

# Study on Signage System Design for Fashion City Construction

Hong LIU<sup>a,1</sup> and Shanshan LU<sup>a</sup>

<sup>a</sup>Beijing City University, China

**Abstract.** Signage system is an important part of urban infrastructure. Excellent signage system design not only has humanized practical functions, but also helps to convey the city culture, and enhance the overall image. At the same time, signage system design has a certain role in promoting the construction of Hangzhou as a fashion capital. We summarize the positive effects of signage system on the construction of a fashion capital, study the application strategy of West Lake signage system in Hangzhou, and explore the future growing of signage system. With the development of 5G, AI and other new technologies, integrating them into the design of the signage system and building an intelligent signage system that meets the needs of the times and sustainable development is an important direction in the future.

**Keywords.** Signage System, Fashion Capital, Future Development

## 1. The role of signage design for a fashion city

### 1.1. Optimization of the urban environment

In commercial areas or parks, artistic signage is used to fill in the gaps in the landscape of the public space, and the signage system divides and manages the different environmental zones, making them standardized and unified. The city signage system allows people to gradually learn about the history, culture and development of the city, adds splendor to the urban environment, and naturally enhances the culture and fashion taste of the city.

### 1.2. Promotion of urban image

The city signage system is mainly reflected in functional use and environmental beautification. While conveying information, it is compatible with the user's habits and aesthetic needs. Signage system as a unique landmark into the daily life of residents, can reflect the city development status, traffic conditions and the cultural level of residents. It is not only an important embodiment of the city spirit, but also the accumulation of the city's image. The city signage system greatly enhances the reputation of urban environment and makes the city image more distinct. Nowadays, urban cultural image has become an important driving force.

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<sup>1</sup> Corresponding Author: Hong LIU. E-mail: 260786426@qq.com.

### *1.3. Enhanced capacity of information transmission*

In the future development, the city will continue to expand to the surrounding area, set up new areas and road sections, increase the demand for information, and accelerate the speed of information dissemination. The city signage system is an important center of urban development; enhancing the ability of signage system to transmit information is equivalent to enhancing urban vitality, and it is necessary to deliver the message truly effectively. The city signage system combines art and technology, which are applied to urban infrastructure to provide forward momentum for urban development.

## **2. Application for signage system design in Hangzhou West Lake**

With the increasing maturity of industrial structure and production technology in China's signage system industry, "Internet of Things with New Technologies" into the industry has become a hot spot of concern. Signage system in the West Lake is oriented to build a signage system with humanized design that meets the needs of the times. It incorporates the concepts of "intelligence" and "humanization" to improve and supplement the guide function. With the rapid development of the network, people carry and use smart devices, thus the demand for the signage system is no longer just to find the route, but more interested in the interactive experience of smart devices and smart wayfinding facilities. The design boldly tries to adopt the AR virtual scene guidance system of information interaction, which can automatically lift the height of the signage, change the direction of the dynamic wayfinding signs and update the information dynamically on the screen. It not only meets the function of dividing different environments and areas, but also increases the artistic atmosphere of the scenic spot. The design enhances the convenience, interactivity and fun of the signage system, and also brings better guiding experience to the visitors.

### *2.1. Construct a five-level signage system and explore the design methodology*

The design includes the whole process from data research, problem discovery, problem analysis, problem solving, planning and design, feedback, operation and maintenance. Detailed research is conducted on the history, architectural features, regional characteristics, development of Hangzhou West Lake, existing signage locations and characteristics of visitor groups, as well as the current status of the signage system. At the same time, based on the visitors' behavior and usage requirements, the design method of "vertical demand matching, horizontal system constructing" is created. Vertically, the content of the signage system is matched with the tourists' wayfinding behavior and information acquisition needs, and horizontally, a five-level signage system is constructed according to the hierarchy of tourists' wayfinding needs. In addition, it is also necessary to introduce elements such as intelligent wayfinding, information interaction and big data analysis to add intelligent functions to the design of the signage system.



Figure 1. Plan of Hangzhou West Lake.

## 2.2. Integrate intelligent functions and concepts to show the new vitality of the city

Hangzhou West Lake signage system integrates intelligent functions and humanized concepts on the basis of traditional design to show the new vitality of Hangzhou. Through preliminary research and in-depth understanding of the current situation of the industry, the design incorporates real-time interactive information technology, big data analysis, virtual reality, AR display and voice interaction. The details are as follows:

A. The introduction of AR virtual reality and the screen guided by intelligent dynamic AI will enable travelers to find, inquire and view destinations in different directions

B. Visitors can interact with the signage system through the intelligent touch screen of the human-computer interaction AI and the virtual portrait intelligent voice interaction system. Users are able to release known information, satisfying the demand for personalized guidance, which in return lets the system collect information from tourists in a timely manner, providing raw data for big data analysis.

C. The humanized design concept is integrated into it, using text introduction and voice explanation in multiple languages to achieve multi-sensory cooperation. The guide sign adopts a telescopic function design, and for the disabled and children, it can automatically adjust the appropriate height for the convenience of tourists.

D. The design can share visitors' dynamic behavioral data, and carry out intelligent and comprehensive detection of water surface conditions, traffic, parking location, weather and resting locations available.

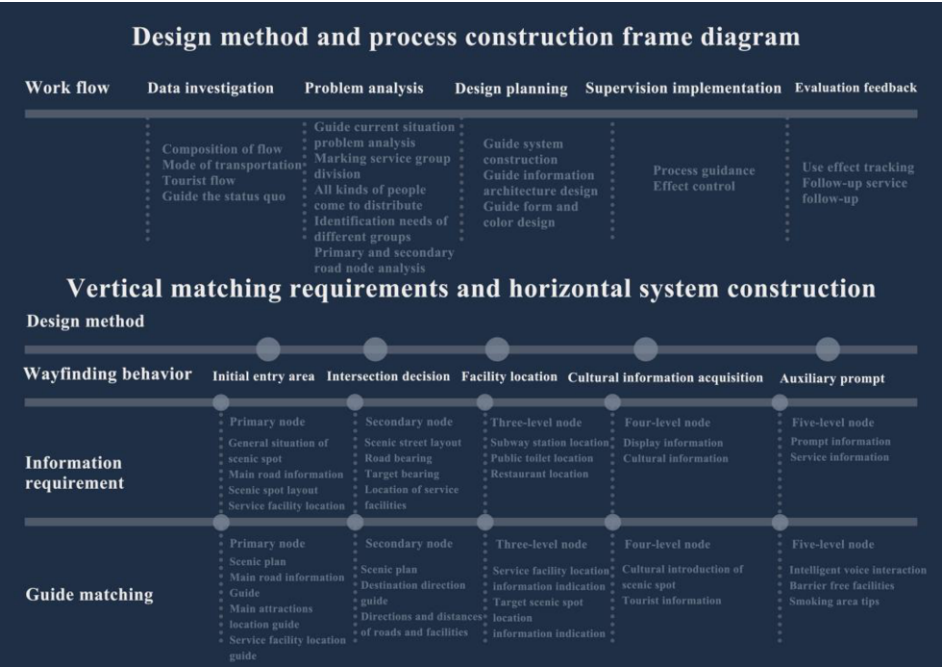


Figure 2. Hangzhou West Lake Street road guide system design flow frame diagram.



Figure 3. Hangzhou West Lake street road guide system design internal wisdom construction.

Aiming at aspects like the current Hangzhou, history of West Lake in Hangzhou and environmental protection, the design integrates tradition and fashion as well as nature

and technology by collecting signage instruction information, sorting out a complete system and unifying the design style.

Hangzhou West Lake  
street road  
guide system design dimensions

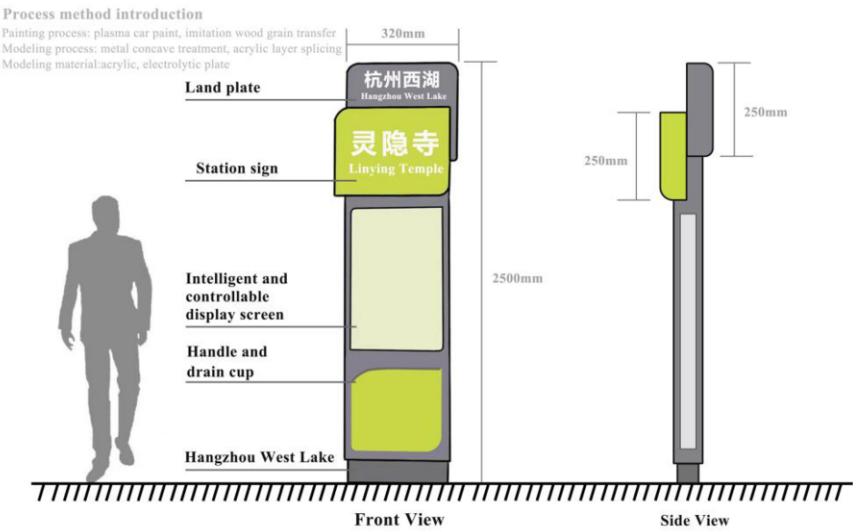
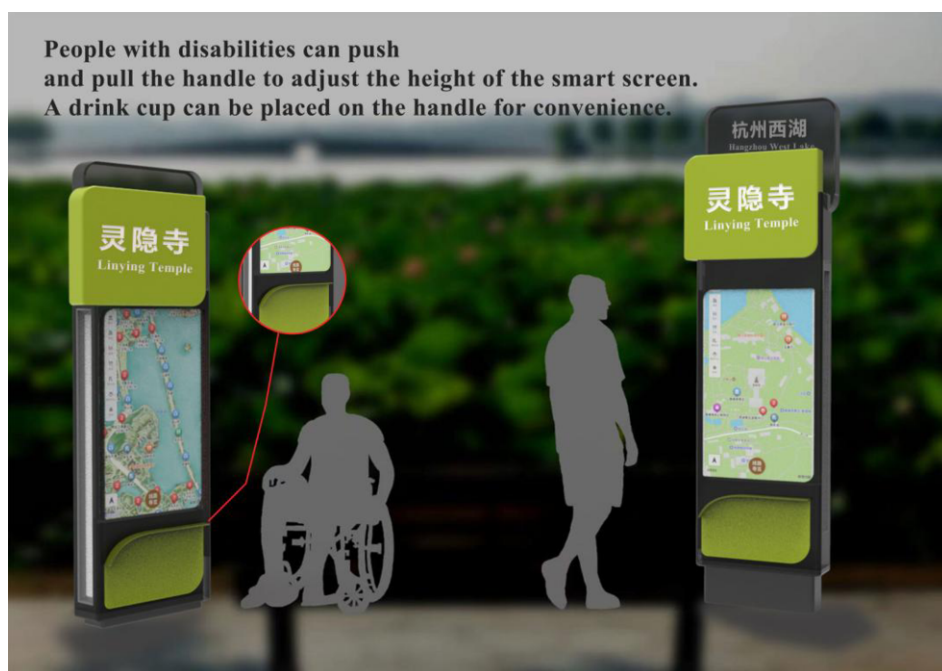


Figure 4. Hangzhou West Lake street road guide system design dimensions.



Figure 5. Hangzhou West Lake street road guide system design scheme.



**Figure 6.** Hangzhou West Lake street road guide system design scheme.

### *2.3. Introduce high-end technology and new materials to enhance the city's cultural identity*

The signage system design of Hangzhou West Lake adopts new technology, new concept and new design, which is one of the directions of future signage system development. Taking the traditional signage system as the reference standard, from the perspective of design elements, core graphics, information architecture, establishment position, etc, the basic signage system is created to meet the needs of modern people; high-end technology and new materials are introduced to increase the intelligence of the system function. The signage system design focuses on the needs of pedestrians, motorists, and people with disabilities, and visualizes the surrounding environment. The design starts from finding the target location and route, and integrates intelligence, green new energy, big data cloud platform, visual design and other perspectives to create the first intelligent signage system in China. The design solution enhances the overall environment of the West Lake. The digital transformation contributes to the creation of Hangzhou as a fashion capital, the future development of scenic spots and the enhancement of the city's cultural identity.

### *2.4. Construct the beauty of the city with humanized and simple design*

The design adopts a comfortable, simple and smooth design style, using bright colors, concise text and pictures, as well as smooth route guidance to establish a connection between people and West Lake, so that visitors can use the guidance system easily and pleasantly. The design optimizes the user interface, provides clear and easy-to-understand navigation icons and map information, and comprehensively considers the tourists' guiding needs and visual experience, which demonstrates the personality and

quality, highlights the fashionable and technological style, and enhances the cultural identity.

### **3. Future development of signage system**

The city signage system is the information carrier of fashion capitals, and the future development of city signage will be closely related to the development of information. The complexity of information needs to be communicated quickly and accurately to the audience. Nowadays, the design of city signage system is no longer simply to guide the direction and find the route, but also to consider the image of the city, regional characteristics and cultural background. Therefore, by combining the regional and cultural characteristics of a fashion capital, the scientific and humanized design can help to develop and improve the city's cultural image.

#### *3.1. Regulation*

Standardizing the design form is of great significance to enhance the function of signage system. At present, many designers are not clear about the function of signage, and they often treat it as artistic creation and like to show their own individual style on their works. But in real life, the practicality of signage is much more important than the beauty of the form, which can directly affect the operation of the city. Therefore, based on the complexity of the urban environment, the colors, fonts and graphic proportions of the signage must be researched and tested by professional departments, applying a unified visual language and establishing rigorous standard specifications. Population differences in different areas call for new rules based on norms. The future fashion capital signage system will make great strides in standardization, order and regulation.

#### *3.2. Humanization*

The humanized design of the signage system is to satisfy the common needs and at the same time, the humanistic care for the disadvantaged groups. In the design process, the visual height of wheelchair users and children is fully considered, and there are not many relevant design cases in China that take this into account. Different categories of barrier-free designs are subject to constant research and revision. Designers should not only consider the use and travel convenience of people with disabilities, but also concern about their mental health and emotional experience, highlighting the humanistic care for the disadvantaged groups. The design of signage system adopts diversified forms of expression and intelligent means such as AR and voice recognition technology to provide a more diversified and interesting way of information presentation, and to provide more convenient and efficient information service and interactive experience. Humanized design is strengthened in the design of the signage system, such as the supply of umbrellas, power banks, massage chairs to improve the user experience and satisfaction.

#### *3.3. Personalization*

Nowadays, people's demand for aesthetics is constantly rising, and personalization is also a major trend in the development of the future signage system on the basis of

meeting the needs of use. After entering the era of diversified design, the use of color is one of the most important elements to reflect the personality in urban environment. Carolyn Bloomer, an American visual arts psychologist, said, "Color can evoke a variety of emotions, express feelings, and even affect our physiological feelings." Color in the signage system not only attracts visitors, but also complements the colors of the surrounding environment, thus increasing the sense of "presence". In addition to color, the future of personalized signage system provides more tailored and personalized navigation by identifying user needs and behavioral patterns, thus improving user experience and satisfaction. Phantom Imaging is used in display design to be able to project dynamic people into static backgrounds. Some window displays in France have already started to use Phantom Imaging technology to create dynamic business signs. It is believed that in the near future, it will also become the direction of signage system development in the city.

### *3.4. Intelligence*

The city of the future is a "smart city" with 5G coverage and big data. Intelligent guide signs help to create a smart space. Based on 3D advanced rendering map and voice interaction, self-developed map and navigation technology as the core, taking into account the multimedia information dissemination system, the use of artificial intelligence with exquisite fidelity to restore the outdoor and indoor complex scenes and terrain, is the future direction of the signage system intelligent design development. Visitors are able to use location search, wayfinding guide, location finding, route planning, intelligent parking and other functions to help fashion capitals to improve service quality and play the value of offline traffic. VR panoramic guide utilizes the three-dimensional outdoor street on both sides of the map and virtual reality technology to restore the real scene, combined with the IP image as a navigation, comparable to the game level visual effect, bringing a new experience of immersive panoramic signage. Meanwhile, by scanning the QR code, with the help of AR rendering, artificial intelligence and real-time cell phone tracking and navigation, the guidelines such as straight ahead, turning and destination arrows are visually presented in the real-life image taken by the cell phone. Users can move forward according to the 3D arrow instructions, solving problems such as getting lost or not being able to read the map.

### *3.5. Environmental protection*

The concept of nature, ecology and environmental protection occupies an important position in the design of signage system. The system advocates emission reduction, low carbon and recycling, and makes full use of wind, daylight and renewable resources to establish a recyclable ecosystem. The digital signage system, which makes it easier for users to access the information they need, helps reduce construction costs, resource energy consumption and environmental pollution. At the same time, the use of intelligent cooling technology, human body sensor technology and other technological means can improve efficiency and achieve the goal of sustainable development. Lengthening the life cycle of the signage system and making it easy to dismantle and recycle after use are key design considerations for the future.



#### **4. Conclusion**

As society progresses, signage system design plays a very important role for cities and their residents. It can show a city's overall development, planning and humanistic atmosphere. Hangzhou, as a specimen of a city exploring the field of fashion, signage system design can help it to build into a fashion capital. Signage system is also constantly changing and developing. In the future, intelligent signage system design will realize the interaction between the virtual and the real, and integrate the new Internet technology, which can bring different interactive experience for users and promote the construction of fashion capitals.

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