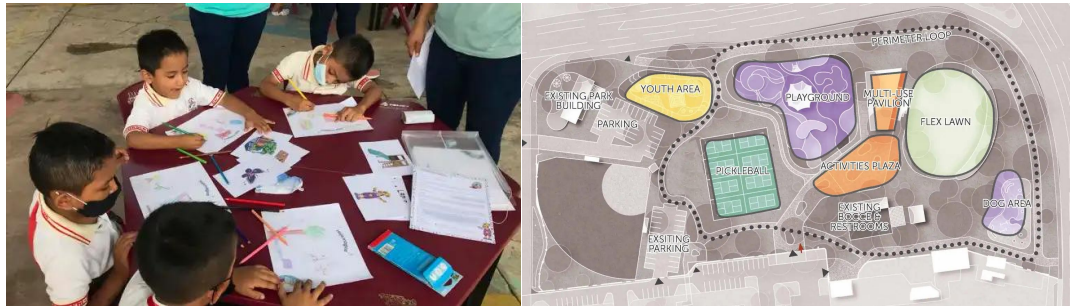
To create a real place, it is necessary to understand the real needs of the people, which is the importance of public participation. Localization means that local resources, characteristics, and materials (local festivals, local space characteristics, materials, etc.) are used to shape this place.

Second, space users participate in ideas and put forward needs.

In Mexico, a project called LAPIS focuses on early childhood and adolescent Place Making. They start by listening to the needs of local children. Through drawing exercises and surveys based on place maps, team members are able to collect children's ideas and apply them to various environments, from schools to streets, from museums to nature conservation parks. They created a variety of spaces: community centers, playgrounds, campuses, bicycle education spaces, "naturalized terraces" with natural designs, etc., as well as using local

materials, supporting the local economy, and promoting local culture.

The next step in the development of these spaces is to define what types of activities the place will be able to support, and draw a map of public space uses so that these activities can guide further space design and planning.



a)

b)

Fig.2-10 Mexico LAPIS project (Source: PPS)

In the LAPIS project, different types of games (such as social games and challenging games) determine the way communities across Mexico are organized: each LAPIS space is dominated by a simple, open plan, centered around a variety of games, generating hidden places, stages, and other functions that reflect the activities that schoolchildren love.

Third, determine the purpose first, then design.

The Public Space Project has long maintained the position that form supports function, that is, each design choice should be closely related to a clear human need or desire for space.

Fourth, diverse uses and activities.

One of the best ways to make a place vibrant is to have a diverse combination of functions and uses. PPS proposed the 10+ spatial transformation method, which is to create 10 characteristic destinations for a city, each with at least 10 characteristic places, and each place hosts 10 activities or events, which ensures that the city's public space is full of vitality at all times. For example, at the American Veterans Memorial Pier in the Bay Ridge community of Brooklyn, New York, simple daily uses accumulate to create the power of 10+.

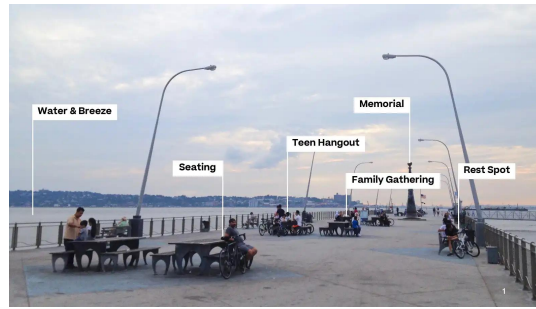


Fig.2-11 The American Veterans Memorial Pier in Bay Ridge, Brooklyn, New York (Source: PPS)

Fifth, triangulation.

Ensuring that activities within a public space influence each other is key to establishing social interaction, a phenomenon William H. Whyte calls triangulation. This has a lot to do with the multiple uses of the venue and their location relative to each other. The spaces where various activities take place are not isolated, but influence each other, making the space more lively.

Sixth, planning commercial uses that attract people to participate.

Commercial uses can also attract people to the venue, which can create another active social life level. Whether it is retail or catering, the key is to ensure that commercial activities do not occupy space or exclude anyone, but support local entrepreneurs and reflect local culture.

In Birmingham, Alabama, the Fourth Avenue business district is an important symbol of Birmingham's black entrepreneurial history and is adjacent to the Civil Rights National Monument, but it lags behind other business districts near downtown Birmingham. This is largely due to the excessive protection caused by the historic nature of the neighborhood.

Through active communication and display, the designer strikes a balance between commercialization and commemoration, and uses existing amenities to host multiple pop-up events in the district, including a pop-up art gallery in 2019 and a pop-up market in 2020. And through these activities, the designer is clear about which activities will bring new vitality to the area, which can guide regular planning and design.



Fig.2-12 Pop-up art gallery in the Fourth Avenue business district (Source: PPS)

## 2.4.4 Sociability

### (1)Attribute Meaning

Sociability is a difficult quality to achieve in a place, but it is easy to feel. When a place becomes a space where people like to meet friends, greet neighbors, and feel comfortable communicating with strangers, people will have a strong sense of belonging and attachment to it.

Questions to consider about sociability include:

Diverse—Is the place used by residents of different ages and identities (such as residents and tourists, families and young people alone)? What is the ratio of tourists to residents?

Stewardship—How is social autonomy carried out? Are there channels for communication and feedback among the group to ensure that people's needs are continuously considered? Do events collect ideas and suggestions from participants? Does the place have a manager responsible for maintenance?

Cooperative—Are there many partners involved in the construction of the place? Are there relevant community meetings? The number and diversity of people attending community meetings?

Neighborly—Do people seem to know each other by face or name? Do residents of neighboring buildings and communities use this space? How often?

Pride—Do people bring friends and relatives to visit this place? Or do they point out a feature of the place with pride?

Friendly—Do residents meet or bump into friends here?

Interactive—Is the place used by a group of people? Do they talk to each other? Do they

talk to people from other groups? Do people smile often? Do people make eye contact?

Welcoming—Do people use the place often and selectively? Is this an amenity that people want?

## **(2)Design Points and Cases**

First, invite and encourage interaction between people with different life experiences and identities.

Public spaces welcome many different communities and demographic groups and give them the opportunity to interact with each other. When people of different experiences and identities can feel the "Sense of Place" in this place, it means that the place is successful to a certain extent.

Second, improve amenities and provide people with reasons to stay. (Sense of Inclusion)

In order to build meaningful social cohesion and create an inclusive social environment, you can provide something for everyone in a space and ensure that it is open and welcoming to everyone.

In Times Square, New York City, PPS provides a kiosk called "Charging Station" to give people an excuse to charge their phones or get a cup of coffee, encouraging interaction between New Yorkers regardless of economic status or mental health needs, while also connecting them with social services. The charging station kiosk is manned by members and a social worker of Fountain House, a nonprofit organization dedicated to supporting people affected by mental illness. Visitors can connect with mental health resources or just stop for a drink or a charger.



Fig.2-13 Charging station in Times Square, New York City (Source: PPS)

Giving everyone a reason to go to public spaces can make people who once felt uncomfortable feel at ease. By creating a variety of uses and activities in one place, especially

by combining passive and active programs, people are more likely to linger, encounter other visitors, and participate in the repeated interactions that make up community.

## 2.5 Chapter Summary

This chapter elaborates on the author's systematic research on Place Making theory and related research methods.

First, the background and development of Place Making theory are sorted out. In international research, Place Making theory originated from Spirit of Place theory, which is a theoretical branch formed when Spirit of Place theory develops to a certain extent in the field of urban design. The Sense of Place theory was also produced at the same time as Place Making theory. The theory initially had different research focuses from Place Making theory, but with the later development, Place Making changed from the initial research focus on physical environment changes to the integration of Sense of Place related theories and community research, gradually turning into an auxiliary tool and practice process. This theory has also experienced a gradual differentiation process from the research on Spirit of Place theory in China. The difference is that the research on Place Making theory in China emphasizes the practical application at the physical space level, and rarely explores intangible elements such as cultural memory, events, and daily practice. At the same time, there is a lack of discussion on public participation in the process of Place Making.

Later, through a review of the research on Historic Centre of Macao at home and abroad, it was found that there is a research gap in China, that is, insufficient attention is paid to the social and cultural attributes of the historical city as a living heritage, and insufficient attention is paid to the micro-daily life space. Furthermore, it was discovered that the Place Making theory is compatible with the study of the Largo space of Historic Centre of Macao. In other words, the uniqueness of the Largo space of Historic Centre of Macao lies in the need to balance historical and cultural heritage with the daily life of community residents, as well as the public life of residents and the tourist experience. These two aspects are in line with the research focus of Place Making and Sense of Place theories.

Therefore, the author selected the PPS research method on Place Making to conduct an in-depth study on the Largo space of Historic Centre of Macao. In the second half of this

chapter, the author introduced the research method and the specific meaning of each indicator in detail, and cited reference cases to deepen the understanding of the basic attributes of the method.

In summary, this chapter lays a theoretical foundation for the subsequent research and application of the Place Making method.



## Chapter 3 Features and Evaluation of the Largo Space of Historic Centre of Macao

### 3.1 The Largo Space of Historic Centre of Macao

#### 3.1.1 Overview of the Largo Space

The Largo is a unique public space in Macao. It is smaller than a square in the general sense. Its layout continues the Portuguese style. Its plane shape is irregular and of different sizes. It is a special urban form generated in the urban construction of Macao and usually evolved from the open space in front of important buildings or streets. As an important part of the Historic Centre of Macao, the Largo originated from the urban planning concept of the Portuguese colonial period, that is, taking the "straight street" as the axis, and connecting churches, temples and other historical buildings through Largo spaces. The Largo is usually located at the intersection of "straight streets" and "fishbone streets". It is not only a key node of the urban texture, but also a core place for residents' daily social activities, cultural activities and religious ceremonies.

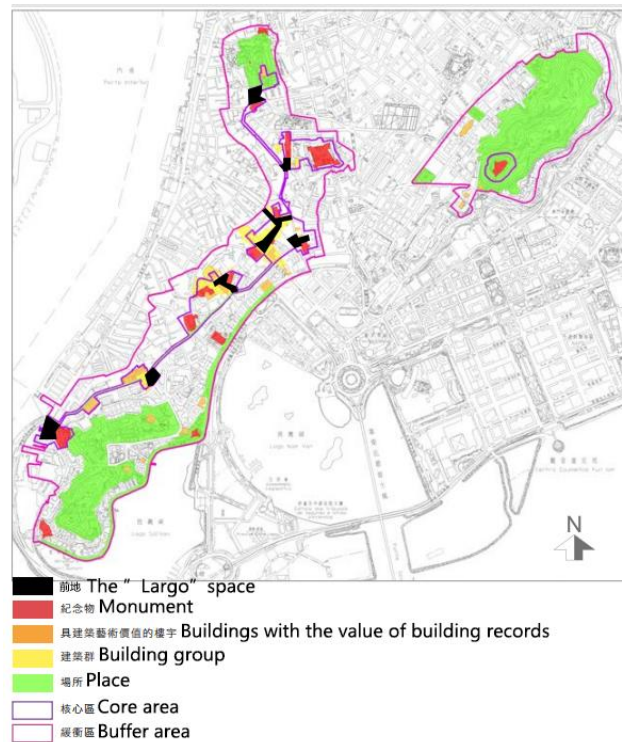


Fig.3-1 The relationship between the Largo and historical monuments (Based on relevant

materials from the Cultural Affairs Bureau of Macao)

The English name of "Qian Di" in Macao is often referred to as "Largo". In Portuguese, "Largo" means "square" or "open space", and this term is widely used in Macau's urban planning and historical documents. "Largo" usually refers to a smaller open space or square in the city, especially an open space in front of a church, municipal building or other important facilities. When translating Portuguese place names in Macau into Chinese, free translation is often used. "Largo" is translated as "Qian Di", which literally means "open space in front of a building", which not only retains the original meaning, but also conforms to Chinese expression habits. This continued name not only reflects Macao's historical background and cultural integration, but also reflects the profound influence of Portuguese in Macao's place names. Currently, the Historic Centre of Macao has eight Largo spaces: Camões Square, Company of Jesus Square, St. Dominic's Square, Senado Square, Cathedral Square, St. Augustine's Square, Lilau Square, Barra Square.

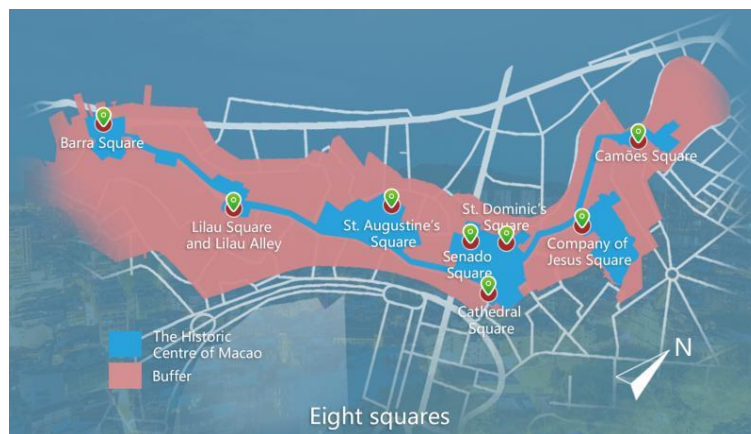


Fig.3-2 Eight Largo spaces of Historic Centre of Macao (Source: Macao Tourism Bureau)

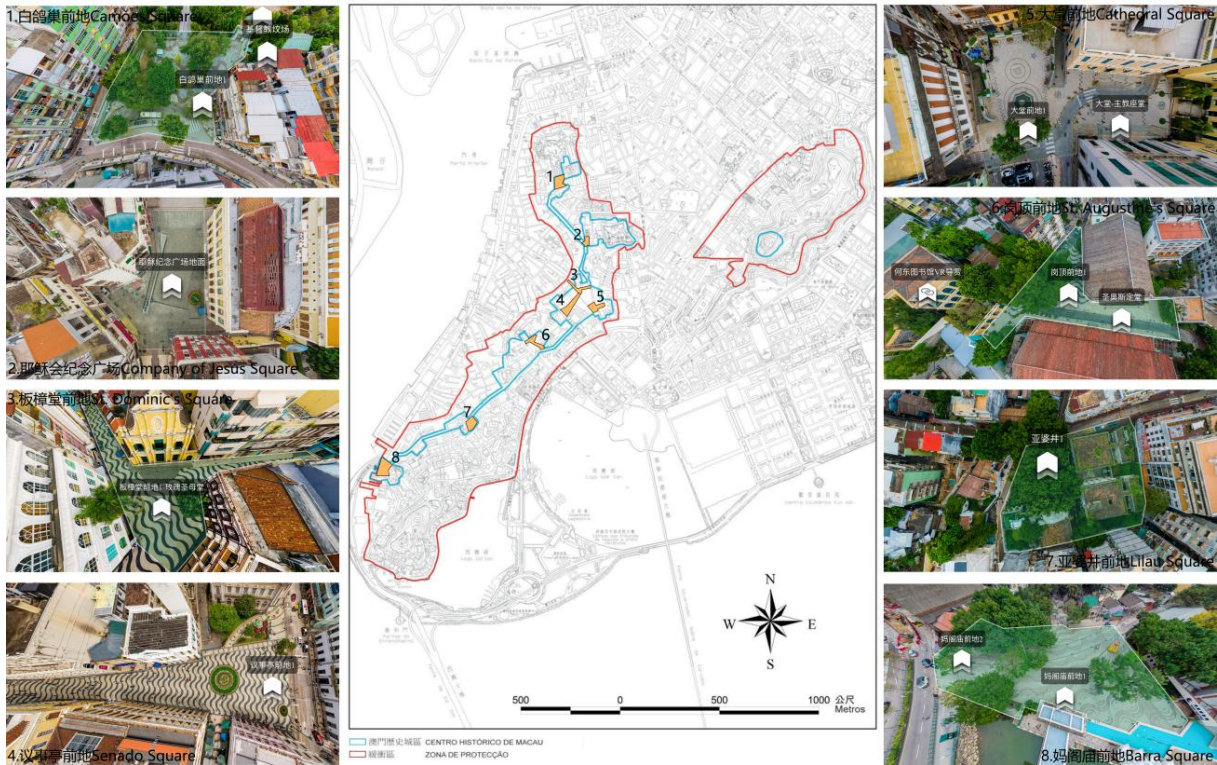


Fig.3-3 Aerial photography of the Eight Largo spaces of Historic Centre of Macao (Edited by the author based on relevant materials from the Cultural Affairs Bureau of Macao)

### 3.1.2 Types of the Largo Space

The earliest Largo in Macao was formed by the Portuguese opening up an open space in front of important buildings (churches or public buildings). This type of Largo has similar functions to the squares in Western colonial cities, but the reasons for its formation are different, so most of them are irregular and it is difficult to accurately reflect the central axis symmetry. After the Portuguese brought the Largo urban construction form, the Chinese in Macao also called the activity venue in front of the Chinese religious buildings "the Largo of Temple", and then developed a type of Largo formed by widening the streets. From this, we can see that the traditional Western square form has been spread, developed and evolved in the oriental city of Macao, and finally formed the Largo space with unique local characteristics today.

Therefore, the Largo can be divided into three types according to different origins: one is the Largo of Church and the Largo of public buildings, which are consistent with the functions of Western squares; the second is the Largo of Temple opened by local Chinese in

front of Chinese religious buildings inspired by the Largo of Church; the third is the Largo of street formed by expanding along the street. The Largo of Church/public buildings/Temple is surrounded by religious buildings or town halls from various periods. This type of Largo is created with these important buildings and their public activity functions, that is, it provides sufficient space for the public activity functions of specific surrounding buildings (mainly religious activities, gatherings, performances, etc.). The Largo of street is not created with landmark buildings, has no dominant buildings, has a pleasant spatial scale, and can provide richer communication space and activity content.

Table 3-1 Information table of the eight Largo spaces in the Historic Centre of Macao (Drawn by the author)


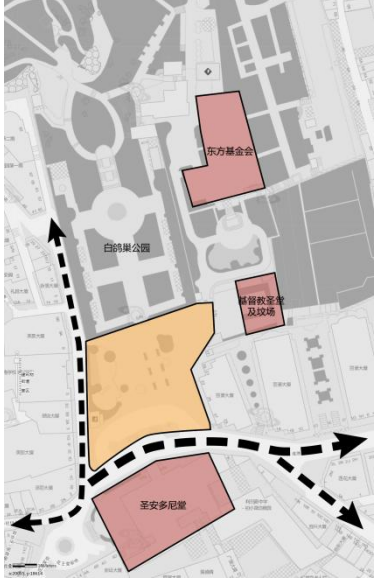
The Largo Space (Yellow is the Largo area)	Area	Type	Surrounding Important Buildings and Traffic Relations (Red is public buildings, blue is private buildings)	Description
 <p>Camões Square</p>	2600 m <sup>2</sup>	the Largo of street	 <p>Next to the White Dove Nest Park</p>	The area around Camões Square is the earliest residential area for the Portuguese in Macao. The buildings nearby that have become cultural heritage include St. Anthony's Church, the Christian Cemetery and the Oriental Foundation Headquarters.



Table 3-1 Information table of the eight Largo spaces in the Historic Centre of Macao(Continued)

 <p>Company of Jesus Square</p>	1000 m <sup>2</sup>	the Largo of public buildings(formerly the Largo of Church)	 <p>There are many people, many tourists, and many commercial shops around.</p>	The small square in front of the ancient granite steps of the Ruins of St. Paul's was named to commemorate the contributions made by the Jesuits to missionary work and cultural exchanges between China and the West.
 <p>St. Dominic's Square</p>	1700 m <sup>2</sup>	the Largo of Church	 <p>Accessible roads, pedestrian street in front of the church</p>	St. Dominic's Square is located in front of Our Lady of the Rosary Church (also known as Banzhang Church), hence its name. It is connected to Senado Square in the south, Micaio Lane in the west, and Banzhangtang Street in the east.
 <p>Senado Square</p>	3700 m <sup>2</sup>	the Largo of public buildings	 <p>Well-accessible roads, surrounded by many historical buildings and monuments</p>	Senado Square is named after the Senate Chamber and is surrounded by neoclassical public buildings, including the Municipal Office Building, the Post Office Building and the Holy House of Mercy (historic building).

Table 3-1 Information table of the eight Largo spaces in the Historic Centre of Macao(Continued)

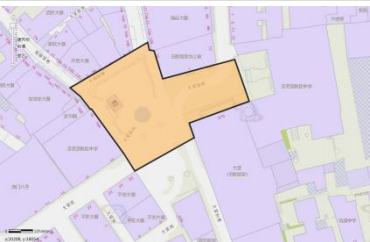


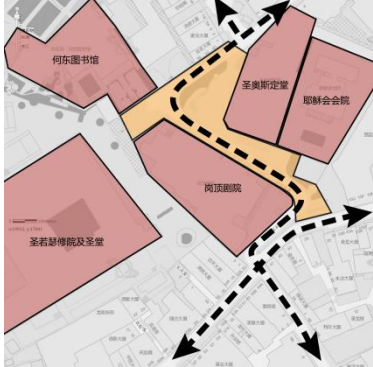



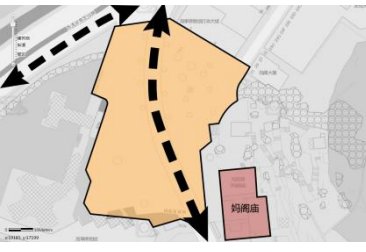
 <p>Cathedral Square</p>	2000 m <sup>2</sup>	the Largo of Church	 <p>Accessible road, small square in front of the cathedral (main church)</p>	The Cathedral is the cathedral of the Catholic Diocese of Macao and the religious center of the city. Cathedral Square is the small square in front of the cathedral.
 <p>St. Augustine's Square</p>	1800 m <sup>2</sup>	the Largo of Church	 <p>A road passes through the Largo, which is the most abundant in public buildings, especially historical buildings.</p>	St. Augustine's Square, formerly known as Mopan Mountain, connects many important monuments and buildings of architectural value in the surrounding area, including St. Augustine's Church, Dom Pedro V Theatre, Sir Robert Ho Tung Library, St. Joseph's convent and church.
 <p>Lilau Square</p>	700 m <sup>2</sup>	the Largo of street	 <p>Lilau Square is relatively closed. Both branches lead to the residential community. There are three Portuguese houses with relatively high protection value around it, two of which are idle.</p>	Lilau, which means "mountain spring" in Portuguese, was once the main water source of Macao and one of the earliest settlements of Portuguese people in Macao. It is surrounded by Portuguese residential buildings and Art Deco- style apartment- style residences.

Table 3-1 Information table of the eight Largo spaces in the Historic Centre of Macao(Continued)

 <p>Barra Square</p>	4200 m <sup>2</sup>	the Largo of Temple	 <p>The A-Ma Temple is located by the sea, on the edge of the Macao Peninsula, and is the largest of the eight Largos.</p>	<p>Barra Square is the square in front of the A-Ma Temple, which is named after it. The place where the Portuguese landed in Macao in the 16th century was next to the Largo, and every year the residents would organize sacrificial activities on the birthday of Mazu.</p>
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### 3.1.3 Features of the Largo Space

First, it has a spatial form that blends Chinese and Western cultures.

The spatial layout of The Largo is deeply influenced by the urban planning during the Portuguese colonial period. It is usually located at the intersection of "straight streets" and "fishbone streets", forming an open small square. The Largo space plays the role of a connecting point in the urban texture, connecting multiple historical buildings and public spaces. The buildings around the Largo space often combine Portuguese colonial style with traditional Chinese architectural elements, such as arcades, arcades, tile decorations, etc., forming a unique visual landscape.

Second, it is multifunctional and complex.

The Largo space is not only a place for residents' daily social, leisure and cultural activities, but also an important venue for religious ceremonies and festivals. It is not only a window for tourists to perceive historical and cultural heritage, but also an important part of the lives of modern urban residents.

Third, it is a compact open space in a high-density environment.

The Largo is usually small in size, but in a high-density urban environment, they provide valuable open space and become an important place for residents to release stress and enjoy

public life. Moreover, it is closely connected with the surrounding street system, forming a clear pedestrian network, which enhances the readability and accessibility of the city.

Ordinary city squares usually have regular shapes, emphasize symmetry and ritual, and are often independent of the street system, existing as independent open spaces.

### **3.1.4 The Largo Space Serves as an Anchor for the Transformation**

#### **3.1.4.1 Current Issues of Historic Centre of Macao**

With the rapid advancement of urbanization, high-density development, tourism pressure and the diversification of residents' living needs, the Historic Centre of Macao faces the dual challenges of protection and development, and there are also many practical problems.

First, the historical city lacks vitality and its presence is occupied by entertainment venues.

At present, the entertainment venues and buildings developed by Macao with the gaming industry as the core have occupied the cultural presence of the original historical city. Super-high-rise and abrupt building volumes have had an adverse impact on the skyline and view of the old city of Macao, and have damaged the original traditional culture of the city. The increasing urban traffic has also increased the burden on urban streets. Some historical areas of the Historic Centre of Macao have affected the continuity of the historical landscape due to closure or ineffective development. Some traditional activities and spaces have not been fully utilized, making it difficult to truly present the cultural value of the historical district.

Second, the public space in the city is not fully utilized and is seriously fragmented.

The public spaces of the Historic Centre of Macao are scattered and have a single function, failing to fully realize their potential as a carrier of urban social and cultural activities. Although historical spaces such as churches and the Largo have unique cultural values, their functions are mostly limited to traffic rather than stay and interaction due to design and management limitations. The radiation and extension of the church's influence combined with the topography form various ramps and alleys, which strengthen the function of fast-passing traffic and weaken the social attributes of public spaces, making it difficult for residents and tourists to form effective interactions and stay in these spaces. Most tourists are



crowded in a small number of major attractions (such as the Ruins of St. Paul's area), and fail to explore other cultural heritage nodes in the historical city in depth (as can be seen from the heat map in Figure 3-4), which makes some historical spaces marginalized and fails to give full play to their functions of cultural display and dissemination. This fragmented space utilization model weakens the overall appeal of the historical city.

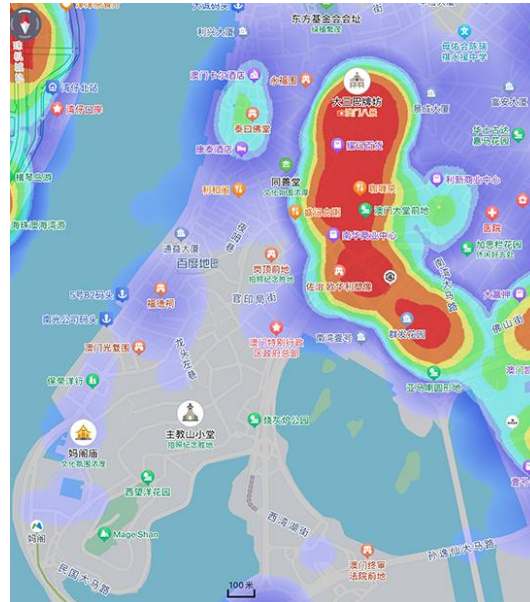


Fig.3-4 Heat map of Historic Centre of Macao from 3 to 4 pm on weekdays (Source: Baidu Map)

Third, residents lack a sense of belonging, and the living environment needs to be improved.

The high-density development and unbalanced urban renewal of the Historic Centre of Macao have led to the deterioration of the living environment of residents, which in turn has affected their sense of belonging and cultural identity to the community. With the rapid development of the gaming and tourism industries, the residential function of the historic city has gradually been marginalized, and the daily needs of residents have not been fully met. In addition, the protection and renewal of the historic city often focus on tourism development, while ignoring the improvement of residents' quality of life, which weakens the dominant position of residents in the protection of cultural heritage. This lack of residents' sense of belonging not only affects the sustainable development of the community, but also weakens the social foundation of the Historic Centre of Macao as a residential cultural heritage. Therefore, improving the living environment and enhancing residents' cultural identity and

community participation have become important tasks for the renewal and revitalization of the Historic Centre of Macao.

#### **3.1.4.2 Reasons for Choosing the Largo as the Anchor Point for the Renovation**

The Largo space is a key interface for the urban renewal of the Historic Centre of Macao and an important part of the cultural heritage. It needs to be reasonably protected while finding a balance between protecting the historical features and improving modern functions, so as to drive the further development of the Historic Centre of Macao through its renewal and revitalization.

The Largo was chosen as the anchor point for the transformation of the Historic Centre of Macao for the following reasons:

First, the Largo space is an important connection point in the urban texture of the Historic Centre of Macao.

The Largo space is one of the main parts of the urban texture of the Historic Centre of Macao, "straight street-Largo-alley", connecting multiple historical buildings and public spaces, ensuring the unique spatial sequence of the Historic Centre of Macao and the continuity of the visual axis, and enhancing the readability and accessibility of the city.

Second, the Largo space is the core node of public life and a key place for tourism experience.

The Largo space not only carries a rich historical memory of the fusion of Chinese and Western cultures, but is also an important space for residents' daily social, leisure and cultural activities, and is also the main window for tourists to perceive the history and culture of Macao. Therefore, they are the contradictions in the current renewal of the Historic Centre of Macao. It is necessary to balance the inheritance of history and culture with the daily life of community residents, the public life of residents and the tourist experience of tourists. The renewal should meet the needs of Macao to develop tourism while protecting the lives of residents, protect the "city rights" of residents and improve their sense of belonging, and also improve tourists' perception of Macao's history and culture, which has high research value and social significance.

Third, the transformation of the Largo space is low-cost and high-yield.

The Largo space is usually small in scale and closely connected with the surrounding historical buildings and street systems, with a compact and flexible spatial scale. This makes the transformation of the Largo unnecessary for large-scale structural changes, thereby significantly reducing the cost of transformation. However, as an important node for residents' daily social interaction and tourists' sightseeing, the transformation of the Largo can directly improve the quality of life and livability of residents, and can also continue Macao's historical and cultural traditions through intangible cultural forms such as festivals, improve the quality of tourists' experience, and thus enhance Macao's tourism appeal. Therefore, the effect of its micro-renewal is expected to be large. At the same time, the existing historical buildings cannot be renovated to a large extent, while the renovation of the Largo can optimize the spatial function and enhance the cultural value through small-scale intervention, making it suitable to become the primary focus of the renewal and revitalization of the Historic Centre of Macao.

### **3.1.5 The Largo Selection for In-depth Research**

As can be seen from the above, choosing the Largo as the anchor point for the renovation of the Historic Centre of Macao is reasonable and of practical significance. The renewal of the Largo node is expected to improve the current practical problems of the Historic Centre of Macao, enhance the vitality and attractiveness of the historic city, ensure the continuity of the historical landscape, and improve the quality of life of residents and the historical and cultural experience of tourists.

Through on-site investigation and data analysis, the author selected two Largo spaces with distinctive characteristics for in-depth investigation and design practice. St. Augustine's Square and Lilau Square are important representatives of the Largo of public buildings and the Largo of street in the Historic Centre of Macao Largo category, respectively, which is of great help to the author in understanding the characteristics of different types of Largo and the focus of renewal. St. Augustine's Square and Lilau Square are located in the middle section of the landscape axis of the Historic Centre of Macao, and have an important connection function for the existing "straight street-Largo-alley" spatial sequence. However, the reality is that a large number of tourists are concentrated in the vicinity of the Ruins of St. Paul's, the

Senate Pavilion, and the Church of Our Lady of the Rosary, causing serious crowd congestion in nearby public spaces such as Largo spaces, affecting the daily lives of nearby residents. At the same time, combined with the attraction of entertainment venues dominated by the gambling industry, the crowd heat is broken in the middle of the historical city (Fig.3-5). Tourists are not guided to deeper historical areas, and the continuity of the historical landscape is poor.

This study takes St. Augustine's Square and Lilau Square as examples for design practice. It aims to discover the current problems and spatial development advantages of the two Largo spaces through in-depth research and update them, to a certain extent solve the existing problems of the Historic Centre of Macao, and provide reference for the subsequent update of the Largo space.

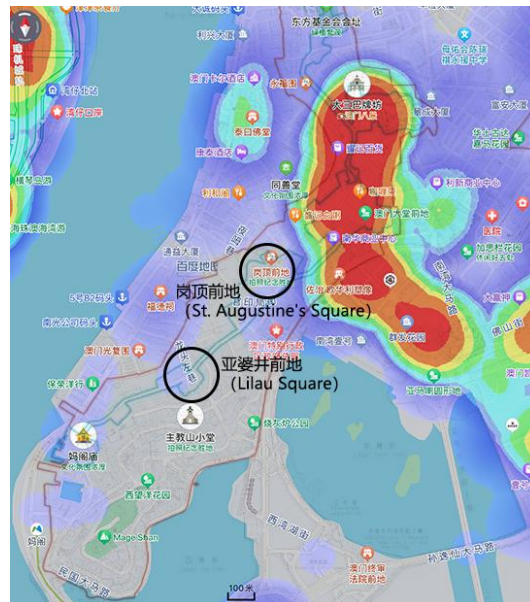


Fig.3-5 Heat map of Historic Centre of Macao from 3 to 4 pm on weekdays (Redrawn by the author based on relevant information)

### 3.1.5.1 Current Status of St. Augustine's Square

St. Augustine's Square was formerly known as Mopanshan. It has a total area of about 1,800 square meters. A road passes through it. It is the largo with the richest public buildings, especially historical buildings.

St. Augustine's Square is an important largo in the Historic Centre of Macao. It connects many important monuments and buildings with architectural value in the surrounding area,

including St. Augustine's Church, Dom Pedro V Theatre (Dom Pedro V Theatre), St. Joseph's convent, Sir Robert Ho Tung Library, etc. The road surface has a Portuguese-style gravel wave pattern, which together form a largo space with Portuguese architectural style and characteristics. The total scope of St. Augustine's Square includes public spaces surrounded by various historical buildings, with a road in the middle.

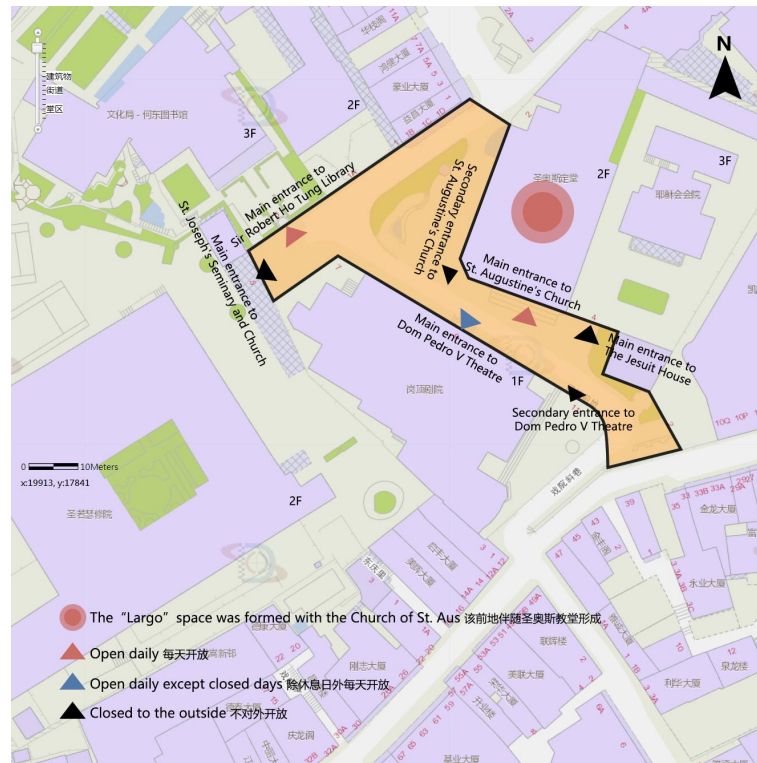


Fig.3-6 The total area of St. Augustine's Square (Drawn by the author based on relevant information)



Fig.3-7 Aerial photo of St. Augustine's Square (Source: Macao Tourism Bureau)

St. Augustine's Church is one of the important religious sites in Macao. It was founded by Augustine in 1591 and rebuilt in 1874. Its architectural style and religious activities reflect

the spread and influence of Catholicism in Macao. The church faces south and is built in the classical style of the European Renaissance. The exterior walls are painted yellow, with a triangular pediment on the top and a shrine in the middle dedicated to the statue of the Virgin Mary. There are two Roman Tuscan stone columns at the entrance. The interior of the church is in the basilica style. The nave is solemn and solemn, and the main altar is dedicated to the "Suffering Christ". The Suffering Christ Holy Image Tour, an intangible cultural heritage project of Macao, is held here for two days every year. This is an important activity of the local church.

St. Joseph's convent was founded by Jesuits in 1728. The church adjacent to the monastery was completed in 1758. Together with the earlier St. Paul's College, it became a training base for Jesuits to preach in mainland China, Japan and its neighboring regions in Macao. St. Joseph's Cathedral, together with the collapsed Church of Our Lady of God (St. Paul's College Church), is a rare Baroque-style building in China. The floor plan is in the shape of a Greek cross. The church houses the precious remains of St. Francis, the first Jesuit missionary to the Far East.

Dom Pedro V Theatre is the first Western-style theatre in China. It was built in 1860 by the Portuguese in Macao to commemorate the Portuguese King Peter V. The entire building is in Greek classical revival style. Dom Pedro V Theatre is the oldest European-style theatre in China and was the venue for important events held by the Portuguese community at that time. The whole building is painted green, with dark green doors and windows and red roofs. In the surrounding environment dominated by yellow, it is both harmonious and distinctive. The side facade is enclosed on one side of St. Augustine's Square, and nine large floor-to-ceiling windows are continuously opened on the wall, which enhances the horizontal sense and the majestic atmosphere of the roof.

Sir Robert Ho Tung Library is a garden-style library in Macao that integrates history, culture and architectural art. Originally the Ho Tung Villa, it was built in 1894 and the entire building is yellow. The original owner was Portuguese, and in 1918 it was purchased by Hong Kong tycoon Sir Robert Ho Tung as a villa to cool off in Macao during the summer. After his death, he donated the villa to the Macao Special Administrative Region Government for use as a public library.



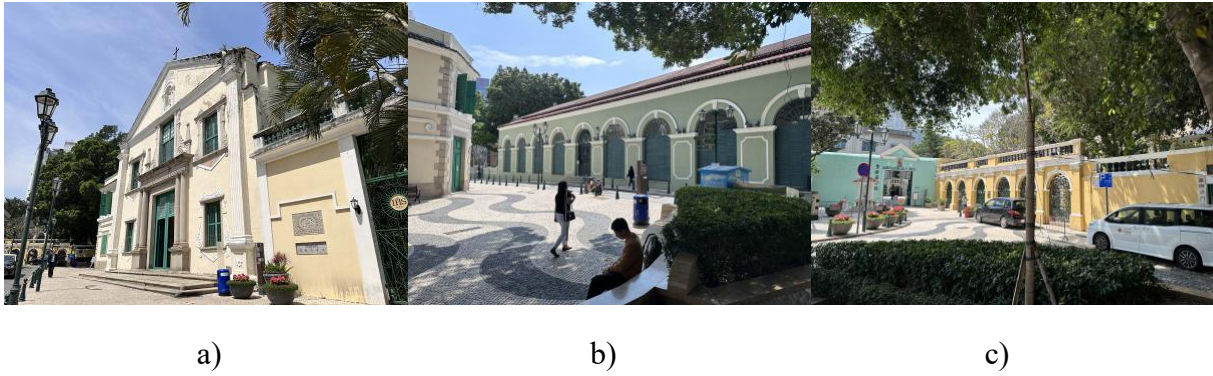


Fig.3-8 St. Augustine's Church, Dom Pedro V Theatre, St. Joseph's convent and Sir Robert Ho Tung Library (Photo taken by the author)

### 3.1.5.2 Current Status of Lilau Square

Lilau Square has a total area of about 700 square meters and is relatively closed. Both branches lead to the residential community. There are three Portuguese houses with relatively high protection value around it, and two of them are idle. In addition to the Largo, the idle residential buildings around it can also be used.

The Portuguese meaning of A-Po Well is "mountain spring" (lilau). It used to be the main water source of Macao. It is close to the Inner Harbor and is one of the earliest settlements of Portuguese in Macao. There is a folk song of Portuguese in Macao: After drinking the water of A-Po Well, you can't forget Macao; either settle down in Macao or stay away and come back. It can be seen that A-Po Well has important significance.

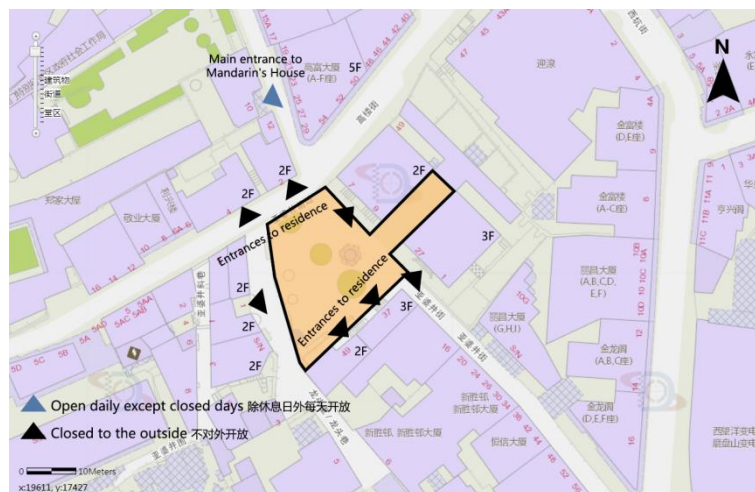


Fig.3-9 The total area of Lilau Square (Drawn by the author based on relevant information)



Fig.3-10 Aerial photo of Lilau Square (Source: Macao Tourism Bureau)

The buildings around Lilau Square are mainly Portuguese residential buildings and Art Deco-style apartment-style houses. Portuguese residential buildings are mainly distributed in Longtoulí, built along the mountain, and are relatively low; white exterior walls, green shutters, and red tile sloping roofs are obviously decorated in southern European style. Lilau Square No. 7, 9, and 27 are Portuguese apartment-style houses built in the early 20th century. No. 7 and No. 9 each cover an area of about 300 square meters and are two to three-story buildings, and No. 27 covers an area of about 460 square meters and is a three-story building. The plane is basically rectangular, and the facade of the building has decorative lines in the Art Deco style. The entrance is combined with the terrain, the exterior wall surface is painted yellow, with white decorative lines, and the roof is a flat roof (Fig.3-10). In order to preserve the historical color of the area, the Macao government still retains the two century-old banyan trees in the Largo.



Fig.3-11 Lilau Square 7, 9, 27 residential apartments and the memorial well (Photo taken by the author)



## **3.2 Correction of Place Making Index Based on the Largo Space of Historic Centre of Macao**

### **3.2.1 Place Making Indicator Testing and Correction**

#### **3.2.1.1 Indicator Testing**

As can be seen from the previous article, the PPS research method on Place Making is a universal public space construction, and the Largo space of Historic Centre of Macao has characteristics different from ordinary community public spaces. In addition to the public space characteristics of high-density blocks, it is also an important carrier of historical and cultural resources of world cultural heritage and has a unique urban texture of the fusion of Chinese and Portuguese cultures.

Therefore, this research method needs to be adaptively revised based on the Largo space of Historic Centre of Macao. The revision basis will be based on the preliminary investigation of the Largo space of Historic Centre of Macao and the reference to relevant research literature on this research method. For this research method, in addition to considering the physical living comfort of residents in the surrounding communities, the emotional dimension of the Sense of Place theory can also be referred to, and the sense of belonging and identity of residents to local history and culture can be additionally evaluated; at the same time, it is necessary to consider the experience of tourists and the perception of cultural heritage without affecting the daily life of residents.

Because the Historic Centre of Macao has heritage and tourism attributes that are different from ordinary public spaces, the author refers to the literature of scholars Samarghandi S and Samir H<sup>[116]</sup> and supplements the fifth basic element "Protection & Dissemination" and related characteristic elements. The two scholars used the PPS research method on Place Making, adapted it and added relevant characteristic elements of the heritage site, and then used this method to study the Place Making methods of the heritage site. Other heritage sites also have similar analytical thinking in combination with Place Making related research<sup>[111]</sup>. These studies have certain reference significance for supplementing the fifth basic element of this article.

At the same time, for this research method, the quantitative measures recommended by the PPS official tend to be qualitative analysis, and most of them are relatively general. Therefore, the author needs to supplement the quantitative standards based on the results of the previous preliminary survey and the relevant literature on this research method, so as to facilitate the subsequent in-depth research.

Therefore, based on the relevant research questions recommended by the PPS official and the supplementary questions of the relevant research literature<sup>[111,116]</sup>, the author conducted a preliminary survey on the Largo space of Historic Centre of Macao, in order to determine the performance of the characteristic elements of each basic attribute in the survey. The preliminary survey process is to select the morning, afternoon and evening of each weekday and weekend, conduct on-site observations and interviews with the users in the venue, and record the relevant conditions of the venue and the answers of the interviewees. Subsequently, the survey data will be sorted out to sort out the performance of these characteristic elements and problems. For individual characteristic elements that performed very poorly in the survey (such as overlapping indicators, unclear references, or difficult for respondents to understand, etc.), consideration will be given to removing them. For problems that performed very poorly (such as unclear meaning, unclear focus, or respondents think they are not important, etc.), consideration will be given to not including them in the quantitative standards. Based on the actual situation of the site and the factors that the respondents are more concerned about and consider, the problems will be re-sorted, and the quantitative standards will be established with reference to relevant research literature.

The indicator revision table used in the pre-study is shown in Appendix 1 Indicator Correction Survey Form.

### **3.2.1.2 Index Correction**

The difference between world cultural heritage sites and ordinary public spaces is that they should pay attention to the protection and inheritance of their historical culture, as well as their tourism functions. Therefore, the basic attribute "Protection & Dissemination" focuses on the historical and cultural value of the place. This value, combined with the urban environment, acts on the place to form a sense of place and spirit of place that is unique to

other public spaces. Not only in terms of function and physical appearance, but also in terms of people's experience and cultural perception.

Therefore, the characteristic elements "Historic", "Vital", "Special" and "Indigenous" with the characteristics of this attribute are integrated into "Protection & Dissemination" for consideration to emphasize the value attributes of cultural heritage sites. At the same time, the factors "Protected" and "Aesthetics" are added to express the heritage characteristics of the Historic Centre of Macao.

Since Walkable in "Comfort & Image" is mentioned in "Access & Linkages", it means that this characteristic element is considered in both attributes at the same time, but to avoid duplication and semantic overlap in the research process, one item is removed. The two indicators "Spiritual" and "Charming" are too general. Respondents in the semi-structured interviews cannot distinguish them well. The semantics are vague and overlap with "Attractive". Therefore, "Attractive" is retained, which is easier for people to understand. At the same time, "Enjoyable" is added with reference to Samarghandi S's literature to supplement the subjective feelings of the crowd about the place. "Interactive" and "Welcoming" have certain semantic overlaps with the previous "Neighborly" and "Friendly". Therefore, "Interactive" is integrated into "Neighborly" and "Welcoming" is integrated into "Friendly" to be considered together, so that respondents can understand the connotation of the problem more intuitively and clearly.

Some of the other indicators performed well and can fully answer the survey questions; some need to be modified so that the formal survey can quantify the problems more clearly. Therefore, all the remaining characteristic elements are retained, and the author will uniformly revise and integrate the indicators.

### **3.2.2 The Construction of the Place Making Adaptive Research Framework**

Based on the above preliminary survey results, combined with the quantitative standards of relevant research literature<sup>[111,116]</sup>, to build a formal research framework. Since scholars in the past have used qualitative analysis to a large extent in their use of this research method, in order to avoid the research being too subjective, the author has made additional reference to the public space quantitative model of American scholar Vikas Mehta, whose research has

been cited nearly 1,000 times<sup>[117]</sup>. This model has been studied by relevant scholars as a quantitative model for Place Making evaluation<sup>[118]</sup>. The author combined the quantitative methods of indicators in multiple relevant literature and the preliminary survey results of two Largo spaces to supplement the quantitative measures of PPS's research methods on Place Making.

Therefore, based on the above survey and analysis, the author revised PPS's research methods on Place Making, made adaptive adjustments to the quantitative standards of each characteristic element, and organized them into a brief table of the Place Making adaptability research framework (Detailed table in Appendix 2 Detailed table of the Place Making adaptive research framework):



Fig.3-12 A simplified diagram of the Place Making adaptability research framework (Drawn by the author)

Table 3-2 A brief table of the Place Making adaptive research framework (Drawn by the author)

Basic Properties	Characteristic Elements	Description	Quantitative Standards	Research Method
Access & Linkages	Continuity	Assess how the site relates to other public spaces and buildings in the urban context, both visually and physically.	Road continuity	Field observation
			Visual permeability	Sight line analysis
			Interface continuity	Field observation
	Proximity	Assess whether the surrounding area is close to service places with different functions that people need.	Number of service function places	Field observation, Search for relevant information
	Connected	Describes the degree of connectivity or enclosure of a place, usually measured by the roads or pathways that connect the place.	Number of access roads adjacent to the site	Field observation
	Readable	Assessing legibility and way finding of places in urban contexts.	Landmark structure, signage system	Field observation
			Site view	Visual range analysis
	Walkable	Demonstrate the practicality of the pedestrian network around the site.	Pedestrian system	Field observation, Spatial measurement
	Convenient	It is reflected in sufficient transportation, convenience facilities and barrier-free facilities.	Amenities residents need	Facilities survey
			Amenities tourists need	
	Accessible	Refers to the convenience of reaching the place.	Transportation	Traffic analysis
Comfort & Image	Safe	Represents the level of safety and security of urban places.	CPTED theory <sup>2</sup>	Field observation
	Clean	Refers to how clean and tidy the place is and whether it is regularly maintained.	Daily cleanliness	Field observation
			Scheduled maintenance frequency	Field observation, Interview

Table 3-2 A brief table of the Place Making adaptive research framework (Continued)

			Public behaviour	Field observation
	Green	It is manifested in sufficient vegetation and greening levels, and the landscape design has a certain aesthetic appeal.	Green coverage ratio	Field observation, Vegetation mapping
			Vegetation diversity	
			Landscape design aesthetics	
	Sittable	There are ample and comfortable seating areas and seating.	Rest area design	Field observation
			Noise	
			Smell	
	Attractive	As an attraction for residents and tourists.	The degree of staying and gathering of the crowd	Field observation, All-day counting
	Enjoyable	Assess whether the place is pleasant for residents and visitors.	Residents' and visitors' pleasure	Questionnaire survey
Uses & Activities	Fun	Representing a diversity of venues and activities.	Spatial function type	Field observation
			Activity type	Field observation
			Crowd subjective feeling	Interview, Questionnaire survey
	Active	Assess the energy and buzz of the venue.	Population usage	Field observation
			Site space utilization rate	
	Real	Requires people to have a real experience of the place both physically and perceptually, which is related to the Sense of Place.	Degree of commercialization	Field observation, Interview, Search for relevant information
			Trace of native life	
	Useful	Assess whether the public facilities of the place can meet the needs of different groups of people.	Functional facilities required by residents	Field observation
			Functional facilities required by visitors	

Table 3-2 A brief table of the Place Making adaptive research framework (Continued)

	Celebratory	It means that the place holds local cultural celebrations regularly or irregularly.	The frequency of cultural festivals	Interview, Search for relevant information
	Sustainable	Tends towards environmental sustainability in the functioning of places.	Energy conservation measure	Field observation, Expert consultation
Sociability	Diverse	Assess the diversity of the population that uses the venue.	Population diversity	Field observation
	Stewardship	It manifests itself in continuous public supervision and daily management work.	Management mechanism	Interview, Questionnaire survey
			Public supervision	
	Cooperative	The public participation process emphasized in Place Making is to promote place development through public participation and multi-party collaboration to achieve cultural, social and economic goals.	Diversity of participants	Interview, Questionnaire survey
			Cooperation mechanism maturity	
			Crowd satisfaction	
	Neighborly	Assess the frequency of use of the site by residents of the surrounding community.	Resident usage frequency	Field observation, All-day counting
			Familiarity with community interaction	Questionnaire survey
	Pride	Assess local residents' sense of pride and belonging to the place.	Resident pride and sense of belonging	Questionnaire survey
	Friendly	This means that the place is friendly and welcoming to all people.	Accessibility facilities	Field observation
			Usage rate of vulnerable groups	All-day counting
Protection & Dissemination	Vital	It is reflected in whether it is a valuable cultural heritage and its importance to the entire Historic Centre of Macao.	Whether it is cultural heritage or not	Search for relevant information

Table 3-2 A brief table of the Place Making adaptive research framework (Continued)

	Special	Refers to people's impression of a certain place, representing that the place has a unique landscape that is different from other public spaces, or hosts special activities, or has special functions and uses.	Landscape uniqueness	Field observation
			Activity characteristic	Search for relevant information
			Functional specificity	Field observation
			Perceptual uniqueness	Questionnaire survey
	Protected	Refers to the degree of protection of historical relics and architectural heritage in or around a place.	Degree of protection of architectural relics	Assess the protection status with relevant data
	Historic	It is manifested as the historical and cultural elements contained in the site, which is used to assess the historical value of the site.	Memories of historic buildings or events	Field observation, Search for relevant information
	Indigenous	Refers to the integration of local elements within the venue, expressing the cultural identity of the place.	The retention of local elements	Field observation, Search for relevant information
	Aesthetics	Refers to the aesthetic features of buildings and public spaces, both natural and man-made.	Aesthetic characteristics of architecture and landscape	Field observation, Refer to relevant data for evaluation

Note: The maximum score for each characteristic factor in this table is 5 points. This table is a simplified table. The specific scoring rules are explained in detail in Appendix 2 Detailed table of the Place Making adaptive research framework.

### 3.3 Research on St. Augustine's Square and Lilau Square of Historic Centre of Macao

#### 3.3.1 Studying with the Place Making Adaptive Framework

An in-depth study of St. Augustine's Square and Lilau Square was conducted using the



Place Making adaptive research framework modified by indicators. The indicators that needed to be evaluated with the help of data were collected by the author in advance. There were relatively many indicators that needed to be evaluated through on-site observation. In order to ensure objectivity, observations were conducted multiple times on weekdays and weekends, during the day and at night, and finally a comprehensive conclusion was drawn. For the above-mentioned indicators that require interviews and questionnaires in the survey, the author integrated them into an independent survey questionnaire, which includes two types of questions, scale questions and question-and-answer questions. For scale questions, the respondents give scores for each question in the questionnaire, with a score of 1-5 points; for question-and-answer questions, the author asks and organizes them in the form of daily interviews.

The formal survey process is to select the morning, afternoon, and evening of each weekday and weekend to conduct on-site observations and interviews with the users in the venue, and record the relevant conditions of the venue and the answers of the respondents. The indicators that require on-site observation are comprehensively judged based on six on-site conditions; the indicators that need to be scored through questionnaires are obtained by calculating the average score of six times. 60 questionnaires were distributed for Lilau Square, and 54 were effectively collected, of which 74% were local residents and 26% were tourists; 60 questionnaires were distributed for St. Augustine's Square, and 51 were effectively collected, of which 29% were local residents and 69% were tourists.

### **3.3.1.1 St. Augustine's Square Survey Results**

St. Augustine's Square has a strong "Access & Linkages" attribute, which is reflected in the fact that all kinds of service-oriented function places and communities are included within 200 meters around the site, which provides a sufficient population base; the site is surrounded by roads on three sides, with strong spatial connectivity, and can be reached by multiple modes of transportation, with high accessibility; it is surrounded by many historical buildings and public buildings, and the surrounding public buildings have harmonious colors and coherent building facades, which provides sufficient design reference elements for the site; it has a certain degree of readability, with a basic sign system (such as guide signs, signposts,

etc.) and many landmark buildings. The site can be smoothly entered by walking, but the sidewalk width is relatively narrow and cars often pass through the roads in the site, affecting pedestrians. And it lacks some convenient facilities needed by residents and tourists.



Fig.3-13 Types of places around St. Augustine's Square (Drawn by the author based on relevant information)

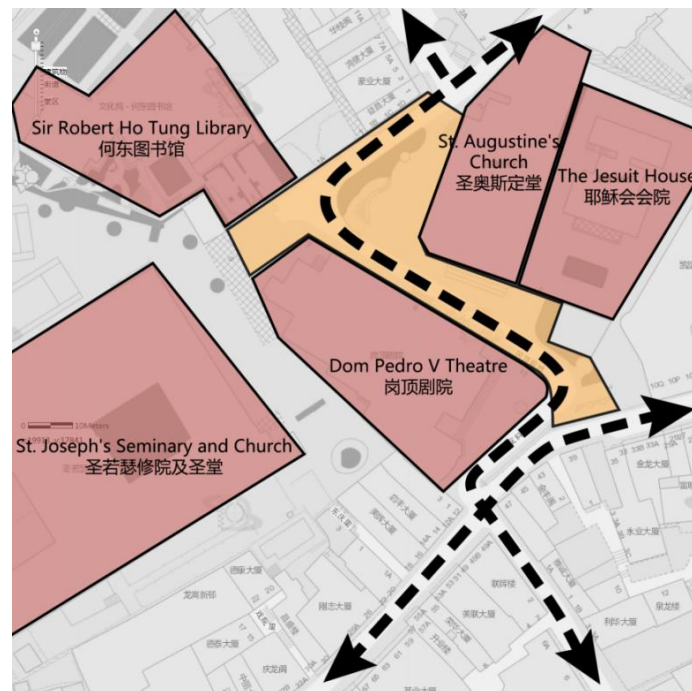


Fig.3-14 Relationship between St. Augustine's Square and surrounding public buildings and roads (Drawn by the author)

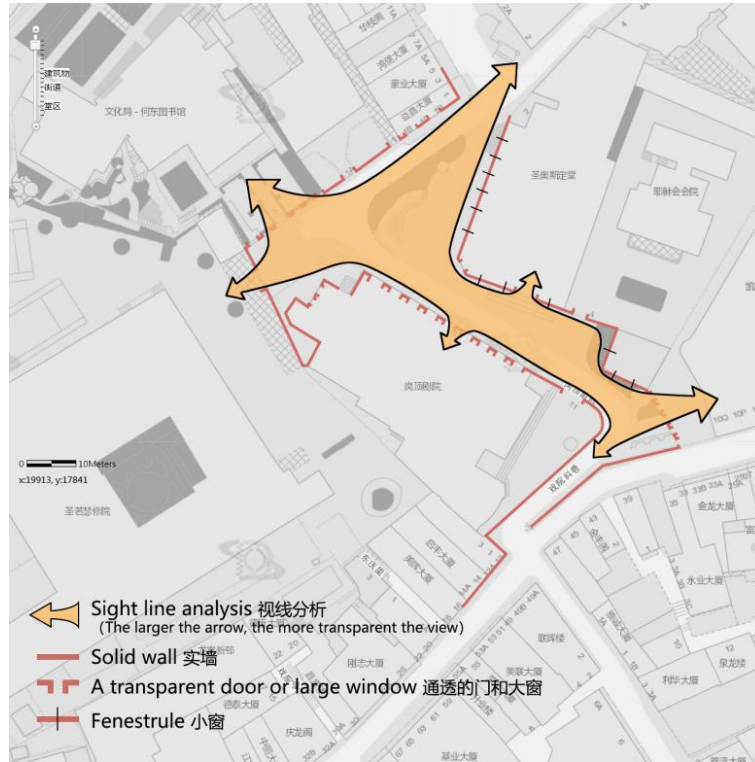


Fig.3-15 St. Augustine's Square sight line and interface analysis (Drawn by the author)



Fig.3-16 St. Augustine's Square, where vehicles frequently pass by (Photo taken by the author)

At the same time, in terms of the "Protection & Dissemination" attribute, the Largo has a good development foundation, but its performance needs to further promote the improvement of other characteristic attributes. The site is located in the core area of the World Heritage Area and is one of the eight Largo spaces of Historic Centre of Macao. It is a valuable cultural heritage in itself. It has unique landscapes, annual tours of the statue of Jesus the Suffering and occasional historical and cultural activities based on the surrounding historical buildings, but the frequency of activities is low, 1-2 times a year on average, and the functions of the Largo are homogeneous and have no unique functions. The Largo has not fully utilized its own historical and cultural conditions, resulting in low awareness of its history and culture

among tourists and residents. Tourists have no special knowledge of the Largo space, and most of them regard it as an ordinary resting place. Most of them check in and watch the surrounding historical buildings and leave, resting for a short time or not staying. It is highly protected, and the surrounding historical buildings are in use and continuously maintained. The surrounding environment of the site has high historical value, with many historical layers and historical memories, including historical buildings and the Largo space that have been repaired and maintained, as well as libraries transformed from residential houses. The building facade has strong continuity, high aesthetics and harmonious environment. The Largo space should make good use of this feature and the design layout within the space should echo the surrounding space and Macao's history and culture.



Fig.3-17 Panoramic view of St. Augustine's Square during the day (Photo taken by the author)



Fig.3-18 Tour of the image of the Suffering Jesus (Source: Macao Tourism Bureau official website), Fig.3-19 Small event at St. Augustine's Church (Photo taken by the author)

The "Comfort & Image" attribute of this venue has room for improvement. The survey found that the basic cleaning and maintenance work of the venue is in place and the frequency is high; the venue is adjacent to public buildings such as churches, with strong openness, and no blind spots during the day and night; there is a certain amount of greenery and a variety of plants. However, due to the scattered arrangement of seats, there is no unified design, and most of them are not shaded, and some rest spaces have no ramp design, which affects the



user experience, so the "sittable" is weak. This has caused the attraction and pleasure of the venue to be at a lower level in the middle to a certain extent. The author observed that the venue is less used by residents, the pass rate of tourists is high but the stay rate is low, and most of them leave after taking photos and checking in.



Fig.3-20 St. Augustine's Square lacks barrier-free design (Photo taken by the author), Fig.3-21  
Cleaning staff working around the clock (Photo taken by the author)

The "Uses & Activities" attribute of St. Augustine's Square is relatively weak compared to the previous attributes. Although this venue is not as commercialized as the Ruins of St. Paul's, and the historical buildings are well preserved, it is difficult to see localized urban life scenes due to the small number of people and the less use of residents. Therefore, the "real" index is in the middle. The function of the venue is single, with only scattered seats for rest, and small kiosks with some catering functions. The crowd activities are also concentrated on chatting, resting, and playing with mobile phones, without other types of activities; the number of people using the venue is very small and scattered, and the vacant area in the venue is very large, and only a small part of the seating space is used; the survey found that most of the functions expected by residents and tourists are not met. This is consistent with the result of "not very interesting" obtained in the author's questionnaire. After consulting relevant materials and interviews, in terms of event hosting, first, Macao holds more than 100 events a year, but only 15% are held in the Historic Centre of Macao, and most of them are concentrated in the Ruins of St. Paul's area. The activities in St. Augustine's Square are mostly held in the interior space of historical buildings, and the Largo The space is not fully utilized; secondly, there are many interesting and novel activities, such as the Macao Authentic Food Experience Camp and the Spring "Friends" Creative Market, but there are relatively few historical and cultural ones, and tourists and residents cannot feel the cultural heritage

information well; thirdly, the current activities are all instant activities, and for places like St. Augustine's Square, there is a lack of long-term, periodic small-scale activities, which has also affected the formation of the attraction of this place to a certain extent.

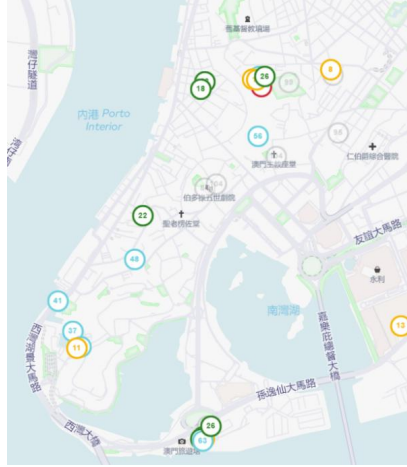


Fig.3-22 2025 Macao event location map (Source: Macao Tourism Bureau official website)



a) Small unused vacant spaces

b) Large unused spaces

Fig.3-23 Vacant space in St. Augustine's Square (Photo taken by the author)

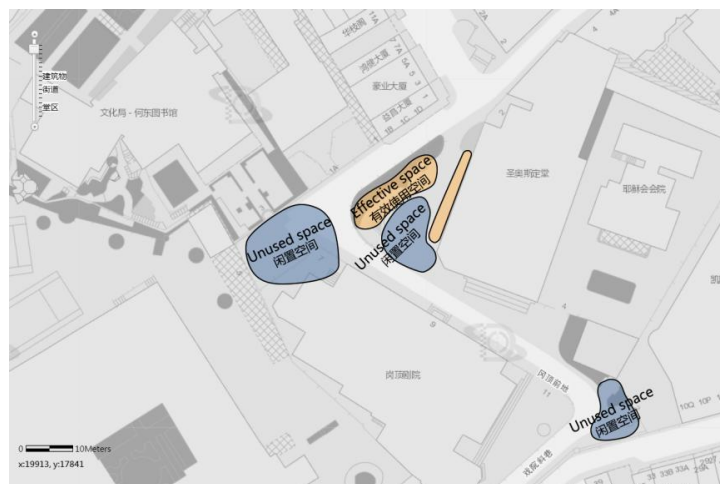


Fig.3-24 St. Augustine's Square effective use and idle space map (Drawn by the author)

In terms of the "Sociability" attribute, St. Augustine's Square is used by different groups

of people (such as tourists and residents), and people of all ages and Chinese and foreigners have passed through and stayed. The government and non-governmental organizations have made relevant attempts to implement Macao's existing management mechanism, public participation, and public supervision process. Residents and non-governmental organizations have also participated in and provided feedback on Macao's public issues. Citizen participation in planning has achieved certain results, but there are also many shortcomings. The overlapping work of functional departments, only short-term public participation based on individual projects, and most citizens' lack of understanding of public participation and processes have all resulted in Macao's public participation being unable to be carried out more effectively. Residents' familiarity and pride in community interaction at the site can reflect their sense of belonging and identity with the Largo. After observation, interviews and questionnaires, it was found that the proportion of residents at the site is much smaller than that of tourists. Most tourists take a short break or pass by directly. Only a small number of residents come to communicate and rest in groups, and their sense of identity with the site is relatively poor. After observation and research, the author found that there are three possible reasons: First, the Largo is surrounded by roads on three sides, with heavy traffic and personnel flow, and is very open and connected, making it difficult to form a comfortable community atmosphere. Second, from a geographical perspective, the Largo space is located uphill, with a certain height difference from the surrounding communities, which has led to a decrease in the frequency of rest for many residents, especially the elderly. Third, according to interviews, residents are more concerned about whether the venue can provide enough rest and various activity spaces, and pay less attention to and do not know much about the historical and cultural factors of the venue.



Fig.3-25 The huge height difference between St. Augustine's Square and the surrounding



environment (Photo taken by the author), Fig.3-26 The long uphill ramp leading to St. Augustine's Square (Photo taken by the author)



Fig.3-27 Panoramic view of St. Augustine's Square during the day (Photo taken by the author)



Fig.3-28 Panoramic view of St. Augustine's Square at night (Photo taken by the author)

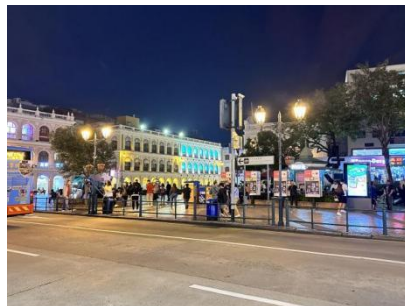


Fig.3-29 Comparison of the number of people at Senado Square at night (Photo taken by the author)

### 3.3.1.2 Lilau Square Survey Results

Lilau Square's "Uses & Activities" attribute performs better than St. Augustine's Square. Although the Largo's physical space design does not include too many functions, with only rest areas and dining areas, there are many local residents who use the place. In addition to resting, residents also spontaneously carry out activities, such as morning exercises for the elderly during the day and play for teenagers in the afternoon (playing badminton, throwing frisbees, etc.), which leads to some young people's activities. This is the huge advantage of



this place compared to St. Augustine's Square, and it is highly recognized by residents in the surrounding communities and has higher vitality. The place is more comfortable, which also attracts foreign tourists to stay and rest for a longer time. This also shows that the physical space design is insufficient. If the space can make good use of this advantage to add some supporting activity venues and infrastructure, residents' satisfaction will be higher. The place has no commercial transformation, and the residential buildings are intact although no one lives in them. No festivals are held in the Largo space.



Fig.3-30 Lilau Square effective use and idle space map (Drawn by the author)



Fig.3-31 People playing Frisbee on the left and people eating and resting on the right (Photo taken by the author), Fig.3-32 Vacant space at Lilau Square on a weekday (Photo taken by the author)



Fig.3-33 Teenagers playing badminton at Lilau Square on the weekend (photo taken by the

author), Fig.3-34 The side roads on both sides of Lilau Square lead directly to the residential area (Photo taken by the author)

The Largo's "Sociability" attribute is slightly better than St. Augustine's Square. The users of this place are diverse, and there are no steps that create obstacles for vulnerable groups. According to the survey, it is friendly to the elderly with mobility problems. The public participation and management are similar to St. Augustine's Square, so I won't go into details. It is very typical that the average scores of friendliness and neighborly friendliness, which are important for the social nature of the place, are high, reflecting that local residents prefer to communicate, rest and participate in activities in Lilau Square. The Largo is more sociable. Compared with St. Augustine's Square, the advantages are: first, it is only adjacent to one main road, which is more surrounded and has a strong sense of community; second, there are many nearby communities, and the Largo is located downhill, which is easy to reach on foot.



Fig.3-35 Lilau Square is located at the bottom of the slope (Photo taken by the author),

Fig.3-36 The seats at Lilau Square are filled with elderly people on weekends (Photo taken by the author)

In terms of the "Comfort & Image" attribute, the Largo space is densely populated with trees, and three old trees are all preserved, but there are only some green plants and no obvious landscape design. Sanitation and cleaning are in place, and there are cleaning services throughout the day. However, since the garbage is concentrated next to the Largo and there is no garbage room, there will be some odor near the garbage area at the edge of the space, which affects the use of the space by people. The seating capacity of this place is slightly poor, and the number of seats needs to be increased. Currently, there are only some seats around the trees, and the smell of garbage needs to be dealt with. This place has a certain appeal, and is

used by many local community residents. Tourists will also take a break and stay for a while, and the crowd's happiness will be higher than St. Augustine's Square.



Fig.3-37 A garbage can emitting a foul smell next to Lilau Square (Photo taken by the author),

Fig.3-38 The old trees provide sufficient shade for Lilau Square (Photo taken by the author)

Lilau Square's "Access & Linkages" attribute is weaker than St. Augustine's Square. The spatial continuity is average. The site is connected to a main road, two branch roads leading to the community, and surrounded by 2-3-story residential buildings on all sides. It has a strong sense of enclosure, but no sense of oppression. The surrounding residential buildings all use similar doors, windows, decorations and colors, so the interface continuity is strong and the landscape is harmonious and comfortable. The visual permeability is weak. Compared with St. Augustine's Square, there are no iconic historical buildings with strong visual characteristics. The site is surrounded by various service-oriented function places, especially a bus stop, and residents will rest in the site while waiting for the bus; but there are fewer cultural places and commercial facilities; there are more communities than St. Augustine's Square. The site has basic signs such as guide signs, but no landmark structures. Due to the strong sense of spatial disharmony, the internal activities cannot be clearly seen from a distance. Since the site is only adjacent to one main road where vehicles pass, and the other two are roads leading to the community for pedestrians only, the walking comfort of this site is significantly higher than that of St. Augustine's Square. Square. It can be reached by a variety of transportation modes and has high accessibility. However, it lacks some convenient infrastructure.



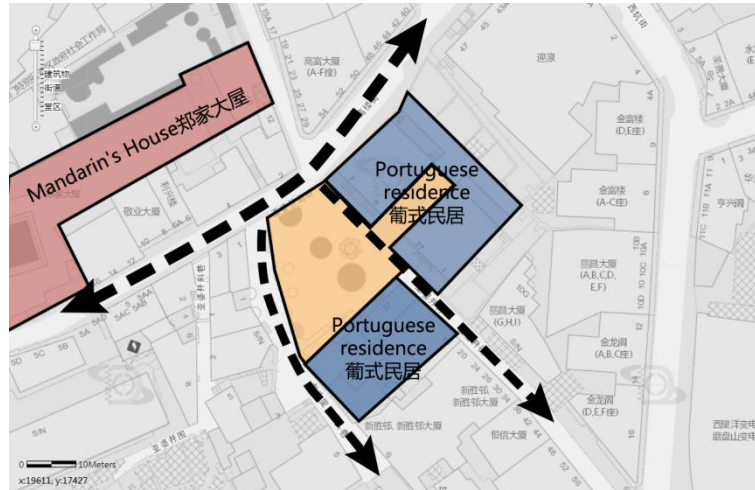


Fig.3-39 Relationship between Lilau Square and surrounding residential buildings and roads  
(Drawn by the author)



Fig.3-40 Types of places around Lilau Square (Drawn by the author based on relevant information)

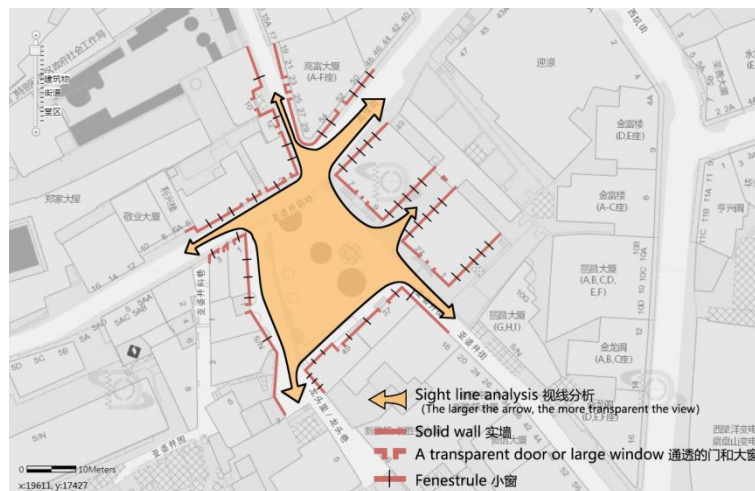


Fig.3-41 Lilau Square sight line and interface analysis (Drawn by the author)



Fig.3-42 Residents waiting for the bus to take a rest at Lilau Square (Photo taken by the author), Fig.3-43 Basic signs such as guide signs (Photo taken by the author)

Lilau Square does not have an advantage in "Protection & Dissemination" compared to St. Augustine's Square. Although it is located in the core area of the World Cultural Heritage and is one of the eight Largo spaces, it has important protection significance, but there are not many historical buildings around it, no special festivals, and no special functions. In addition, the surrounding Portuguese residential buildings are slightly old and damaged and need maintenance. There are certain traces of historical accumulation, such as the small fountain of the A-Po Well and the surrounding residential buildings, which also constitute the characteristic elements of this site that are different from other Largo spaces.



Fig.3-44 Small fountain at Lilau Square (Photo taken by the author), Fig.3-45 Residential buildings on one side of Lilau Square that need to be repaired and maintained (Photo taken by the author)

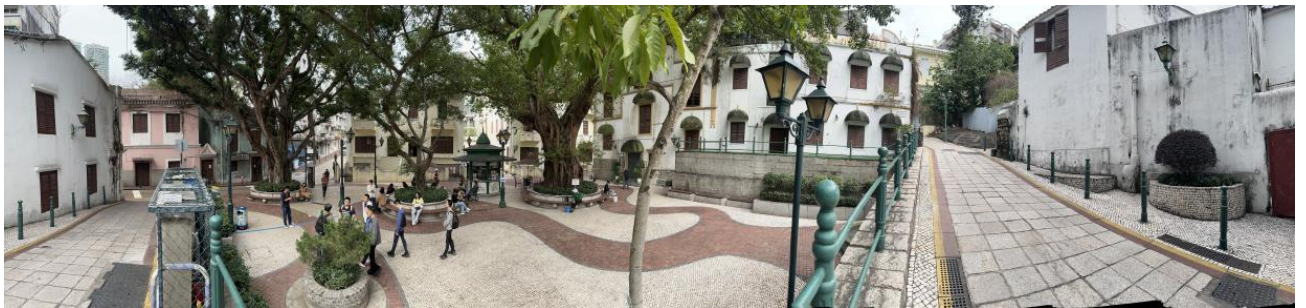


Fig.3-46 Panoramic view of Lilau Square during the day (Photo taken by the author)





Fig.3-47 Panorama of Lilau Square at night (Photo taken by the author)

### **3.3.2 Current Status and Development Advantages of St. Augustine's Square and Lilau Square**

St. Augustine's Square and Lilau Square in the Historic Centre of Macao are two core nodes of the world cultural heritage. They have different advantages and disadvantages in terms of physical functions, social interaction, spatial quality, and heritage protection. The Place Making research method of this study can help determine the characteristic advantages and existing problems and defects of the Largo space, and provide a reference for the appropriate direction of renewal and optimization of different sites. The author conducted an in-depth investigation based on the Place Making framework, summarized the above investigation results, and scored St. Augustine's Square and Lilau Square. The scoring scale is "Appendix 3 St. Augustine's Square and Lilau Square Rating Scale", and the scoring results are presented through a visual radar chart.

The prominent problems of St. Augustine's Square are the lack of spatial vitality and the lack of social interaction attributes. Although its "Access & Linkages" attribute performance is excellent, with high traffic accessibility and strong spatial connectivity, and the high openness and connectivity have brought a certain amount of traffic, the excessive reliance on the cultural display function of the surrounding historical buildings and the single activity function of the Largo space have led to insufficient spatial vitality and a low proportion of people staying. The survey results show that the frequency of historical and cultural activities in the venue is low, there is a lack of small activities based on the Largo, and residents have a low perception of its history and culture. There are only scattered seats and small catering kiosks in the venue, and there is a lack of complex functional implantation, which leads to

low scores in the "Uses & Activities" and "Sociability" attributes. In addition, the high-altitude terrain and the main road with dense traffic flow have severed the connection with the surrounding community, and the lack of barrier-free facilities has weakened the residents' sense of identity and belonging.

Lilau Square's "Comfort & Image" and "Uses & The "Activities" attribute has significant defects. Although the shade of trees and community participation enhance the sociability of the place, the lack of garbage disposal facilities (odor problems affect the experience of respondents) and the shortage of seats restrict the comfort of the space. Residents have spontaneous social activities, but the physical space design is not functional enough, and there are no supporting activity venues and infrastructure. At the same time, Lilau Square lacks iconic historical buildings and festivals, resulting in weak "Protection & Dissemination" attributes and failing to fully tap its cultural narrative potential as an early Portuguese settlement.

In addition to the above description, the two Largo spaces also face problems such as infrastructure updates lagging behind functional needs and weak connections with other important places in the Historic Centre of Macao. However, despite many challenges, St. Augustine's Square and Lilau Square still have significant renewal potential.

The core advantage of St. Augustine's Square lies in the density and cultural symbolism of its historical buildings. St. Augustine's Church, Dom Pedro V Theatre and Sir Robert Ho Tung Library form a "historical and cultural triangle", St. Augustine's The Square is located at the center of the three, providing a spatial carrier for the integration of the three complex functions. The author found that the surrounding service facilities of St. Augustine's Square are complete (covering commercial, transportation, and community functions within 200 meters), providing a sufficient population base; the surrounding historical and public buildings are harmonious and coherent, with unified colors and strong readability. This lays a material foundation for visual guidance and historical and cultural narratives.

Lilau Square shows unique advantages based on the spontaneous vitality of the community and the adaptability of the terrain. Its location at the bottom of the slope and the characteristics of the branch road connecting the residential area make it the core node of the daily social life of local residents. The "self-organization" model formed by the morning

exercises of the elderly and the impromptu activities of young people (such as badminton and flying disk) proves the activation effect of community participation on spatial vitality. In addition, the low commercialization characteristics of Lilau Square (no tourist shops) and the authenticity of the Portuguese residential complex provide a basis for the construction of its residents' sense of belonging and identity.

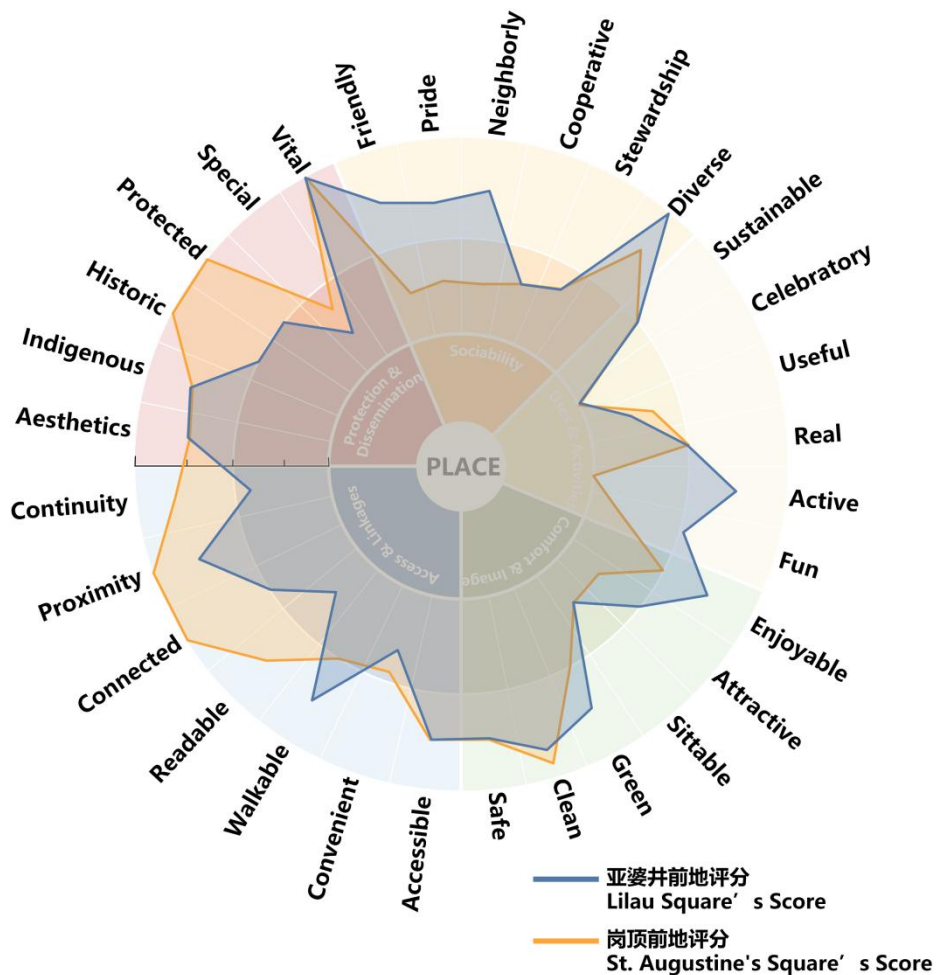


Fig.3-48 Visual radar chart of St. Augustine's Square and Lilau Square scores (Drawn by the author)

### 3.4 Chapter Summary

This chapter mainly describes the author's research process on the Largo space of Historic Centre of Macao based on the Place Making research method.

First, the author expounds on the current situation and characteristics of the Largo space of Historic Centre of Macao, and emphasizes the reasons for taking the Largo as the anchor



point for transformation. First, the Largo space is an important connection point of the urban texture of the Historic Centre of Macao; second, the Largo space is the core node of public life and a key place for tourism experience; third, the transformation of the Largo space is low-cost and high-profit. On this basis, St. Augustine's Square and Lilau Square were selected as the Largo space for in-depth research. They are important representatives of the Largo of public buildings and the Largo of street in the Largo space of Historic Centre of Macao, respectively, which are important for the author to understand the characteristics of different types of Largo spaces and the focus of renewal.

Before in-depth research, it is necessary to adapt the research indicators of the Place Making method according to the Largo space of Historic Centre of Macao. The basis for the modification is based on the Largo space of Historic Centre of Macao's preliminary investigation and reference to relevant research literature on this research method. Based on this, the author built an adaptive research framework for Place Making based on the Largo space of Historic Centre of Macao.

Subsequently, the author used this research framework to conduct in-depth research on St. Augustine's Square and Lilau Square, summarizing the current problems and development advantages of the two Largos, in order to lay a practical foundation for the subsequent design based on the two Largos as examples.

## **Chapter 4 Design Practice Based on St. Augustine's Square and Lilau Square of Historic Centre of Macao**

### **4.1 The Largo Space Update Framework**

#### **4.1.1 Goal-Driven: Two Updated Design Guidelines for the Largo Space**

Based on the above chapters, the current status of St. Augustine's Square and Lilau Square are studied using the Place Making research method, and the problem and advantage summary is proposed. According to the Place Making adaptive research framework established by the author, the update guide for the two Largo spaces is proposed. Based on the characteristic attributes with better performance, its advantages are maintained and continuously developed, and its advantages are used to drive the construction and development of the characteristic attributes with poor performance, so as to build a vibrant and diverse Largo space of the Historic Centre of Macao.

The two attributes of "Stewardship" and "Cooperative" are mainly improved through the public participation process below, and the two indicators of "Attractive" and "Enjoyable" are aimed at increasing the willingness of tourists to use by improving the comfort and attractiveness of the place. The two indicators of "Neighborly" and "Pride" are aimed at increasing the willingness and identity of residents by improving the functional diversity and historical and cultural richness of the place. These indicators are all subjective perception indicators of the crowd, and need to be driven by the improvement of other characteristic elements, so these three types of characteristic elements are not shown in the table below.

St. Augustine's Square is positioned as a historical and cultural node. Its development advantages lie in its dense historical architectural resources and high spatial accessibility, but its spatial vitality is insufficient and its social interaction attributes are missing. According to the survey and the Largo resources, the local residents use the place less frequently, the tourist pass rate is high, the "Access & Linkages" attribute is excellent, and there are rich historical and cultural publicity resources. Therefore, the main service population is tourists, and it is positioned as a historical and cultural node. The design guidelines for St. Augustine's Square

focus on improving the "Uses & Activities" and "Sociability" attributes of this place, mainly through functional reorganization and compounding, historical and cultural loading to attract tourists to increase their stay and experience, and also improve the historical and cultural perception of residents. At the same time, the "Comfort & Image" score is increased through the support of infrastructure functions to ensure the comfort of the users.

Lilau Square is positioned as a neighborhood vitality node. Its development advantages lie in the spontaneous vitality of the community and good social attributes, but the comfort of space use and the singleness of space functions affect the use of people. According to the survey and the Largo resources are comprehensively considered. The local residents use this place very frequently, and the residents are familiar with it and socialize with it. The strong sense of enclosure and the cultural attributes of the first generation of Portuguese gathering places have increased the residents' willingness to use it. Therefore, the main service population is residents, and it is positioned as a neighborhood vitality node. The design guidelines for Lilau Square focus on improving the "Comfort & Image" and "Uses & Activities" attributes of this place, mainly through functional reorganization and combination, and life event loading to enrich the residents' use of space, and through infrastructure functions to ensure the comfort of people's use, and assist in improving the "Protection & Dissemination" attribute score. At the same time, the defects of the "Access & Linkages" attribute are improved through the visual extension of the path.

Table 4-1 St. Augustine's Square Space Renewal Design Guide (Drawn by the author)

Update Design Strategy	Features that Need Improvement	the Largo Space Update Guide	Reference Cases
1. Functional reorganization and combination	Green	Increase the green space with appropriate area and match it with certain landscape design to ensure beauty and comfort.	-

Table 4-1 St. Augustine's Square Space Renewal Design Guide (Continued)





	Fun	<p>1. Replan the functional areas, sort out the existing functions, and add the functions that are currently missing in the venues and meet the needs of residents and tourists.</p> <p>2. Add interesting adaptive functional areas according to the characteristics of the venue and the tendency of renewal. For example, St. Augustine's Square should give full play to the historical heritage of the venue, so the focus should be on adding historical and cultural areas.</p>	 <p>The cultural wall of Jixiang Street in Wanzhou, Chongqing (Source: Internet)</p>
	Useful		 <p>Lugo, Italy, a space that combines exhibition and rest (Source: Internet)</p>
	Active	<p>The key to improving activity is to organize people to use the space in groups and participate in the experience. Therefore, the additional space should ensure the necessary social space for people to socialize, and also add participatory facilities in the historical and cultural areas to improve the experience of tourists.</p>	 <p>Shenzhen Xiwan-Qianhaiwan slow-moving public space historical interactive facilities (Source: Internet)</p>  <p>San Antonio's Travis Park library pavilion installation (Source: Internet)</p>

Table 4-1 St. Augustine's Square Space Renewal Design Guide (Continued)



2. Infrastructure function guarantee	Walkable	<p>1. Increase the width of the sidewalk, expand the pedestrian space, set up green belts, set up motor vehicle parking areas in nearby vacant lots, reduce regional flow speed, and create more opportunities for stay and activities.</p> <p>2. Prohibit vehicles from entering the Largo space to improve the safety of users.</p>	-
	Convenient	<p>Supplement the research framework table with sufficient facilities for residents and tourists.</p> <p>Increase infrastructure for tourists such as multilingual World Heritage interpretation signs, AR code scanning interactive devices, check-in photography point signs, etc.</p>	 <p>The charging booth in Times Square in New York City provides rest, WIFI functions (Source: Internet)</p>  <p>Temporary coffee pop-up shop (Source: Internet)</p>
	Friendly	<p>The rest area has been improved by optimizing ramps and adding barrier-free seats to reduce the exclusion of the elderly and special groups by stairs.</p>	-

Table 4-1 St. Augustine's Square Space Renewal Design Guide (Continued)





	Sittable	<p>1. Add enough and different types of seats and other facilities for residents and tourists to rest and socialize.</p> <p>2. Add seat sets with shelters to improve the weather adaptability of rest areas.</p>	 <p>The BookGarden pavilion can be used for a variety of functions (Source: Internet)</p>  <p>Different rest areas and activity spaces in Portland's Congress Square Park (Source: Internet)</p>
3. Historical and cultural inclusion	Real	<p>Commercial transformation of historical buildings around the venue is prohibited.</p> <p>Some local businesses (such as tea restaurants, Portuguese dim sum shops and other specialty food and beverage stores or Macao specialty cultural and creative stores) can be implanted on the ground floor of nearby idle buildings to enhance the local appeal of the venue.</p>	 <p>Specialty shops on Yucheng Street in Jinjiang District, Chengdu (Source: Internet)</p>  <p>Macao specialty cultural and creative shops (Source: Internet))</p>

Table 4-1 St. Augustine's Square Space Renewal Design Guide (Continued)





	Celebratory	1. The traditional religious ceremony space	
	Special	<p>(such as the procession of the image of Jesus the Suffering) and the modern cultural activity space (flash market, community theater) are superimposed and alternated, and modular facilities (such as movable seats, folding display racks, temporary exhibitions, and detachable stages) are implanted to meet the needs of cultural activities at different times.</p> <p>2. The characteristic scene of the Portuguese gravel paving is retained, and the wavy style of the Largo paving is used as the basic design style of the space.</p>	<p>London West End Market Space (Source: Internet)</p>  <p>Wuhan Pop-up Market (Source: Internet)</p>  <p>Temporary theatre installation in Switzerland (Source: Internet)</p>  <p>Temporary exhibition in Dongguan (Source: Internet)</p>



Table 4-2 Lilau Square Space Renewal Design Guide (Drawn by the author)



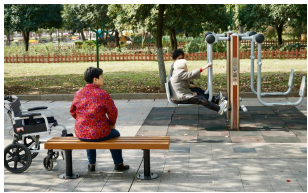

Update Design Strategy	Features that Need Improvement	the Largo Space Update Guide	Reference Cases
1. Functional reorganization and combination	Fun	<p>1. Replan the functional areas, sort out the existing functions, and add the functions that are missing in the current venues and meet the needs of residents and tourists, such as activity venues, cultural experience functions, etc.</p> <p>2. Add interesting adaptive functional areas according to the characteristics of the venue and the tendency of renewal. For example, Lilau Square will add activity spaces for teenagers and the elderly, and social spaces for residents that are suitable for the daily lives of residents.</p>	 <p>Tangshan Nanhu Wutong Square's diversified activity space (Source: Internet)</p>
	Useful		 <p>Malta Cultural Festival's public space for activities and rest that combines small and large spaces (Source: Internet)</p>
2. Infrastructure function guarantee	Convenient	<p>Sufficient facilities for residents and tourists in the supplementary research framework table. In particular, Lilau Square is frequently used by local elderly people and teenagers, and has a high demand for activity and rest space.</p>	 <p>Wuhan multi-generational space provides exercise facilities for the elderly (Source: Internet)</p>  <p>Activities for children (Source: Internet)</p>



Table 4-2 Lilau Square Space Renewal Design Guide (Continued)





	Sittable	<p>1. Optimize garbage disposal by adding garbage rooms in auxiliary function areas to reduce the interference of odor on the user experience.</p> <p>2. Add sufficient and different types of seats and other facilities for residents and tourists to rest, socialize, and have daily family gatherings.</p>	 <p>The same ring elements at RMIT University can provide different functional spaces (Source: Internet)</p>  <p>Rest spaces that can be used by everyone (Source: Internet)</p>
	Protected	Repair the damaged houses around the site using original materials and carry out regular maintenance and repairs.	-
3. Life Events Loading	Real	<p>1. Continue the original residents' lifestyle and social activities, preserve and repair Portuguese houses with historical value, transform idle houses into community workshops, introduce traditional handicraft experience and micro-exhibitions, and use them as intangible cultural heritage display and experience spaces.</p> <p>2. Plant some local business formats on the ground floor of nearby idle buildings to enhance the local appeal of the venue.</p>	 <p>Intangible Cultural Heritage Workshop (Source: Internet)</p>  <p>Part Group Exhibition Gallery Space (Source: Internet)</p>

Table 4-2 Lilau Square Space Renewal Design Guide (Continued)









	Celebratory	<p>1. The iconic Yapo Water Well function of the site is retained, and the "Water Culture Memory + Community Memory" wall is created by combining the original scene elements to activate residents' daily interactions and historical and cultural communication.</p> <p>2. The characteristic scene of the Portuguese gravel paving is retained, and the circular style of Lilau Square surrounding the ancient tree is used as the basic design style of the space.</p>	 <p>Ribbon cultural display modular facility</p> <p>(Source: Internet)</p>
	Special		 <p>Shichengzi temporary gallery (Source: Internet)</p>
	Historic	<p>The investigation found that the current site has a weak connection with the Zheng Family Mansion next to it, and has not brought into play its overall historical advantages. The connection between the site and the surrounding historical buildings can be enhanced by combining historical walking paths and eye-catching signboards pointing to the Zheng Family Mansion.</p>	  <p>St. Etienne Manufacturing District's eye-catching signage system (Source: Internet)</p>

Table 4-2 Lilau Square Space Renewal Design Guide (Continued)

4. Path visual extension	Continuity	The "straight street" walking path is continued. Not only does the Largo space use localized paving, but also colorful Portuguese gravel is used on the "straight street" walking path to strengthen the visual orientation of the path and the recognizability of the Largo space. It is an obvious but very cost-effective sign system.	 <p>Boston Freedom Trail is a red brick route designed along the historical path, forming a suggestive guide system (Source: Internet)</p>
	Readable	<p>1. Increase its visibility from a distance through graffiti walls and check-in walls on the street, and guide people to check in and gather.</p> <p>2. Enhance the recognition of the Largo space from a distance through a striking and distinctive multilingual sign system.</p> <p>3. The new facilities and space design inside the venue fit the original elements and styles of the venue, enhancing the readability of the Largo space.</p>	  <p>Leshan "readable streets" (Source: Internet)</p>  <p>The unified signage system in the Saint-Etienne manufacturing area (Source: Internet)</p>

#### 4.1.2 Process Implementation: Public Participation

Since Macao's return to the motherland, there has been some progress in terms of public participation. For example, the implementation of the principle of "Macao people governing Macao with a high degree of autonomy" stipulated in *the Basic Law* has objectively made the communication channels between the government and the public more accessible; the

improvement of civic education and the rapid economic development have led to an increase in public opinions and discussions on government policies and measures, and social demands have become more diverse, with higher requirements for transparency in government administration and citizen participation; the successful application of the "Historic Centre of Macao" and the civil conservation movement caused by Macao's unreasonable planning measures<sup>[119]</sup>. These are the awakening and development process of Macao public participation, which also proves that public participation is a link that must be taken into consideration in the renewal of the Historic Centre of Macao. Only by obtaining the support of citizens can the renewal and development of the Historic Centre of Macao be smoothly promoted.

In the adaptive research framework of Place Making established by the author, there are two important characteristic elements "Stewardship" and "Cooperative" that are closely related to the public participation process. The two Largo spaces perform poorly in these two characteristic elements, so they need to be improved to a certain extent. However, unlike other indicators, these two elements need to be improved in the process of Place Making. Therefore, the author refers to the introduction of PPS on the process of Place Making to further improve the place.

At the same time, the author mentioned in the previous theoretical review that in the later development process of Place Making, it gradually changed from the physical environment created by the designer to a community practice activity that anyone can participate in. It not only considers the place as a static space and designs its physical form, but also considers the design process of constructing the place. Therefore, it can be seen that the social process of Place Making occupies an important position in the research of this theory, which is important for the author's Place Making. Whether the Making adaptive research framework can be effectively implemented and implemented is of great significance. Therefore, it is necessary to study and explore this process in the design practice stage of this study.

The author learned from the residents interviewed during the survey that the residents currently have little knowledge of public participation in urban planning and design, and the density of the Historic Centre of Macao is high and the public space is scarce. Compressing the scope of public participation activities to the Largo public space as the starting point of

public participation can ensure the intimacy and operability of the urban renewal project. Considering public participation in the renewal process of the Largo space is conducive to the smooth progress and promotion of the renewal project. Incorporating residents' opinions and suggestions to enhance the acceptance and willingness of local residents to participate and ensure the holding of renewal measures and activities is an important path to build a sense of belonging and identity among urban residents, and is also an important part of the Place Making process.

The Place Making process of PPS, which is referenced for the public participation of the Largo space, has five steps, namely Collect comments and suggestions; Evaluate space and identify issues; Building a place vision; Short-term experiments and management; Continuous reevaluation and long-term improvement.

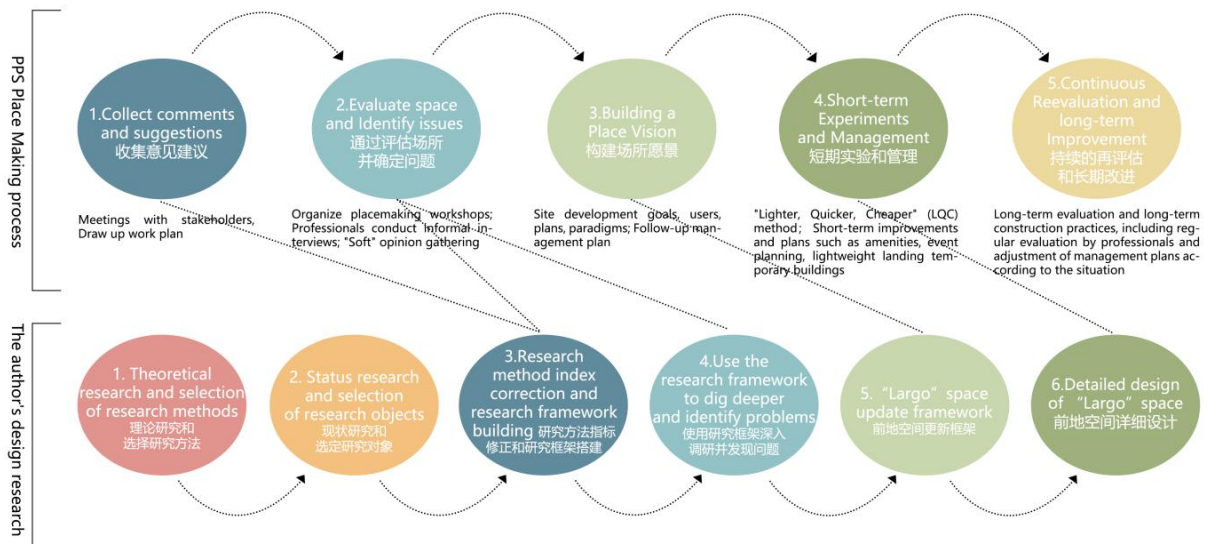


Fig.4-1 Comparison between the author's research process and the PPS Place Making process

(Drawn by the author)

### (1) Collect Comments and Suggestions

If conditions permit, various stakeholders such as government, organizations, business representatives, residents, and tourists can be organized to attend a construction meeting at the beginning of the project to gain an in-depth understanding of the relevant issues faced by each stakeholder in the site, determine their spatial demands, and formulate a preliminary work plan based on this. This step can strengthen the connection and mutual understanding among stakeholders and persuade the government, organizations, etc. to support the formation of a

common vision, because they are often the ones who provide funding, management, and authority in the process.

## **(2) Evaluate Space and Identify Issues**

This step focuses on space, allowing people who use the place to evaluate the use of the space and propose ways to improve it. There are three ways to do it. First, you can organize a place-building workshop to organize stakeholders to participate, summarize problems through previous use and observation of the space, and analyze the space to propose solutions to the summarized problems, and generate the final result through the evaluation of multiple samples and participants; second, professionals conduct informal interviews with people who use the place on site to directly collect on-site space problems. The results obtained in this way are very convincing because the people in the venue are often people who have used the space for a long time; third, you can intervene through some interesting spaces and "softly" participate in opinion collection. For example, you can set up a community proposal box or display board to introduce the project and collect questions and opinions.

For example, Lilau Square is adjacent to a bus station. You can refer to the MARTA station and use the time people stay at the bus station to set up display boards, bulletin boards, etc. at the station for people to share ideas and vote and make suggestions on the place space.



Fig.4-2 Public space engagement activities at MARTA stations (Source: PPS)





Fig.4-3 Residents voted for their favorite ideas for improving downtown spaces (Source: PPS)

### **(3)Building a Place Vision**

To solve the problems and reference suggestions summarized in the previous step, formulate a place vision. It is not limited to the design perspectives proposed by architectural planners and designers, but more about the future use of the place, including: defining the goals of place development; defining the use of space and users; describing the expected characteristics of the space; conceptual planning of space design, evaluating the feasibility of planning; successful examples of similar spaces or parts of spaces; action plans for short-term and long-term improvements.

As important as the place vision is the subsequent management plan. The management organization is essential to keep the space active and well maintained, which is conducive to the smooth progress of the Place Making process.

### **(4)Short-term Experiments and Management**

The most important step in the Place Making process is the implementation of the plan, that is, putting the vision into action. PPS defines it as the "Lighter, Quicker, Cheaper" (LQC) approach, which is a creative, locally driven alternative to the capital-intensive and top-down planning process.

LQC projects include short-term improvements and plans that require a shorter time and a smaller budget and can be easily revoked. The implementation of the project takes many forms and requires different levels of time, money and energy, such as: First, amenities, from flexible seating to books and game booths, from flower pots and green plants to public artworks, amenities provide a low-cost way to increase the vitality and comfort of the space; second, event planning, regular events can enhance the vitality of the space, and there are one-off events, although they cannot replace continuous event planning, but they can help test

new ideas and adjust the community vision; third, lightweight implementation, using temporary buildings to replace old buildings, vending machines, containers and tensile structures can achieve new uses, create characteristics and attract more investment.

This study also refers to the LQC approach and discusses the Largo space conducts "micro intervention" to quickly stimulate the vitality of the Largo space through short-term and low-budget methods.

#### **(5)Continuous Reevaluation and Long-term Improvement**

Places start with an LQC approach, but require a long period of assessment and long-term building practices. This includes maintenance and planning staff completing regular assessments, focusing on the long-term use of various parts of the space and the deterioration of facilities. With this information, managers can continue to design the space and seek more long-term improvements, such as removing physical barriers, adding uses to blank walls in the building, or building additional structures. Other experts, consultants, and partners can help as necessary.

Involving stakeholders can determine the long-term life of the project and ensure that the vision of the space always reflects the shared goals of stakeholders. Adjusting the management plan based on changing conditions can also ensure that the space continues to be loved and well-used over time.



Fig.4-4 Bryant Park staff regularly inspect the site to assess the amount of space used by different groups of people (Source: PPS)

## **4.2 Detailed Design of the Largo Space**

Taking the updated design guidelines of the two Largo spaces mentioned above as the ultimate goal of the update, the implementation process refers to the perspective of public participation in Place Making of PPS. The design practice process integrates and extends the



update methods and operation techniques of various attributes and characteristic elements in the updated design guidelines through the following three steps, namely (1) "point" level: for the detailed design of the two Largo spaces, the physical space inside the Largo is updated and intangible events are implanted to enhance the vitality and attractiveness of the two Largo spaces themselves; (2) "line" level: starting from the two Largo spaces, through the micro-intervention of the space around the Largo, the visual extension of the path is carried out to provide a basis for guiding the flow of people and connecting other historical and cultural spaces; (3) "surface" level: through the connection of multiple vitality points and visual paths in the Historic Centre of Macao, the cultural walking path of the Historic Centre of Macao is finally constructed, forming a complete design with the entire Historic Centre of Macao as the "surface".

During the design implementation phase, the "Lighter, Quicker, Cheaper" (LQC) approach from PPS's public engagement on Place Making was used as a creative, locally driven alternative to the capital-intensive and top-down planning process. It mainly includes short-term improvements and plans, which require a shorter time and a smaller budget and can be easily revoked. The implementation of the project takes many forms, such as amenities, activity planning, and lightweight implementation, which "micro-intervene" the Largo space and quickly stimulate the vitality of the Largo space through short-term rapid improvement and low budget methods.

Based on the above, St. Augustine's Square and Lilau Square are developed into historical and cultural nodes and neighborhood vitality nodes respectively according to their advantages and characteristics, providing suitable activity venues for both tourists and residents with different development tendencies. St. Augustine's Square has the advantages of dense historical architectural resources and high spatial accessibility. It has excellent performance in the "Access & Linkages" attribute and rich historical and cultural publicity resources. The focus is on improving the "Uses & Activities" and "Sociability" attributes of this place. It attracts tourists to stay and experience more through functional reorganization and compounding, and historical and cultural loading, and also improves the historical and cultural perception of residents. Lilau Square has the advantages of spontaneous community vitality and good social attributes. The local residents use the place very frequently, and the

residents are familiar with each other and have a high degree of social companionship. The focus is on improving the "Comfort & Image" and "Uses & Activities" attributes of this place. It mainly enriches the residents' use of space through functional reorganization and compounding, and life event loading, and ensures the comfort of people through infrastructure functions, and assists in improving the "Protection & Dissemination" attribute score. At the same time, the defects of the "Access & Linkages" attribute are improved through the visual extension of the path.

### **4.2.1 Point: the Largo Space Design**

#### **(1) Fusion and Sharing: Functional Reorganization and Combination**

Through the organic continuation of spatial function and historical accumulation, the multiple values of the Largo space are reconstructed. The existing functions of the two Largos and the missing functions mentioned in the design guidelines are sorted out, and the existing functional areas and newly inserted functional areas are re-planned. The original iconic buildings and Portuguese gravel paving texture are retained, and the characteristic space is transformed through space to adapt to the new urban functions, and the original iconic features are retained to organically continue the urban context and memory.

As a historical and cultural node, St. Augustine's Square is located in the center of the "historical and cultural triangle" formed by St. Augustine's Church, Dom Pedro V Theatre and Sir Robert Ho Tung Library. It is necessary to give play to the historical and cultural inheritance ability of the site on the basis of responding to the functions of the three historical public buildings. Therefore, in addition to the rest space, dining space and crowd communication space that meet the daily needs of the crowd, the focus and large area should be given to the historical and cultural space to reserve enough space for various activities. The activity content and use facilities of the specific space can be carried out accordingly with reference to the functions of the surrounding historical public buildings, and participatory facilities can be added to enhance the experience of tourists.

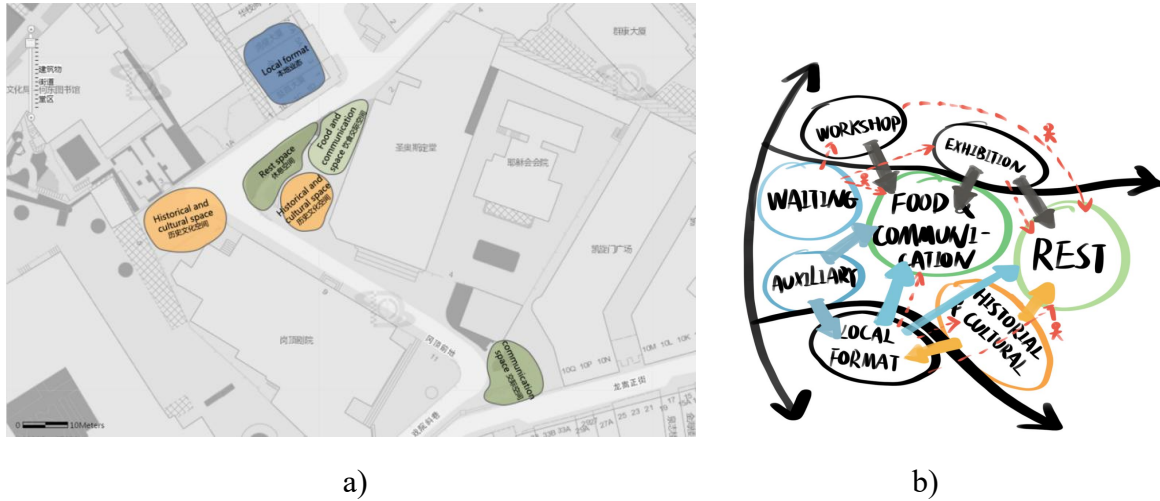


Fig.4-5 Re-organization of the functions of St. Augustine's Square (Drawn by the author)

As a neighborhood vitality node, Lilau Square is located in the center of multiple residential communities and is closely related to the lives of residents. It includes rest spaces, dining spaces and waiting spaces as basic functions, as well as resident social spaces and youth and elderly activity spaces that match the site positioning. These all ensure that the Largo plays a role as a link in the daily lives of residents. At the same time, the idle houses are transformed into community workshops, the function of the A-Po Well is retained, and historical and community cultural spaces are formed around it, which not only encourages residents to form a sense of identity and belonging to the place, but also enriches tourists' experience of Macao, which is closer to the lives of residents and local culture.

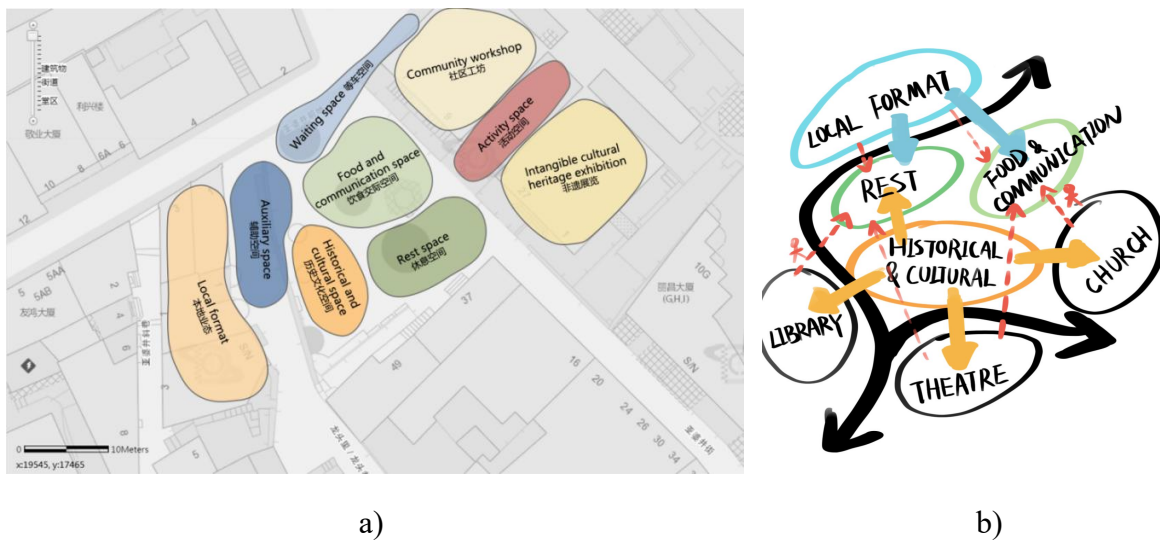


Fig.4-6A re-arrangement of the functions of Lilau Square (Drawn by the author)

## (2) Comfort Improvement: Infrastructure Function Guarantee

The landing design uses the original elements of the site as the main design tone of the entire site (such as the arc-shaped style of Portuguese broken bricks in St. Augustine's Square and the circular style around the ancient trees in Lilau Square). The internal space division and infrastructure of the site are designed as a whole with reference to these elements. For the basic functions of the site mentioned in the previous step, such as rest space, dining space and crowd interaction space, the design guidelines are followed to adapt to the adjustment and rearrangement of each Largo.

St. Augustine's In terms of Square, sufficient and different types of seats and other facilities are added to the rest area for all people, especially sunshade facilities, for residents and tourists to rest and socialize in different weather conditions. Through the optimization of ramps and the addition of barrier-free seats, the exclusion of steps and other factors on the elderly and special groups is improved. In addition, infrastructure for tourists is added, such as multilingual world heritage interpretation signs, AR code scanning interactive devices, and check-in photography point signs. At the same time, in order to improve "Walkable", the sidewalk width is increased, the pedestrian space is expanded, green belts are set up, and the motor vehicle parking area is set up in nearby vacant lots to reduce the regional flow rate and create more opportunities for stay and activities. Vehicles are prohibited from entering to improve the safety of the user population.

Lilau As for the Square, since the site is adjacent to a bus stop, residents often sit and wait for the bus here, so a rain-proof corridor is set up in the waiting space to connect the bus stop and the site. For rest and social spaces, friendly scale and all-age friendly activity facilities and different types of rest seats are introduced to meet the daily needs of local residents. For the odor problem of the original site, garbage disposal is optimized by adding garbage rooms in the auxiliary function area to reduce the interference of odor on the user experience. In order to improve the "Protected" score, the damaged houses around the site can be repaired with original craft materials and regular maintenance and repairs can be carried out.

### **(3)Space Empowerment: Life Events Loading/Historical and Cultural Loading**

The carrying of urban memory and the inheritance of historical culture are difficult to

sustain by relying solely on static heritage protection and physical space. The urban life of ordinary residents retains collective memory, maintains and continues the original lifestyle and social activities, and shows the unique historical and cultural features and spatial characteristics of the Historic Centre of Macao. On the basis of not affecting the daily life events of residents, some historical and cultural events are placed to enhance tourists' perception of the Macao historical district, and the attraction of the place is enriched through the experience of life events + historical and cultural experience.

Based on the different core advantages of St. Augustine's Square and Lilau Square, the spatial inclusiveness is enhanced through the "micro-intervention" design of life events and historical culture, and the narrative of the place is strengthened by using local cultural symbols.

St. Augustine's Square is a historical and cultural node, and adopts a historical and cultural loading method. The space of traditional religious rituals (such as the procession of the image of the Suffering Jesus) and modern cultural activities (flash market, community theater) are superimposed and alternated, and modular facilities (such as movable seats, folding display racks, temporary exhibitions, and detachable stages) are implanted to meet the needs of cultural activities at different times, forming a symbiotic scene of "history-life-art" interweaving, and avoiding the erosion of authenticity by single tourism. At the same time, in order to enhance the perception of localization, some local business formats (such as tea restaurants, Portuguese dim sum shops and other specialty restaurants or Macao specialty cultural and creative stores) can be implanted on the ground floor of nearby idle buildings.

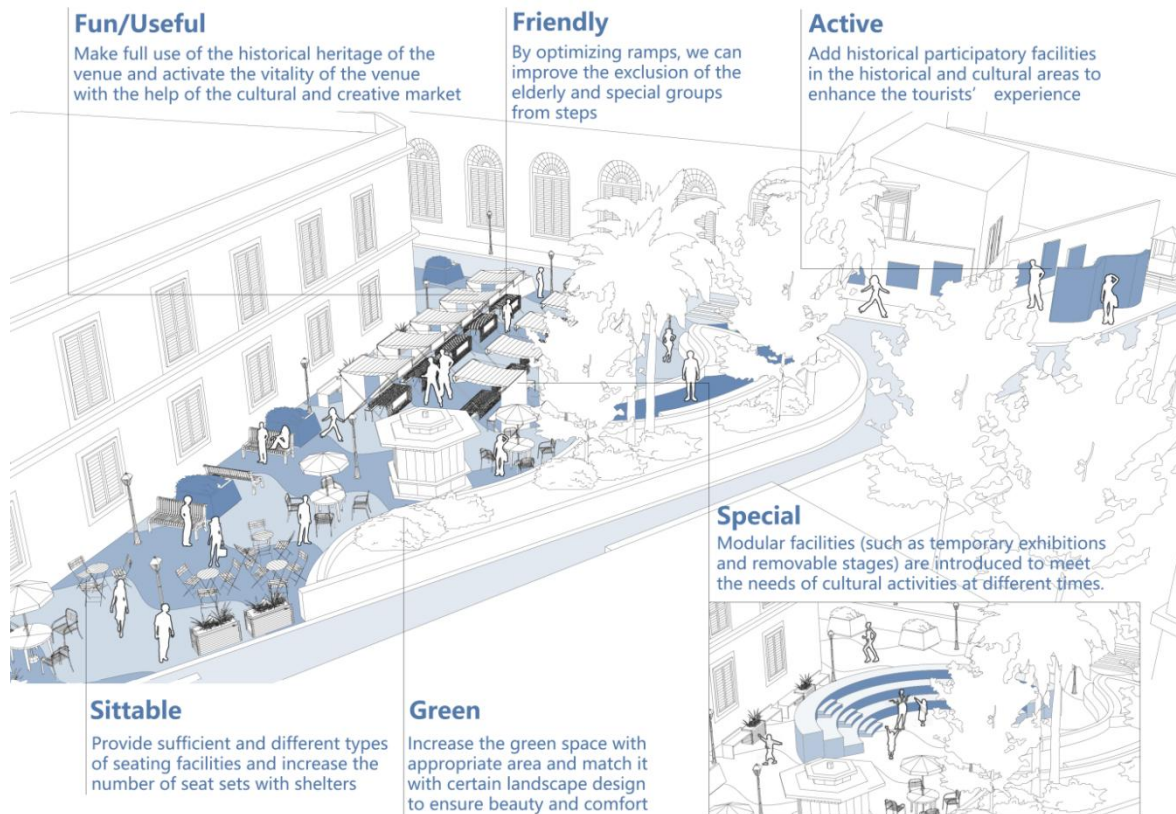
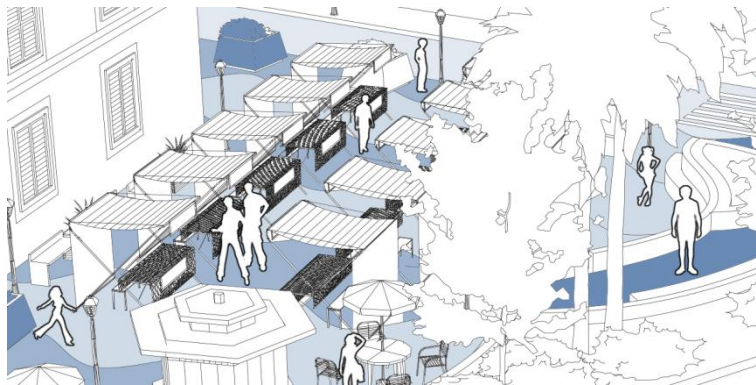


Fig.4-7 St. Augustine's Square space revitalization design (Drawn by the author)

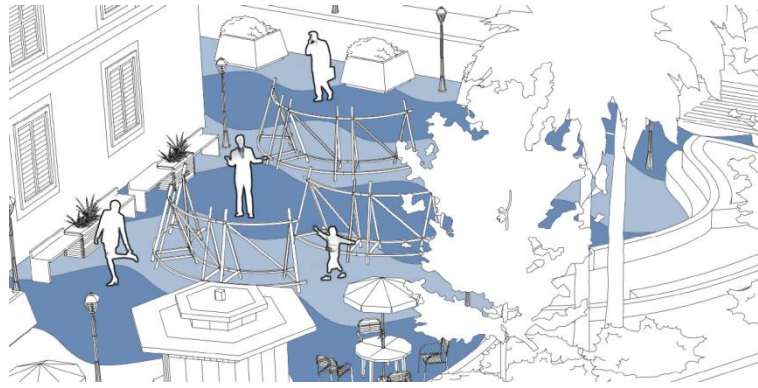


a) Market



b) Theater





c) Temporary Exhibitions

Fig.4-8 St. Augustine's Square spatial historical and cultural area spatial superposition effect at different times (Drawn by the author)

Lilau Square is a neighborhood vitality node, using the method of loading life events. The function of Lilau is retained, and the "Water Culture Memory + Community Memory" wall is created by combining the original scene elements to activate residents' daily interactions and historical and cultural dissemination. In the community workshop transformed from idle residential buildings, traditional handicraft experiences, tea parties and micro-exhibitions are introduced as intangible cultural heritage display and experience spaces to strengthen the cultural and educational functions of the space. At the same time, some local business formats (such as tea restaurants, Portuguese dessert shops, etc.) are implanted on the ground floor of nearby idle buildings to enhance the local appeal of the venue. In addition, the survey found that the current venue has a weak connection with the Zheng Family Mansion next to it, and the overall historical advantages have not been brought into play. The connection between the venue and the surrounding historical buildings can be enhanced by combining historical walking paths and eye-catching signboards pointing to the Zheng Family Mansion.



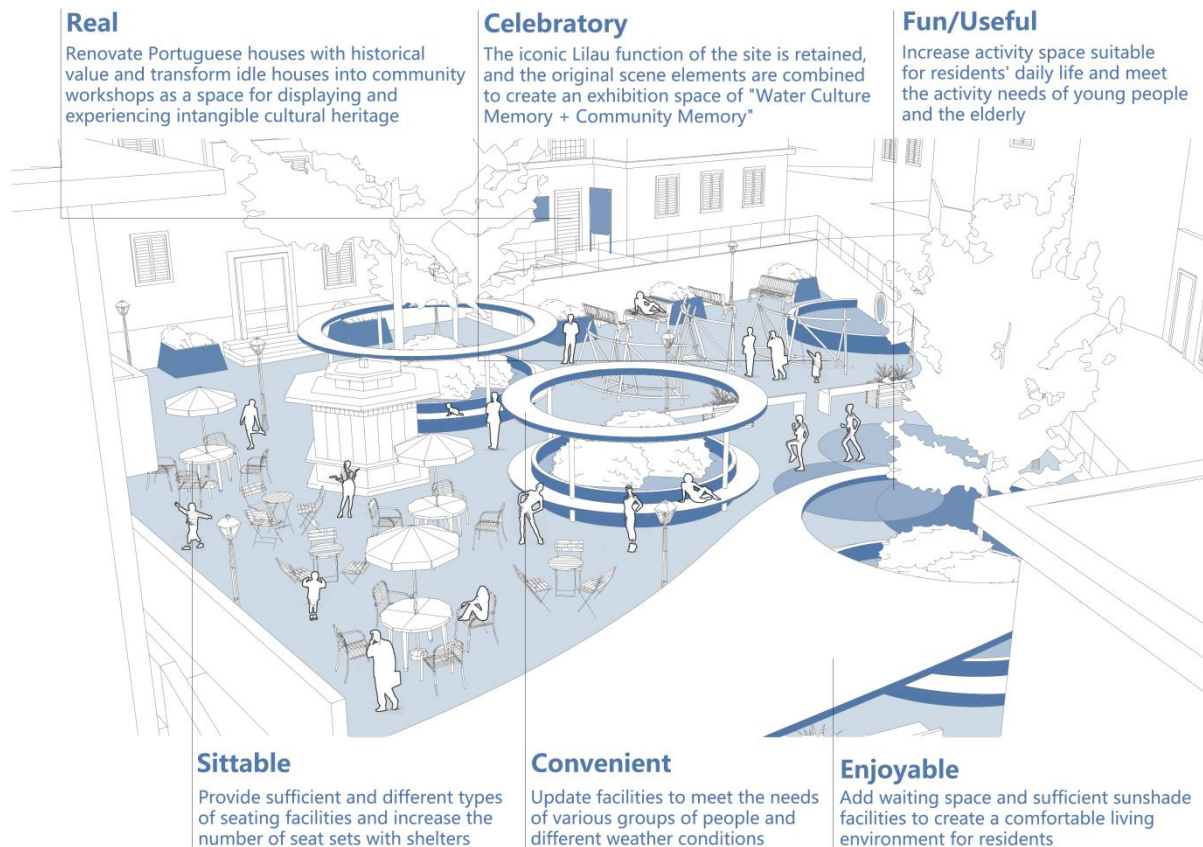


Fig.4-9 Lilau Square space revitalization design (Drawn by the author)

#### 4.2.2 Line: Path Visual Extension

Two Largo spaces nodes are visually enhanced internally and visually extended externally, and the readability of the space is enhanced through visual sequences. As mentioned earlier, the internal visual enhancement guides the updated partitions and facility designs through the original ground paving texture, and the original elements of the space are superimposed to enhance the visual effect.

Extension is extended outward by setting up eye-catching multilingual guide signs and sign systems to enhance the recognition of the Largo space at a distance. The graffiti walls and check-in walls on the street increase its visibility from a distance and guide the crowd to check in and gather. The idle walls on the street can be used to spread the history and culture of Macao, so that the story of Macao itself can be read by residents and tourists.

At the same time, the "straight street" walking path is continued. Not only does the Largo space use localized paving, but the colorful Portuguese gravel paving is used on the "straight street" walking path to enhance the visual guidance of the path and the recognizability of the

Largo space. It is an obvious but very cost-effective guide system that can guide tourists and residents to explore the historical district in depth and disperse the pressure of the core attractions.

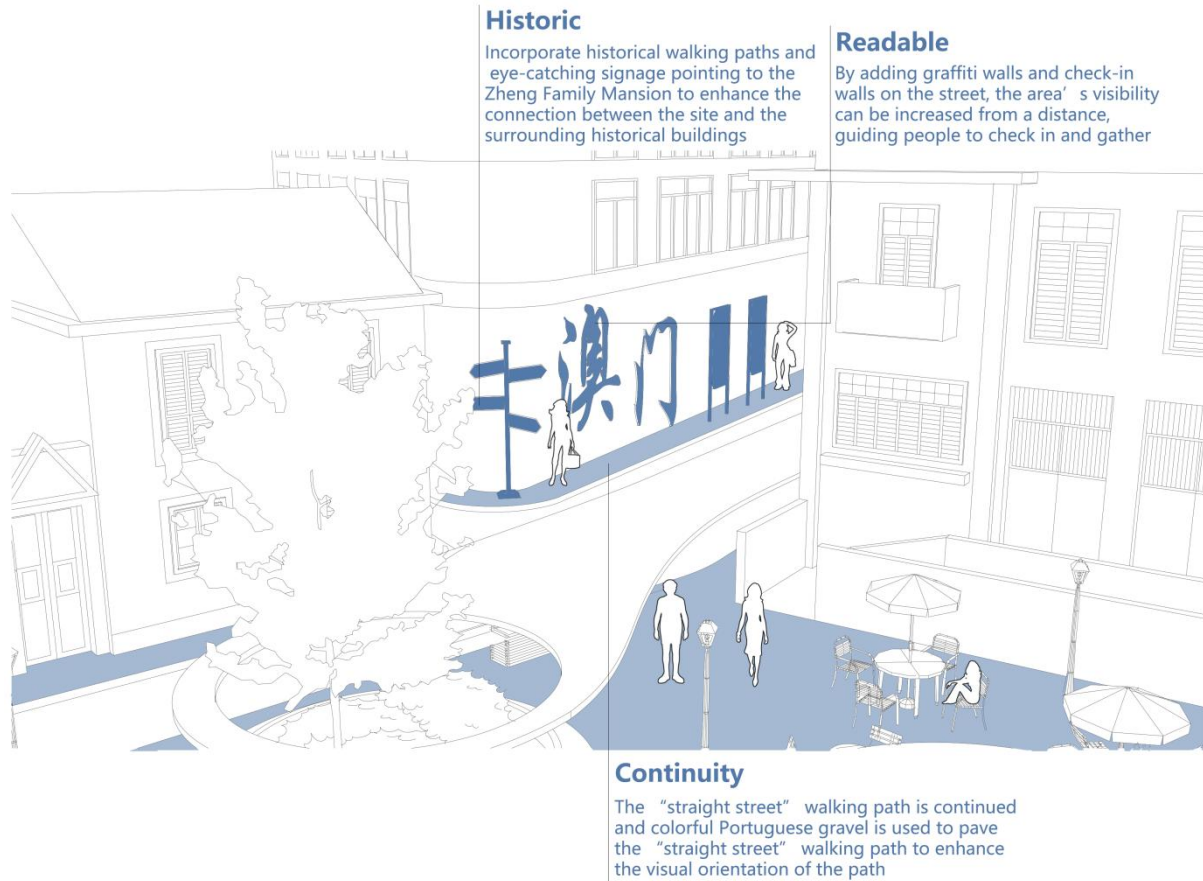


Fig.4-10 Visual extension of Lilau Square path (Drawn by the author)

### 4.2.3 Area: Construction of Walking Paths in the Historic Centre of Macao

According to the progressive design model of the Historic Centre of Macao, the aforementioned "point" and "line" level designs lay the foundation for the subsequent "surface" level construction, which has been completed:

(1) The Largo space node design: attract people through the design of the Largo space node, and reuse and thematically update the characteristic space according to the advantages and characteristics of the different Largo elements. Plan activities that are in line with the spatial tone, while taking into account the connection between spaces and the flow of people.

(2) Path visual extension: connect the Largo space and historical buildings through the visual induction of the walking path and the unified characteristic sign system to stitch the

urban space.

Subsequently, the "surface" level of the Historic Centre of Macao walking path construction will be carried out:

(3) Urban corner space transformation: the existing urban path, that is, the Portuguese "straight street" of the Historic Centre of Macao, will be transformed into small fragmented urban corner spaces to activate the urban boundary space. Integrate and utilize the scattered and fragmented plots in the city to redesign the inefficient space. The small urban corner spaces are connected by pedestrian paths, which can inject vitality into the public space of the Historic Centre of Macao at a low cost and quickly. Corner spaces are temporary in nature and may host individual events or be designed to echo the nearby Largo node space.

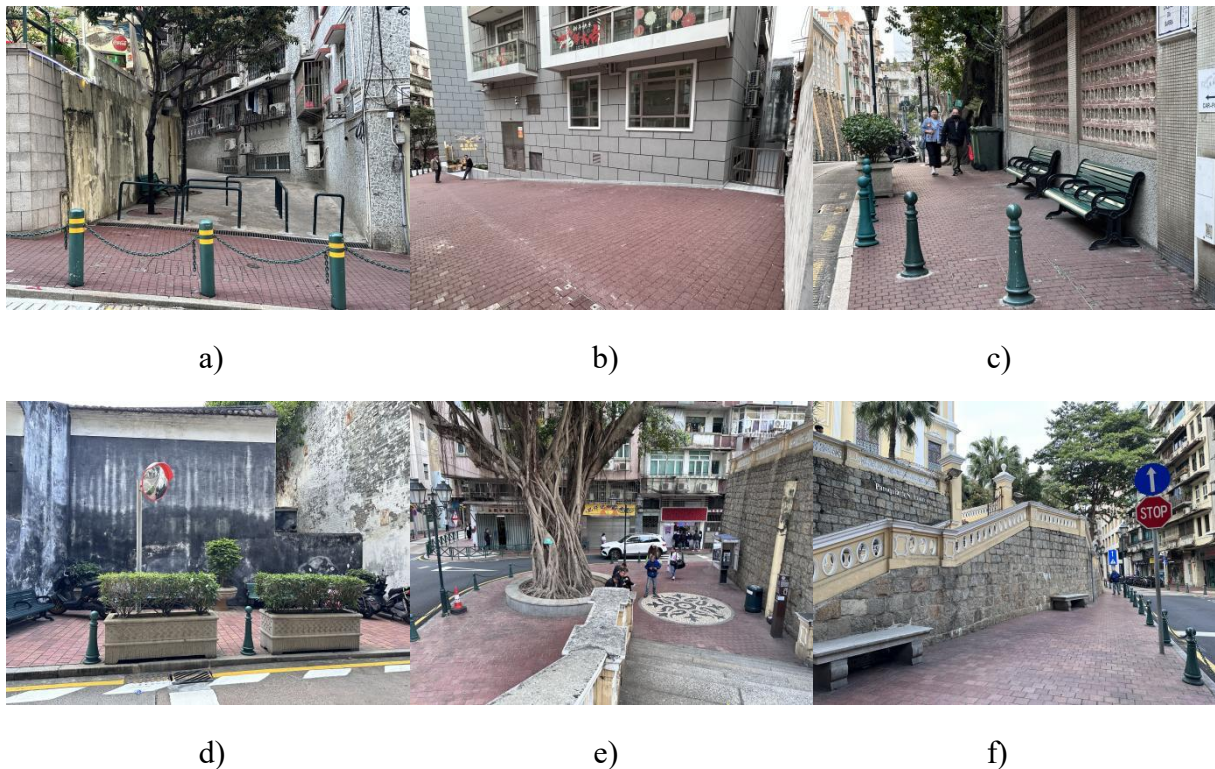


Fig.4-11 Various vacant urban corner spaces in the Historic Centre of Macao (Photo taken by the author)

(4) Pedestrian network of the Historic Centre of Macao: After the above operations, the "straight street" pedestrian path is used as the skeleton to form a series of public spaces in the Historic Centre of Macao, forming a complex public space and emphasizing the linkage and sense of participation of urban functions. This spatial network supports the daily life of residents, enhances the vitality of the Historic Centre of Macao, and provides tourists with a



historical tour route full of fun and experience.



Fig.4-12 Walking network of Historic Centre of Macao (Drawn by the author)

### 4.3 Chapter Summary

This chapter is the author's design practice based on the above research, taking St. Augustine's Square and Lilau Square as examples.

First, the renewal strategy of two Largo spaces is proposed. The renewal strategy is divided into two parts. The first is the renewal design guide for two Largo spaces. The guide is proposed by the author based on the Place Making adaptability research framework, and proposes targeted renewal methods and case references for the characteristic attributes of St. Augustine's Square and Lilau Square that perform poorly. Based on the advantages of the two Largos, the author positions St. Augustine's Square as a historical and cultural node. Its

development advantages lie in dense historical building resources and high spatial accessibility, but the lack of spatial vitality and social interaction attributes; Lilau Square is positioned as a neighborhood vitality node. Its development advantages lie in the spontaneous vitality of the community and good social attributes, but the comfort of space use and the singleness of space function affect people's use.

Second, public participation should be emphasized in the implementation of Place Making. The author refers to the Place Making process of PPS to summarize the aspects that need to be paid attention to and case references in the process. The process is divided into five steps, namely Collect comments and suggestions; Evaluate space and identify issues; Building a place vision; Short-term experiments and management; Continuous reevaluation and long-term improvement.

Based on the renewal strategy of the Largo space, the two Largo spaces are designed in detail. The detailed design is divided into three steps: "points", "lines" and "surfaces". "Points" are to renew the interior of the Largo through the three steps of "(1) integration and sharing: functional reorganization and integration; (2) comfort improvement: infrastructure function guarantee; (3) space empowerment: life event loading/historical and cultural loading", including physical space renewal and intangible event implantation. "Lines" are to extend the visual path through micro-intervention of the space around the Largo, providing a basis for guiding the flow of people and connecting other historical and cultural spaces. "Surfaces" are to connect the multiple vitality points and visual paths of the Historic Centre of Macao, and finally build the cultural walking path of the Historic Centre of Macao.

## Conclusion and Prospects

### (1) Conclusion

Through literature research and field investigation, this study adaptively revised the PPS research method on Place Making, sorted out a research framework suitable for Place Making in the Largo space of Historic Centre of Macao, and based on this, carried out design practice with St. Augustine's Square and Lilau Square as examples, providing a reference and research framework for the subsequent renewal of the Largo space of Historic Centre of Macao and even urban public spaces, and perfecting the localized research of Place Making theory in China. Under the current situation of domestic stock renewal, the introduction of the Place Making concept has a new and meaningful direction for our future urban space renewal.

The uniqueness of the Largo space of Historic Centre of Macao lies in the need to balance historical and cultural heritage with the daily life of community residents, the public life of residents and the tourist experience of tourists. Through this framework, the characteristics, development advantages and existing problems of each Largo space can be clearly presented, and the direction for adaptive renewal and adjustment according to the characteristics of different places can be pointed out. Through the Largo The space is renewed and reused to attract people, the walking paths visually connect the historical areas, and the small fragmented urban corner spaces through which the paths pass are activated, eventually forming the entire Historic Centre of Macao walking network.

Although this study has achieved valuable results, it still has certain limitations. First, due to the lack of resources and research funds, this study is unable to conduct in-depth interviews with all stakeholders of the Largo space (government, organizations, merchants, residents, and tourists) and discuss the multi-party collaboration mechanism in terms of public participation. It mostly stays at the planning and design level and discusses with some stakeholders. Therefore, the two elements of "Stewardship" and "Cooperative" in the Place Making framework are not discussed enough. Second, this study proposes a reference for the renewal design of the Largo space, which cannot be implemented for the time being, so it only provides suggestions and method references for the sustainable management of subsequent places and the public participation process.

The following paths are the future research directions recommended by the author based on this study. First, it is recommended that if scholars conduct relevant supplementary research in the future, they can combine other fields such as sociology for cross-research to enrich public participation and Place Making. Making process. Second, the author conducted research using Gangding and Yapoing as examples, and the relevant research on other Largo spaces can be supplemented in the future, so as to further test and improve the Place Making research framework based on the Largo space of Historic Centre of Macao. Third, if relevant design plans can be implemented, more in-depth research can be added in the two aspects of "short-term experiments and management" and "continuous re-evaluation and long-term improvement" to improve the Place Making process of the Largo space, which will become a more in-depth practical test and implementation verification of this research framework, that is, the Place Making adaptability framework based on the Historic Centre of Macao.

## **(2)Prospects**

Through the study of Place Making theory and the application of methods, this study hopes to arouse relevant thinking about Place Making in the current field of urban design. The PPS literature mentioned four types of development of current public space Place Making work: First, the work is often project-driven and led by top-down government agencies, focusing on low budgets and fast-paced completion, without enough time to listen to the wishes of residents; second, it comes from high-value projects dominated by disciplines, relying on the single disciplinary perspective of design professionals, which often leads to the space not being well used as a public gathering place; third, the project actively collects community opinions and suggestions and creates a public participation process, but the process is still dominated by architects and designers; fourth, Place Making relies on the focus on creation results based on community participation, transforming the planning and management of shared public spaces into group activities to build social capital and shared values. Local participants participating in this process feel invested in the resulting public space and are more likely to become its managers and maintainers<sup>[120]</sup>.

My country's current urban design projects include the first three development processes, but there has not been much discussion and practice on the process that is truly based on



public participation. This needs to cause current designers to reflect. Urban design is not only based on the shaping of physical space, the creation of emotional attributes, and the maintenance of daily space. The urban design process should be integrated into social practice, and Place Making should be used as an auxiliary tool. The place is transformed into a place promoted by designers, and residents, organizations and other non-professionals jointly create.

The current traditional urban design method in my country relies on a top-down planning process, which promotes large-scale physical renewal with capital-intensive investment, often ignoring the balance between community cultural memory, daily practice and visitor experience. This study uses the PPS research method on Place Making to renew the Largo, breaking through the limitations of simple physical space transformation, paying in-depth attention to the social attributes of the place, and adopting the "Lighter, Quicker, Cheaper" (LQC) flexible intervention strategy to activate spatial vitality with short-term, low-cost "micro-interventions", while focusing on public participation and the excavation of intangible elements of the place. This difference is particularly significant in the special urban environment of the "Largo" in Macao: as the core node of a high-density historical city, the Largo is not only a carrier of residents' social networks, but also a window for tourists to perceive the integration of Chinese and Western cultures. Due to the presence of a large number of historical buildings and protected areas, Largo spaces have a compact and flexible spatial scale, and large-scale structural changes cannot be carried out. Only small-scale interventions can be used to optimize spatial functions and enhance cultural values. Therefore, this research method has great application value and adaptability not only for the "Largo" space of Historic Centre of Macao, but also for similar historical urban areas with strong protection value and renovation restrictions.

This study is a preliminary preparation and a starting point for Place Making. The social process of constructing places in the later stage needs more in-depth discussion. Although light intervention can quickly stimulate vitality, continuous re-evaluation and long-term improvement are important steps for the implementation of design solutions. This is a research direction that future scholars need to focus on in their research on Place Making.

## Notes

1. the 16th General Assembly of ICOMOS QUÉBEC DECLARATION.
2. CPTED (Crime Prevention Through Environmental Design). That is, "preventing crime through environmental design", which is a strategy to reduce crime opportunities and improve safety by optimizing architectural and spatial design.

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## Appendix

### Appendix 1 Indicator Correction Survey Form

Basic Properties	Characteristic Elements	Pre-research Considerations	Semi-structured Interview Questions
Access & Linkages	Continuity	1. Does the place have some connection and connection with other public spaces around it? 2. Is it part of the surrounding environment visually and physically? 3. Does the place have direct access to other public spaces and buildings?	1. Do you think this place and the surrounding scenery are a whole? 2. Where do you think there is any disharmony?
	Proximity	Is the area close to service places with different functions that people need, such as commercial facilities (providing convenient services and attracting people), communities (daily use by residents), schools (serving family groups and increasing children's activity needs), cultural places (enhancing cultural atmosphere and holding public events), and transportation stations (improving accessibility and increasing the flow of people)?	1. Are there many service places around? What types are they? 2. Do you think service places are important?
	Connected	1. Is the place well connected to neighboring buildings? 2. Is it surrounded by blank walls, surface parking lots, windowless buildings, or anything else that prevents people from entering and enjoying the place? 3. How many roads does it connect to?	1. Do you prefer a closed space or a space surrounded by roads on three sides? Why? 2. Do you prefer this place to be next to a white wall or a building with doors and windows? Why?
	Readable	1. Can the space be seen from a distance? 2. Can the interior of the space be clearly seen from the outside?	1. Can you see this space from a distance? 2. Can you clearly see the inside of this space from the outside?

		3. Does the place have distinct features or unique landmarks that are independent of the urban environment and are recognizable?	3. Can you recognize this space from a distance?
	Walkable	1. Can people walk there easily? For example, do they need to weave between moving vehicles to reach the location? 2. Or are they afraid to approach because of heavy traffic or desolate streetscapes? 3. Do the sidewalks lead to other areas? 4. Do the paths throughout the space take people to where they want to go?	1. Can you get here easily by walking? 2. Can you walk from this place to other places? 3. Do you like to walk here? 4. Does the sidewalk here meet your needs? Are there any inconveniences?
	Convenient	1. Is this space suitable for people with disabilities and other special needs? 2. Does this space have facilities to provide convenience for tourists, such as clear signs, maps, travel services, etc.?	1. Can you move around easily here? 2. Do you feel any inconvenience here?
	Accessible	1. Can people use various means of transportation (bus, private car, bicycle) to reach this place? 2. Is this place adjacent to the main road or is it located in a remote area? 3. Is the surrounding road terrain flat or are there all stairs with height differences?	1. Will it be easy for you to get here? Why? 2. What factors influenced you to come here?
Comfort & Image	Safe	1. Are there as many women as men here? 2. Is this place safe? 3. Are there security guards on duty? 4. Are there surveillance equipment? 5. Is there enough lighting at night?	Do you think this place is safe? Why?
	Clean	1. Is the space clean and free of trash? 2. Is there anyone responsible for maintenance?	1. Do you think this place is clean? 2. Do you think regular cleaning is

			important? 3. Do you think promotional signs are important? Will everyone follow the above?
	Green	1. Are there enough plants in the venue and rest areas? 2. Are the plants taken care of and maintained? 3. Is the green environment sufficient and comfortable?	1. Do you like the plants here? 2. Do you think there are too many or too few plants here? 3. Do you think the types of plants are important?
	Sittable	1. Are there enough seats? 2. Are the seats conveniently located? 3. Can people choose where to sit, in the sun or in the shade? 4. Are there spaces that can accommodate different weather conditions, such as shelters like awnings?	1. Do you think it is important to have a place to sit here? 2. Do you think there are enough seats here? 3. What else do you think is important for the comfort of the rest area?
	Spiritual	What is the spiritual perception of the place?	1. What do you think of this place? 2. If you were asked to describe it, how would you describe it?
	Charming	1. Does this place make a good first impression? 2. Is anyone taking photos?	1. Do you find this space charming? 2. Do you want to stay here longer? 3. Is your first impression of this place good?
	Attractive	1. Do people often stay or gather in the venue? 2. Do people who pass by stay for a while?	1. Do you think this space is attractive? 2. What are the main points that attract you? 3. How do you think the attraction is manifested?
Uses & Activities	Fun	1. How many different types of activities are taking place—people walking, eating, playing baseball,	1. Do you think this place is interesting? 2. Why do you think this place is



		<p>playing chess, resting, reading?</p> <p>2. Is the place diverse, with many different functions?</p>	<p>interesting/boring?</p> <p>3. What factors do you think affect the fun of a place? Are function and diversity important?</p>
	Active	<p>1. Are people in groups in the venue?</p> <p>2. Are there many people using the venue?</p> <p>3. Is the venue used all day?</p> <p>4. Is there any vacant space in the venue?</p> <p>5. Which parts of the space are used and which parts are not used?</p>	<p>1. Do you think it is lively here?</p> <p>2. Do you think there are many people here?</p> <p>3. Where do you think the liveliness here is reflected?</p>
	Real	<p>1. Can people have a real experience of the place physically and perceptually?</p> <p>2. In what aspects of the experience can people be impressed?</p>	<p>1. Do you think this place meets your expectations?</p> <p>2. Do you like this place?</p> <p>3. Do you feel the same as you remember in this place?</p>
	Useful	<p>1. Is anyone using the venue? Or is it empty?</p> <p>2. Does the venue have space for single and group use?</p> <p>3. What are the needs of tourists?</p> <p>4. What are the residents' needs?</p>	<p>1. Do you think this place is useful to you? How is it useful?</p> <p>2. Can this place meet your daily needs?</p>
	Celebratory	<p>Does the venue have occasional cultural celebrations?</p>	<p>1. Does this place occasionally hold celebrations?</p> <p>2. Are these events important to you?</p>
	Sustainable	<p>In what ways is the site sustainable?</p>	<p>1. Do you think this place is sustainable? Why do you think so?</p> <p>2. What aspects do you think are more important in terms of sustainability?</p>
Sociability	Diverse	<p>1. Is the place used by residents of different ages and identities (such as residents and tourists, families and single young people)?</p>	<p>1. Are there many people of different ages using the place?</p> <p>2. Are there many tourists using the place?</p>

		2. What is the ratio of tourists to residents?	3. If you were told that this place is diverse, what aspects would you think are the main reasons for the diversity?
	Stewardship	1. How is social self-governance carried out? 2. Are there channels for communication and feedback to ensure that people's needs can be continuously considered? 3. Will the activities collect ideas and suggestions from participants? 4. Is there a manager responsible for and maintaining the venue?	1. How is the community managed? Do you understand the relevant affairs? 2. Do you supervise the place? 3. If you have ideas or needs, do you have a channel to report?
	Cooperative	1. Are there many partners involved in the site construction project? 2. Are there any relevant community meetings? 3. The number and diversity of participants in the community meetings?	1. Will people in the nearby community participate in the construction process of similar places? 2. How do people participate? 3. Are there any social organizations or businesses involved? 4. Do you understand the participation process of everyone?
	Neighborhoodly	1. Do people seem to know each other by face or name? 2. Do residents of adjacent buildings and neighborhoods use this space? How often?	1. In your opinion, how can good neighborly relations be reflected? 2. Do you think people in this place get along well with each other? 3. Do people know each other by face or name?
	Pride	1. Do people bring friends and relatives to visit this place? 2. Do they point out a particular feature of this place with pride?	1. Would you be willing to bring friends/relatives to participate in activities and actively recommend this place to them?

			2. Are you willing to actively introduce the history or characteristics of this place to others and feel proud of it?
	Friendly	Will residents meet or bump into friends here?	1. Do you think this place is friendly? 2. Where do you think this place is friendly? Where do you think it is unfriendly?
	Interactive	1. Is it a group of people using the place? 2. Do they talk to each other? 3. Do they talk to people from other groups? 4. Do people smile often? 5. Do people make eye contact with each other?	1. Would you come here with other friends? 2. Do people who use this place prefer to do things alone or with a group?
	Welcoming	1. Do people use this place frequently and selectively? 2. Does this place have the amenities people need?	1. Do you think this place welcomes everyone? Why? 2. Did you come here on purpose or did you find it while wandering around and stop by?
Protection & Dissemination	Vital	Do you think this is an important core in the urban space?	1. Do you think this place is important? 2. In your opinion, what is the significance of this place? 3. Do you know that this is a world heritage site?
	Special	Does the place have characteristics and features that are different from other nearby urban spaces? Or special activities and suitable uses?	1. What do you think is special about this place? 2. Do you think this place is special in the neighborhood? 3. What do you think is special about the scenery, activities, and functions of this place?

	Protected	Are the historical buildings and cultural relics near this site protected? To what extent?	<p>1. Are you familiar with these historical buildings?</p> <p>2. How do you think these historical buildings and cultural relics are protected?</p> <p>3. Have you seen anyone repair these buildings?</p>
	Historic	<p>1. Does this place contain historical and cultural elements? How are they expressed?</p> <p>2. Does this place carry iconic historical events/figures?</p>	<p>1. Are there many historical buildings here?</p> <p>2. Do you know any major historical events that have happened here before?</p> <p>3. Do you think these events can represent the history of this place?</p> <p>4. Do you think these historical buildings can represent the history of this place?</p> <p>5. What other aspects do you think can represent the history of this place?</p>
	Indigenous	<p>1. Does the place have elements that express local characteristics, or festivals or events with local characteristics?</p> <p>2. Does the place have spatial features or building materials with local characteristics?</p> <p>3. Is the place regarded as a cultural/spiritual place by the local community?</p>	<p>1. Do you think this place has local characteristics?</p> <p>2. What aspects do you think reflect the local characteristics of this place? (color, material, building appearance, space, activities)</p>
	Aesthetics	<p>1. How beautiful is this place as a historical and cultural heritage?</p> <p>2. Are the buildings and landscapes pleasing to the eye?</p>	<p>1. Do you think this place is beautiful?</p> <p>2. In what aspects do you think the beauty of this place is reflected? Which aspects do you pay more attention to? (Architectural appearance, color, material, landscape)</p>

## Appendix 2 Detailed table of the Place Making adaptive research framework

Basic Properties	Characteristic Elements	Description	Quantitative Standards	Research Method
Access & Linkages	Continuity	Assess how the site connects to other public spaces and buildings in the urban environment, both visually and physically. A high "Continuity" indicates that there are continuous accessible routes around the site.	<p>Weighted scoring is performed from three aspects: spatial connectivity, visual permeability, and interface continuity, with a full score of 5 points. If the site situation is between the two, the score will be determined as appropriate:</p> <p>1. Road continuity (weight 0.4): the number of paths that are directly adjacent to the site and are barrier-free and effectively connected to other public spaces or buildings. One path: 1 point; two to three paths: 3 points; more than three paths: 5 points.</p> <p>2. Visual permeability (weight 0.3): the number of public spaces or landmark buildings visible from the center of the site to the front/side. One: 1 point; two to three: 3 points; more than three: 5 points.</p> <p>3. Interface continuity (weight 0.3): the interface continuity between the site and adjacent buildings/spaces. The site is independent, the interface is disconnected from the surroundings, and only some of the scenery echoes: 1 point; the site has a certain facade continuity and color and landscape echoes with the surrounding buildings/spaces: 3 points; the site is integrated with the surrounding buildings/spaces, with harmonious rhythm and coherent architecture and</p>	Field observation, Sight line analysis

			landscape: 5 points.	
	Proximity	Assess whether the surrounding area is close to service places with different functions that people need. The more service places there are, the better the "Proximity".	<p>1 point will be added for each service function place around the venue:</p> <ol style="list-style-type: none"> <li>1. Commercial facilities (providing convenient services and attracting people)</li> <li>2. Community (daily use by residents)</li> <li>3. School (serving family groups and increasing children's activity needs)</li> <li>4. Cultural places (enhancing cultural atmosphere and holding public events)</li> <li>5. Transportation stations (improving accessibility and increasing the flow of people)</li> </ol>	Field observation, Search for relevant information
	Connected	Describes the degree of connectivity or enclosure of a place, usually measured by the roads or pathways that connect the place.	<p>The maximum score is 5 points, and the score is based on the following situations:</p> <p>1 point: The venue is adjacent to only one road and has blank walls or building enclosures on three sides, which means "Connected" is very poor and can only be accessed from one side.</p> <p>2-4 points: Between the two extreme situations, the venue is adjacent to one or two roads, but the adjacent buildings may have doors, windows or stairs leading to the venue.</p> <p>5 points: The venue is surrounded by roads on at least three sides, and one adjacent building has doors and windows leading to the venue, which means "Connected" is very good.</p>	Field observation
	Readable	Assess the readability and way finding of a place in an urban	The maximum score is 5 points. If the on-site situation is between the two, the score will be determined as appropriate:	Field observation, Visual range

		environment. The higher the readability, the easier it is for people to find or locate the place in the city.	<p>1 point: No independent signs, internal activities cannot be seen from a distance.</p> <p>3 points: There is a basic sign system (such as guide signs), and the main nodes can be seen within 50 meters.</p> <p>5 points: There are landmark structures (such as fountains and clock towers), and the activity scenes can be clearly seen from 100 meters away.</p>	analysis
	Walkable	<p>The usefulness of the pedestrian network around the site is evaluated by whether people can easily reach the site and its internal facilities by walking. This ensures that the site is safe, accessible and people-oriented.</p>	<p>The maximum score is 5 points. If the on-site situation is between the two, the score will be determined as appropriate:</p> <p>1 point: the sidewalk width is <math>&lt;1.5</math> meters, and there is no separation from the roadway.</p> <p>3 points: the sidewalk width is <math>\geq 2</math> meters, and there is a green belt.</p> <p>5 points: the entire pedestrian area, the barrier-free passage coverage rate is <math>\geq 90\%</math>.</p>	Field observation, Spatial measurement
	Convenient	<p>This is reflected in sufficient transportation, convenience facilities and barrier-free facilities.</p>	<p>Weighted scoring based on the convenience facilities needed by residents and tourists:</p> <p>1. Residents (weight 0.6): Full score 5 points, select the five aspects that residents are most concerned about through preliminary survey, and add 1 point for each item: barrier-free facilities (ramps, blind paths, barrier-free toilets, etc.), first aid facilities, fire-fighting facilities, trash cans, sports facilities</p> <p>2. Tourists (weight 0.4): Full score 5 points, select the five aspects that tourists are most concerned about through preliminary survey, and add 1 point for each item: multi-language guide signs, map index,</p>	Facilities survey



			information display boards (historical building introductions, QR code scanning explanations, etc.), vending machines (selling water, souvenirs), free Wi-Fi	
	Accessible	Refers to the convenience of reaching the place. Places with high "Accessible" are generally located in the city center and have convenient transportation.	The maximum score is 5 points. If the on-site situation is between the two, the score will be determined as appropriate: 1 point: can only be reached by a single mode of transportation (such as walking). 3 points: covered within 500 meters of the bus stop. 5 points: full coverage of bus + subway + parking lot ( $\leq 200$ meters).	Field observation, Traffic analysis
Comfort & Image	Safe	To represent the safety and security level of urban places, please refer to CPTED theory field survey.	Combining CPTED theory <sup>2</sup> with the characteristics of public spaces, the following five aspects are sorted out, and 1 point is added for each aspect included: 1. Natural surveillance: The space has strong visibility, and there are no blind spots due to high-density green plants; the lighting is evenly distributed, and there are no shadows at night. 2. Regular maintenance: Environmental maintenance can convey "attention" signals, such as regular cleaning and pruning of plants, and no damaged facilities. 3. Activity support: There are various activity spaces in the venue, and people use them at different times. 4. Control management: There are patrols or fixed-point security supervision around. 5. Intelligent monitoring: There are a sufficient number of monitoring devices in the venue.	Field observation
	Clean	Refers to how clean and tidy the place is and	Weighted scores are given from three aspects: daily cleanliness, regular maintenance frequency, and public	Field observation,

		whether it is regularly maintained.	<p>behavior, with a total of 5 points. If the on-site situation is between the two, the score will be determined as appropriate:</p> <p>1. Daily cleanliness (weight 0.4): 0 points: There is a lot of garbage on the ground, the facilities are obviously dirty, and the trash can is overflowing; 2 points: There is a small amount of garbage on the ground, the facilities are slightly stained, and there may be no trash can; 5 points: There is no obvious garbage on the ground, the facilities are clean, and the trash can is clean and odorless.</p> <p>2. Regular maintenance frequency (weight 0.3): 1 point: Cleaning staff cleans irregularly; 3 points: Routine cleaning once a day; 5 points: Cleaning multiple times a day + timely repair and maintenance.</p> <p>3. Public behavior (weight 0.3): 0 points: Environmental protection publicity signs are missing and uncivilized behavior is common; 2 points: There are signs but uncivilized behavior is occasionally seen; 5 points: The signs are eye-catching and there is no vandalism.</p>	Interview
	Green	It is manifested in sufficient vegetation and greening levels, and the landscape design has a certain aesthetic appeal.	<p>The score is based on the green coverage rate and vegetation diversity, with a full score of 5 points. If the site situation is between the two, the score will be determined as appropriate:</p> <p>1 point: green coverage rate &lt;10%, only 1-2 species of plants, no landscape design;</p> <p>3 points: green coverage rate 20%-30%, 3-5 species of plants, including shade trees, and some landscape design;</p> <p>5 points: green coverage rate ≥40%, more than 5 species</p>	Vegetation mapping

			of plants, with local plants (such as banyan trees and frangipani), and beautiful and rhythmic landscape design.	
	Sittable	There are enough and comfortable seating areas and seats.	<p>Scoring is based on the following five aspects, with 1 point added for each aspect met:</p> <ol style="list-style-type: none"> <li>1. Adequate seating and resting areas.</li> <li>2. Shelters that provide climate comfort.</li> <li>3. No design elements that hinder the use of space (such as uncomfortable seats, steps without ramps, flower beds that occupy the passage, etc.).</li> <li>4. No noise from traffic or other sources can be heard in the venue.</li> <li>5. No bad or pungent odors can be smelled in the venue.</li> </ol>	Field observation
	Attractive	It is manifested in its attractiveness to residents and tourists, and is evaluated by the degree of stay and concentration of the crowd.	<p>The maximum score is 5 points, and the score is based on the following situations:</p> <p>1 point: the average number of people staying per day is &lt;100.</p> <p>2-4 points: the average number of people per day is 100-300, and there are <math>\geq 2</math> photo check-in points.</p> <p>5 points: the average number of people per day is &gt;300, and there are <math>\geq 4</math> photo check-in points.</p>	Field observation, All-day counting
	Enjoyable	Assess whether the place is pleasant for residents and visitors.	<p>Through the questionnaire survey, the respondents give scores on the questionnaire, with a score of 1-5:</p> <p>Are you happy and joyful here? (1-5 points)</p> <p>Additional: What is the reason for happiness and joy?</p> <p>What is the reason for unhappiness and unhappiness?</p>	Questionnaire survey
Uses & Activities	Fun	The diversity of representative places and activities, the more	<p>Weighted scoring is based on three aspects:</p> <ol style="list-style-type: none"> <li>1. Function (weight 0.3): Function is the basis of activities. Observe the types of functions carried by the</li> </ol>	Field observation, Interview,

		types of activities, and the more functions of the places, the higher the evaluation value, and the additional survey of people's subjective opinions.	physical space in the venue. Each item is added with 1 point, for a total of 5 points. (Such as rest area, chess area, walking area, reading area, etc.) 2. Activity (weight 0.3): Record how many different types of activities are taking place in the venue in a day. Each item is added with 1 point, for a total of 5 points. 3. Subjective feelings (weight 0.4): Through interviews and questionnaires, the subjective thoughts of people in the venue are investigated, that is, whether they think the venue is interesting and what the main interesting aspects are. The score is 1-5 points.	Questionnaire survey
	Active	Assess the vitality and liveliness of a venue by looking at how people use the venue.	The following five aspects are scored, and 1 point is added for each aspect met: 1. The number of people using the venue is large: 200 people or more during the week, 500 people or more on weekends. 2. People who use the venue are mostly in groups. 3. The venue is open for use all day. 4. There is no vacant space in the venue. 5. The range of activities of people in the venue is large and not limited to a small area.	Field observation
	Real	Requires people to have a real experience of the place physically and perceptually, which is related to the Sense of Place. This experience includes physical landscapes, sounds,	The maximum score is 5 points. If the situation on site is between the two, the score will be determined as appropriate: 1 point: excessive commercial transformation, and the traces of local life have disappeared. 3 points: some local business formats (such as incense shops and tea restaurants) are retained, and historical buildings are well protected.	Field observation, Interview, Search for relevant information

		smells, as well as values, emotions, memories, etc.	5 points: the original market life is intact (drying clothes, festival ceremonies), tourist activities and residents' lives are naturally intertwined, and historical buildings are protected or adapted.	
	Useful	Evaluate whether the public facilities of the site can meet the needs of different groups of people.	<p>Weighted scoring from two aspects:</p> <p>1. Residents (weight 0.6): Residents are the daily users and account for a larger proportion. Residents' needs focus on convenience of life, cultural belonging and community interaction. Through preliminary surveys, the five functions with the highest daily use demand of residents are selected, and 1 point is added for each function included: rest (tables, chairs, pavilions, etc.), social (multi-person communication space), community activities (festival venues), basic services (toilets, water dispensers, etc.), children's facilities (play areas).</p> <p>2. Tourists (weight 0.4): Tourists focus on cultural experience, sightseeing, rest and social sharing. Through preliminary surveys, the five functions with the highest daily use demand of tourists are selected, and 1 point is added for each function included: guided tours (explanatory guided tour devices), check-in (check-in points), rest (tables, chairs, pavilions, etc.), basic services (toilets, free Wi-Fi, etc.), cultural experience (flash markets, etc.).</p>	Field observation
	Celebratory	This means that the place holds local cultural celebrations regularly or irregularly.	<p>The full score is 5 points. If the situation on site is between the two, the score will be determined as appropriate:</p> <p>1 point: <math>\leq 2</math> festivals per year;</p> <p>3 points: 3-5 festivals per year (such as Mazu parade,</p>	Interview, Search for relevant information

			Portuguese festival);  5 points: $\geq 1$ festival per month, and the resident participation rate $\geq 70\%$ .	
	Sustainable	Because other indicators of social, economic and cultural sustainability are involved, the "Sustainable" here is more inclined to environmental sustainability in the function of the place.	The full score is 5 points. If the site situation is between the two, the score will be determined as appropriate:  1 point: No energy-saving measures, hard paving $> 80\%$ .  3 points: 30% local materials + solar lighting.  5 points: Rainwater recycling + vertical greening coverage $\geq 50\%$ + zero-carbon facilities.	Field observation, Expert consultation
Sociability	Diverse	Assess the diversity of the venue's user population, including age, identity, family/single person, different nationalities, etc.	Scoring is done based on the following five aspects, with 1 point added for each aspect met:  1. Used by people of different ages (elderly, children, young people, middle-aged).  2. Used by people of different genders.  3. Used by people of different identities (residents, tourists).  4. Used by people of different races (local Chinese, local Portuguese, foreigners).  5. Used by people of different physical abilities.	Field observation
	Stewardship	This is manifested in ongoing public oversight and daily management work.	Through data review, community visits, and interviews with relevant personnel. Score from the management mechanism and public supervision, a total of 5 points:  1. Management mechanism (weight 0.5): 2 points for standardized management system, with charters and clear responsibilities; 3 points for daily maintenance	Interview, Questionnaire survey

			(cleaning, greening and pruning);  2. Public supervision (weight 0.5): 3 points for diverse supervision feedback channels (at least two, such as government websites, Municipal Affairs Bureau APP), and 2 points for transparent complaint handling.	
	Cooperative	The public participation process emphasized in Place Making is to promote the development of places through public participation and multi-party collaboration to achieve cultural, social and economic goals.	Through community visits and interviews with relevant personnel, we scored from three aspects: diversity of participating entities, maturity of the collaborative mechanism, and satisfaction of the population, with a total of 5 points:  1. Diversity of participating entities (weight 0.3): 1 point is added for each type of entity covered, including residents, merchants, government, NGO (Non-Governmental Organization), and tourist representatives.  2. Maturity of collaborative mechanism (weight 0.3): 3 points for transparent decision-making process and 2 points for community funds.  3. Satisfaction of user population (weight 0.4): The satisfaction of the user population is assessed through a questionnaire survey, with a 5-point scale.	Interview,  Questionnaire survey
	Neighborly	Assess the frequency of use of the site by residents in the surrounding community.	Weighted scoring is based on the frequency of residents' use and the familiarity of community interaction, with a full score of 5 points.  1. Frequency of residents' use (weight 0.5): 1 point: the average number of residents using the community is less than 30 people per day; 2-4 points: the average number of residents using the community is 30-100 people per day; 5 points: the average number of residents using the	Field observation,  All-day counting,  Interview,  Questionnaire survey



			<p>community is &gt;100 people per day, and more than half of them are fixed communities (such as elderly people doing morning exercises, children after school).</p> <p>2. Familiarity with community interaction (weight 0.5):</p> <p>Through the questionnaire survey, the respondents give scores for the questions in the questionnaire, and each question is scored from 1 to 5 points, and the average score is finally calculated:</p> <p>① Do you meet familiar people every time you come here? (Rarely: 1 point; Occasionally: 3 points; Often: 5 points)</p> <p>② Do you often come here for activities or rest? (Rarely: 1 point; Occasionally: 3 points; Often: 5 points)</p> <p>③ Do you come here for activities or rest with familiar people? (Rarely: 1 point; Occasionally: 3 points; Often: 5 points)</p>	
	Pride	Assess local residents' sense of pride and belonging to the place.	<p>Through the questionnaire survey, the respondents gave scores for the questions, each question was scored from 1 to 5 points, and the average score was finally calculated:</p> <p>1. Would you be willing to bring friends/relatives to the event and actively recommend this place to them? (Unwilling 0 points-Very willing 5 points)</p> <p>2. Do you think this place is an important part of the nearby community? (Disagree 0 points-Very agree 5 points)</p> <p>3. Are you willing to actively introduce the history or characteristics of this place to others and feel proud of it? (Unwilling 0 points-Very willing 5 points)</p>	Interview, Questionnaire survey

			Additional: Why do you think so?	
	Friendly	This means that the place is friendly and welcoming to all people.	<p>The full score is 5 points. If the on-site situation is between the two, the score will be determined as appropriate:</p> <p>1 point: lack of barrier-free facilities, and the use rate of vulnerable groups is &lt;5%;</p> <p>3 points: complete basic barrier-free facilities, and the use rate of vulnerable groups is 10%-20%;</p> <p>5 points: multi-sensory friendly design (such as tactile guides, quiet areas), and the use rate of vulnerable groups is <math>\geq 30\%</math>.</p>	Field observation, All-day counting
Protection & Dissemination	Vital	It is reflected in whether it is a valuable cultural heritage and its importance to the entire Historic Centre of Macao.	<p>The full score is 5 points. If the actual situation is between the two, the score will be determined as appropriate:</p> <p>1 point: not included in any protection list;</p> <p>3 points: listed as a municipal cultural heritage;</p> <p>5 points: the core area of the World Heritage, and the annual restoration investment is <math>\geq 1</math> million Macao patacas.</p>	Search for relevant information
	Special	The "specialness" of an urban place is people's impression of a place, representing that the place has a unique landscape that is different from other public spaces, or hosts special events, or has special functions and	<p>Weighted scoring is performed based on the uniqueness of the landscape, the characteristics of the activities, the specificity of the functions, and the uniqueness of the perception, with a full score of 5 points. If the on-site situation is between the two, the score will be determined as appropriate:</p> <p>1. Uniqueness of the landscape (weight 0.3): 1 point: no landmark or special design; 2-4 points: 1-3 unique landscapes (such as Portuguese fountain); 5 points: <math>\geq 3</math> iconic elements (such as Sino-Portuguese fusion facade</p>	Field observation, Search for relevant information, Interview, Questionnaire survey

		uses. Cultural heritage sites are generally highly "special", which represents their identity and sense of place, and can provide unique experiences for residents and tourists.	<p>+ gravel pavement + intangible cultural heritage installation)</p> <p>2. Activity characteristics (weight 0.3): 1 point: <math>\leq 1</math> characteristic event per year; 3 points: 3-5 times per year (such as the Macanese Food Festival); 5 points: <math>\geq 1</math> characteristic event per month and participation rate <math>&gt; 50\%</math></p> <p>3. Functional specificity (weight 0.3): 1 point: functional homogeneity (such as ordinary square); 3 points: 1 unique function (such as intangible cultural heritage workshop); 5 points: composite function (festival + daily + heritage interpretation)</p> <p>4. Perceived uniqueness (weight 0.1): Through the questionnaire survey, the respondents give a score for the questionnaire, and the question score is 1-5 points: Do you think this place is unique compared to other urban spaces? (No difference from other places 0 points; general 1 point; think it is unique 3 points; must experience in Macao 5 points)</p>	
	Protected	Refers to the degree of protection of historical relics and architectural heritage within or around the site.	<p>The maximum score is 5 points, and the score is based on the following situations:</p> <p>1 point: The building has no protective measures and is severely damaged (such as the facade damage rate <math>&gt; 50\%</math>);</p> <p>2-4 points: The building is slightly damaged and repaired with original process materials;</p> <p>5 points: The building is almost undamaged and is regularly maintained and repaired.</p>	Field observation, Assess the protection status with relevant data
	Historic	It is manifested as the	The maximum score is 5 points, and the score is based	Field

		historical and cultural elements contained in the site, which is used to evaluate the historical value of the site. It usually exists in the form of historical buildings, signs, structures, historical activities, events, etc.	on the following situations:  1 point: no historical buildings or events;  2-4 points: 1-3 historical buildings or event memories (such as the colonial city hall);  5 points: $\geq 3$ historical layer traces (Ming and Qing + Portuguese + modern).	observation,  Search for relevant information
	Indigenous	Refers to the integration of local elements in the site, reflecting the cultural identity of the site. Such as the spatial patterns commonly used by local communities (foreground terrain system, arcades, etc.), the use of local materials and crafts (Portuguese tiles, etc.), local ritual spaces, etc.	The full score is 5 points. If the actual situation is between the two, the score will be determined as appropriate:  1 point: The use rate of local materials is extremely low, the local space model disappears, and there are no festival ritual activities.  2-4 points: Local materials + crafts have a certain proportion (such as oyster shell walls, bamboo scaffolding), and the local space model function is transformed or alienated.  5 points: The local space model (front ground + cold alley) + materials + festivals are completely preserved and continued.	Field observation,  Search for relevant information
	Aesthetic	Refers to the aesthetic features of buildings and public spaces, both natural and man-made, such as pleasing proportion and balance,	The full score is 5 points. If the actual situation is between the two, the score will be determined as appropriate:  1 point: The architecture and landscape are messy and have no theme.  3 points: Chinese and Western elements coexist but lack	Field observation,  Refer to relevant data for evaluation

		color, texture and combination of materials.	coordination.  5 points: Translation of Chinese and Portuguese cultural symbols (such as Baroque arches + Cantonese porcelain carvings), color and material systematization design.	
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Note: The maximum score for each characteristic element in this table is 5 points. The specific scoring rules are detailed in the table.

## Appendix 3 Questionnaire Results

The specific survey method is mentioned in the text. Some indicators in the quantitative standards need to be evaluated and scored through questionnaires. The questionnaires were distributed offline by the author. For the convenience of recording and data collation, the author collated them online and calculated the scores by computer. The following is the results of the scale questions in the questionnaire that require respondents to score.

### (1) Questionnaire report based on St. Augustine's Square in the Historic District of Macao

Number	Question	Results Average
1	Are you happy and joyful here?	3.02
2	Do you think the place is interesting?	2.02
3	Will you participate in the management of the place, such as making suggestions, recommendations, or complaints?	1.69
4	How satisfied are you with the public participation process?	2.67
5	Do you run into familiar people every time you come here?	2.35
6	Do you come here often for activities or rest?	2.37
7	Would you come here to do activities or relax with people you know?	2.41
8	Would you be willing to bring friends/relatives to participate in the event and actively recommend this venue to them?	2.25
9	Do you think the venue is an important part of the neighborhood?	2.57
10	Are you willing to take the initiative to tell others about the history or characteristics of this place and are you proud of it?	2.51
11	Do you think this place is unique compared to other urban spaces?	2.31

### (2) Questionnaire report based on Lilau Square in the Historic District of Macao

Number	Question	Results Average
1	Are you happy and joyful here?	4.04

2	Do you think the place is interesting?	3.37
3	Will you participate in the management of the place, such as making suggestions, recommendations, or complaints?	1.83
4	How satisfied are you with the public participation process?	2.85
5	Do you run into familiar people every time you come here?	3.93
6	Do you come here often for activities or rest?	4.07
7	Would you come here to do activities or relax with people you know?	3.94
8	Would you be willing to bring friends/relatives to participate in the event and actively recommend this venue to them?	3.89
9	Do you think the venue is an important part of the neighborhood?	3.91
10	Are you willing to take the initiative to tell others about the history or characteristics of this place and are you proud of it?	3.48
11	Do you think this place is unique compared to other urban spaces?	2.54



## Appendix 4 St. Augustine's Square and Lilau Square Rating Scale

Based on the survey results of St. Augustine's Square and Lilau Square for each attribute mentioned in "3.3.1 Research using the Place Making Adaptive Framework" (the results were obtained by the author based on the corresponding survey methods of each characteristic element), as well as the interviews and questionnaires with the respondents, the following rating scale was obtained:

Basic Properties	Characteristic Elements	Score of St. Augustine's Square	Score of Lilau Square
Access & Linkages	Continuity	4.3	2.7
	Proximity	5	4
	Connected	5	3
	Readable	4	2
	Walkable	3	4
	Convenient	2.8	2.4
	Accessible	4	4
Comfort & Image	Safe	4	4
	Clean	4.7	4.3
	Green	3	4
	Sittable	2	2
	Attractive	2	3
	Enjoyable	3	4
Uses & Activities	Fun	1.8	3.1
	Active	1	4
	Real	3	3
	Useful	2.4	2
	Celebratory	1	1
	Sustainable	3	3
Sociability	Diverse	4	5

	Stewardship	2.5	2.5
	Cooperative	2.3	2.3
	Neighborly	2.2	4
	Pride	2.4	3.8
	Friendly	2	4
Protection & Dissemination	Vital	5	5
	Special	2.6	1.8
	Protected	5	3
	Historic	5	3
	Indigenous	4	4
	Aesthetic	4	4