

# Study on the Design of Sign Guidance System in the Landscape Renewal of Old Industrial Area Taking Yangpu Riverside Park in Shanghai as an Example

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## ABSTRACT

The signage system is an important information facility in the landscape renewal of the old industrial area and also a significant part of the landscape system of the old industrial area. It is also regarded as a crucial medium for the interaction between the public and the old industry area. Based on the background of industrial culture, this paper first analyzes five principles of signage system design, and then on the basis of the related literature and field visits, the paper summarizes the present status as well as the development of signage system design in Yangpu Riverside landscape renewal in view of the sign system design of Shanghai Yangpu Riverside Park, and finally puts forward some relevant suggestions in order to provide a reference for the future development of the sign guidance system design in the landscape renewal of the old industrial area.

**Keywords:** Sign guiding system, Old industrial district, Landscape renewal, Yangpu Riverside.

## 1. INTRODUCTION

The signage system is an important information facility in the landscape renewal of the old industrial area. It is also an important part of the landscape system of the old industrial area. Meanwhile, it is also considered as an important medium for the interaction between the public and the old industrial area. Nowadays, the city is facing the upgrade of the stock space, and the demand for landscape renewal of the old industrial area is gradually increasing. So how to fully reflect the environmental characteristics of the old industrial area, clearly convey the information of industrial culture, and how to amply shape the image and characteristic culture of the Old Industrial Area have become the top priority of landscape renewal of the Old Industrial Area. In the specific design, creating a logo guidance system which combines industrial culture and contemporary culture naturally becomes an indispensable part.

## 2. CONCEPTUAL ANALYSIS

### 2.1 Marking System Design

Sign system design comes from the field of environmental design in the West and Japan, and some scholars in China translate it into environmental information recognition, which is similar to the major of urban guidance design and space indication sign design in China. [1] But they still have some differences in the content and the scope of design. Marking system design is to unify, standardize and integrate markers in a specific area according to certain standards, processes, shapes, colors, etc. It is an overall solution to solve the functions of information transmission, identification and image transmission comprehensively with the guidance of marking systematic design. However, due to the special nature of the old industrial area environment, the sign-oriented system design in this paper is not only a simple guide to the direction and transfer of environmental information, as the environment and people exchange information carrier, but also aims to create a cultural atmosphere, convey historical

memory and cause emotional resonance and exchange.

## **2.2 Landscape Regeneration of Old Industrial Area**

The landscape renewal of old industrial area can also be called post-industrial landscape, both of which are designed for industrial wasteland and discussing about land use planning, spatial organization, environmental design and public art creation from the landscape level. Post-industrial landscape means that when the society entering into post-industrial society, due to the decline of traditional industries or the relocation of industrial enterprises, the original industrial production activities of industrial sites stop, and the facilities and site environment left on the industrial waste land are reserved and reutilized, and selectively processed and recreated to protect valuable industrial heritage (relics), to explore and highlight its technical aesthetic characteristics, to inherit the multi-meaning connotation of industrial history and culture, and to design and create a new landscape type as a dominant landscape element in environmental optimization and beautification. [2]

## **3. DESIGN OF SIGN AND GUIDE SYSTEM IN OLD INDUSTRIAL AREA**

### **3.1 Industrial Cultural Background**

The occurrence of the industrial revolution made the social structure change fundamentally, and the city entered the stage of rapid expansion. With the expansion of cities, in order to increase the utilization of effective space, urban centers become more and more complex and high-density. The new environment construction is gradually separated from the original natural terrain and iconic objects. The cities gradually lose their unique characteristics, and the urban environment becomes more or less the same, lacking personality. [3] Later, due to the continuous improvement of social demand and the level of urban development, the old industrial areas gradually withdraw from the historical stage facing the adjustment of urban spatial structure, leaving only dilapidated factory buildings and rusty industrial machinery. Old industrial areas not only contain the city history of a specific historical period and people's memory of urban development at that time, but also, as an important economic pillar in the course of urban

development, have played an important economic role.

The identification system is the summation of various public service facilities and corresponding identification systems in the public space of the old industrial area. [4] It is a comprehensive service system with multiple functions in the planning and construction of the old industrial area. Therefore, as the materialized carrier of environmental information, the signage guidance system can establish a better communication between people and the environment, which can not only carry the urban industrial civilization, but also increase the site spirit through a good visual image, and optimize the public experience in the space, and then indirectly improve the cultural competitiveness of the city.

### **3.2 Analysis on Design Elements of Sign System in Old Industrial Area**

In the design process of the identification system, we should pay attention to the multi-dimensional investigation of the urban environment, actively intervene in the overall planning of the urban environment, integrate the connotation of regional culture and urban environment, start with the regional environment and humanistic characteristics, innovate and develop on the basis of inheriting traditional culture, tap new characteristics, and plan the matching identification system.

#### **3.2.1 Principle of Locality**

Tange Kenzo points out that locality includes traditionality, and traditionality can be developed by challenging its own shortcomings and tracing its internal continuity and unity. [5] So we can see that the principle of locality means that we should rely on traditional culture, start from local social life and historical features, constantly tap regional characteristics, innovate and develop on this basis, create a logo system of old industrial zones with regional characteristics, and continue the historical context of the city. For example, the logo of Shenyang 1950 Cultural Creative Park ("Figure 1") directly refines the image of the original factory facade as a design element of the logo guidance system, which continues the industrial context and retains a historical atmosphere.<sup>1</sup>

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1. Chen Zhihua, *History of Modern and Contemporary Foreign Architecture* [M]. China Construction Industry Press, 1996, 27.

### 3.2.2 Principle of Integrity

As one of the important performance elements of the environment, the design of its integrity principle is an important means to achieve the harmonious coexistence of logo and environment. The principle of integrity mainly includes two aspects, on the one hand, the sign system design should be coordinated with the surrounding environment, and the overall form and structure should be unified, on the other hand, all the signs in the old industrial area should be considered as a whole, arranged in all areas as a whole, and the internal relationship between the signs should be established. This method helps to comprehensively express the environment information, so that pedestrians can build a complete urban image with the thinking of connection. [6] In the old industrial area, designers should consider the style elements of the old industrial area as a whole, apply the industrial elements to the design of the logo system, and create a strong industrial atmosphere. At the same time, each logo has personalized characteristics, and has traceability and continuity with the whole logo system, so that the information logo is completely integrated into the environment, and the logo is prevented from being separated from the environment. Taking Beijing 798 Creative Industry Park ("Figure 2") as an example, its logo guidance system can also be colored as the main tone in the future and industrial culture elements would be retained. The overall visual image is rectangular in shape and materials are mainly wood and metal, which meets the first aspect of the above author's description. However, due to the large size of 798 Park, the sign guidance system is less arranged in some areas, which cannot meet the existing passenger capacity and lack of continuity.<sup>2</sup>

### 3.2.3 Humanization Principle

The design of sign guiding system in public space is an important infrastructure to serve people, so we must follow the design principle of "people-oriented". The old industrial area itself has left a dangerous and dilapidated impression on the public, so in the landscape renewal of the old industrial area, its logo system design must be safety-first, so that users can feel a sense of security. In order to attract people and stimulate the vitality of the old industrial area, the design of logo system should give people a comfortable

feeling, such as visual angle, primary and secondary information and detail display, so that users and logo guidance would have a real emotional exchange. Therefore, in order to achieve the humanized design of the logo, designers need to integrate the ideas of ergonomics, aesthetics, and environmental design. In addition, the needs of special groups should also be taken into account. In the real society, the current signage and guidance system design fails to meet the needs of special groups, and they often judge the environment through life experience, unable to obtain new information. For the elderly and the disabled, related sign system design will become one of the development trends of future design. To promote social progress and improve the public living standards, domestic public space needs strengthening attention. Germany put forward the concept of "barrier-free tourism" in 2002, taking the road sign for the blind in Solingen, Germany, as an example, the designer designed a set of cast iron models of tactile symbols ("Figure 1") and Braille texts ("Figure 2") to help the visually impaired enter the park for sightseeing. This design not only meets the physiological needs of users, but also gives users emotional comfort from a psychological point of view.



Figure 1 Road sign for the blind in Solingen, Germany (left), (source: book "Global Classic Logo and Guide Design").

2. Li Luping, Research on the Design of Sign System in Urban Pedestrian System [D]. Chongqing University, 2006.

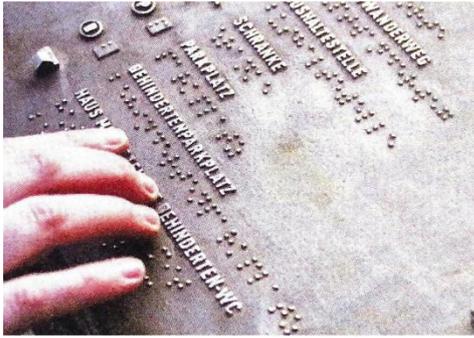


Figure 2 Road sign for the blind in Solingen, Germany (left), (source: book "Global Classic Logo and Guide Design").

### 3.2.4 Principle of Innovation

Nowadays, with the emergence of new technologies such as digitalization and informatization, the aesthetic level of the public has risen to an unprecedented height, and the logo guidance system combined with new technologies, new materials and new processes is more and more popular among the public. Designers should abandon outdated concepts, grasp the development trend of diversification, high-tech and ecological materials, accurately control the flexible application of new materials with innovative eyes, and keep pace with the times. [7] In the landscape renewal of old industrial areas, we should adopt advanced and reasonable modern technology to design the sign-oriented system, realize the modernization of sign-oriented system design, and make the industrial civilization full of historical sense shine in the new era. The so-called innovation is not only unique in form and material, but also pays more attention to the innovation of designer's thinking, attracting tourists' attention with unique design, so that tourists can experience the industrial history of the old industrial area more deeply and feel the brilliant civilization of the industrial era. Taking the sign-oriented design of Brooklyn Industrial City as an example, the multi-media sign-oriented design is adopted, which changes the static and single indication-oriented design into the sign-guided design combining sound, light and color, which not only increases the immersive experience of tourists, but also produces a deeper integration with the environment.

### 3.2.5 Ecological Principles

The recycling of resources should be paid attention to in the design of sign guidance system in old industrial areas. The unique industrial element

of the old industrial area itself is a unique, highly distinctive design element, the use of the original industrial materials, not only retains the historical characteristics of the original industrial area, but also reduces the waste of materials, and achieves the sustainability of materials.

## 4. SIGN SYSTEM DESIGN OF YANGPU RIVERSIDE IN SHANGHAI

### 4.1 Brief Introduction of Shanghai Yangpu Riverside Park

Yangpu Riverside, as a successful example of waterfront industrial zone transformation, has high research value and reference significance. Yangpu Binjiang was the birthplace of Shanghai's modern industrial civilization for 100 years, the witness of Shanghai's industrial history for 100 years, where a series of industrial relics for 100 years were gathered. At the end of the 19th century and the beginning of the 20th century, Yangpu Riverside gathered a large number of factories, standing along the Huangpu River, like a wall, isolating Shanghai residents from the riverbank, so that most people gradually forgot the riverbank, which once had a glorious history of 100 years. In 2016, the original productive wharf will be transformed into a landscape hydrophilic platform, and the original wharf will be connected in series to form a public landscape belt along the riverside. In the long opening and connecting project of Yangpu Binjiang, the designer devoted a lot of effort and put forward the beautiful idea of "three belts, nine chapters and eighteen strong voices". By September 2019, the 5.5 km Yangpu Binjiang Industrial Heritage Park will be fully connected, becoming a world-class waterfront public space that can walk, read and have temperature. [8]

### 4.2 The Analysis of Marking System Design Status

In the park sign system design, the author found that there are a lot of desirable features for future old industrial area landscape renewal project to make a reference.

#### 4.2.1 Design of Integrated Identification System

The visual image of the signage guidance system of Yangpu Binjiang Park is much unified with the overall environmental style of the park, all

of which use metal materials, complementing each other with the environment, and under the background of a large area of miscanthus and powdery rubble grass, people seem to return to the industrial era of machine roaring. In addition, Yangpu Binjiang is an open park with many entrances and scattered landscape nodes. Detailed maps of the park ("Figure 3") not only introduce the history and basic situation of the area, but also guide tourists on the road.

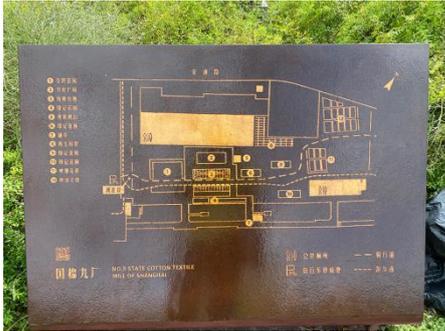


Figure 3 The ground sign guides the design greenway (left), (source: self-photographed by the author).

drivers and pedestrians, but also fully considers that cyclists can easily receive the information of signs during the driving process.

#### 4.2.3 Sign System Design Combined with Public Facilities

The combination of the sign guide plate and the seat ("Figure 6") improves the utilization rate of the facility.

#### 4.2.4 Sign System Design Combined with Public Art

Fisherman's Wharf Square, standing a group of fishermen, shows the busy fishermen in front of the wharf, and integrates with the daily life of modern people. This kind of public art-oriented design of blending scenes is inexplicably moving, while reproducing the wharf scene. It not only inherits the historical memory of the industrial era, but also invisibly initiates the emotional exchange between people and the environment, and becomes the memory point for people to identify space in the environment.



Figure 4 Propaganda and logo guidance system for urban civilization construction (right), (source: author's self-photo).



Figure 5 The ground sign guides the design greenway (left), (source: self-photographed by the author).

Secondly, Yangpu Riverside of the civilization construction-oriented logo system also highlights the characteristics of the city's traditional water transport; logo board on the image of the cargo ship is a symbol of Yangpu Riverside; rust-colored card at the end of the white pattern is very appropriate to highlight the logo theme. ("Figure 4").

#### 4.2.2 Design of Ground Identification System

The guiding design of ground signs for bicycle lanes and sidewalks in the park ("Figure 5") is very noticeable, which not only facilitates the travel of

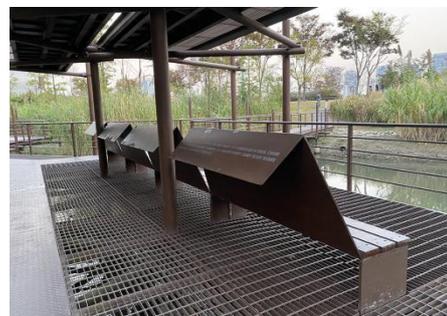


Figure 6 The combination of logo guidance system and seat (middle), (source: self-photographed by the author).



Figure 7 QR code for the introduction of the mobile terminal's old site (right), (Source: Photo by the author).

#### 4.2.5 Design of Mobile Terminal Sign Guidance System

The important historical buildings and landscape nodes in the park are affixed with two-dimensional codes ("Figure 7"); visitors can scan the two-dimensional codes through mobile terminals to understand the historical development, artistic style and functional introduction of the building. This kind of self-service tour is also more popular at present, many tourist areas do not have tour guide service, which in fact makes tourists more comfortable and free, can adjust the tour progress according to their own rhythm, mobile phone scanning two-dimensional code can clearly hear the commentator's broadcast, greatly increasing the tourists' immersion experience in the park. This way of self-scanning and listening to the explanation is more comfortable and convenient.

In addition, in the process of investigating its sign-oriented system, the author found that because of the long shoreline in the park, it is easy for tourists to have a vague sense of location and direction, and the park is 5.5-kilometer long, lack of significant park entrance signs and introductions, and some sign-oriented information has been unable to identify after rainwater erosion.

### 4.3 Suggestions on the Improvement of Park Sign Guidance System

The author believes that attaching importance to the design of park logo guidance system can greatly increase tourists' experience and satisfaction, and then form a strong interest and cultural identity for the old industrial area itself, and ultimately promote the economic development around Yangpu Binjiang. To sum up, the following suggestions are put forward for the current situation of the sign

guidance system of Shanghai Yangpu Binjiang Park:

#### 4.3.1 Improving the Material of the Logo-guidance System

Outdoor marking system is exposed to the sun and rain, so the material is supposed to be anti-fading and has at least 10 years of service life. The guide board of Yangpu Binjiang Rainwater Garden in the brief introduction of the old site of Yangshupu Yarn Mill has been corroded by rainwater, and some text and picture information have been blurred.

#### 4.3.2 Increasing the Diversity of Signage Guidance Systems

In addition that the mobile terminal can scan the two-dimensional code to listen to the building introduction, it is suggested to add online navigation, positioning system, voice guidance and information centralized display functions to help tourists screen interesting landscape nodes, through online navigation to reach the destination directly, eliminating the time of judging their location on the traditional plane guide map.

#### 4.3.3 Light Guidance Can Be Added to Enrich the Tour Experience

Light is an intuitive way of guiding, the park interior is darker at night, the number of visitors is very small and it is inevitably boring and unsafe for residents and tourists to walk at night. Therefore, some light guides or light shows can be added in the park, which can not only set off the solemn sense of history, but also be an excellent way to dialogue between modern civilization and industrial civilization.

#### 4.3.4 Increasing Barrier-free Design

Although there are many ramps in the park to facilitate wheelchair users to enter and exit, the psychological consideration of visually impaired people is less in the design of sign guidance system. Europe, the United States, Japan and other countries in the above areas are more perfect, the city can often see for the hearing impaired and visually impaired people set up a guidance system, many other cities have begun to add concave-convex dot Braille information on the original guide board. As a world-class waterfront project, Yangpu Riverside Park should implement the

concept of "people-oriented", truly improve the quality of life of urban residents, meet the basic needs of different groups, and set up sound devices and touch devices at key nodes, which will help special groups to feel the brilliant achievements of the industrial period and enhance the charm of waterfront life.

## 5. CONCLUSION

The old industrial area bears the memory of the city in a specific historical period and the production culture in the prosperous period of the industrial area, and people's requirements for its logo guidance system are gradually increasing. Excellent adaptive signage and guidance system design will have a positive impact on the revival of old industrial areas and even the whole city and society in economic, aesthetic, cultural and other aspects. [9] The design of the sign guidance system of the old industrial area should take full account of the original industrial culture, dig deeply into the deep meaning and spirit behind the urban culture, improve the public's interest in the old industrial area and the sense of tour experience, and deeply feel the glorious industrial style in the past.

## AUTHORS' CONTRIBUTIONS

This paper is independently completed by Kexin Liu.

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