Exploration of Service Area Planning Based on the Integration of Transportation and Travel

Bo Liu¹, Kuaqiong Qiu¹ and Fang Chen²*

¹Yunnan infrastructure investment co. Ltd, Kunming 650501, China
²China Merchants Ecological Environmental Protection Technology Co., Ltd, Chongqing 400067, China

*Corresponding author’s e-mail: 56174286@qq.com

Abstract. The rapid development of tourism puts forward higher requirements for the expressway service area, and the service function needs to be expanded and improved. In order to solve the problems existing in the construction of the service area under the integration of transportation and travel, the development status and existing problems of service area in China are analyzed, and put forward the service area planning should satisfy the principles of integrity, humanity, culture, character. The service area should be designed from five aspects: regionalization, thematization, commercial diversification, humanization and ecology. The result can provide reference for service area planning and design.

1. Introduction

With the improvement of people's living standards, tourism is increasingly favored by the people. Especially since the implementation of the system of "long holidays" in China, tourism has entered a rapid development stage. With the increasing number of tourists, the transportation demand of highway traffic is also increasing and improving, which puts forward better requirements for the development of highway traffic and tourism, and service area will continue to innovate. In order to meet the social needs of the era of mass tourism, the state and local governments have issued intensive development policies in recent years, and determined the direction of upgrading and transformation of tourism industry. After years of development and reference to other developed countries, China's highway has gradually formed a complete set of technical standards and construction guidelines. The "Highway Engineering Technology Standard" (JTG B01-2014) and "Land Use Index for Highway Construction Projects" promulgated by the Ministry of Communications have clearly stipulated the design planning and land use standards of highway service area in China, but there are no specific requirements for the technical standards, design methods and specific planning of service area [1]. In recent years, the number and scale of service area have increased rapidly, and the hardware and software facilities have been constantly improved. However, there are still big problems in planning, design and operation management. At present, there are about 2,000 pairs of highway service zones in China, with an average annual potential market consumption of more than 200 billion yuan [2]. The quality improvement of service zones has broad market prospects.

2. Major Problems Existing in Expressway Service Areas

2.1. Lack of Landscape Planning Standards and Industry Specifications
In foreign countries, there are quite perfect standards and norms in highway service area planning. In contrast, there is a lack of similar relevant norms in China. Most of the service areas are designed with reference to European, American countries and Japan[3]. In the current Highway Engineering Technology Standards, the service area has less content and weak pertinence, and the problems in its planning have not been effectively solved. There are few studies on the landscape of expressway service area, which leads to the uneven landscape effect.

2.2. Lack of overall planning
China's highway service area started late and lacked the consciousness of overall planning. Service area planning needs to integrate the whole Highway and local culture. At the same time, as the node of the whole traffic trunk line, the service area should maintain the unity of the interior planning and the whole road planning style.

2.3. Streamline single
At present, our country mainly focuses on centralized space, namely public toilets, supermarkets, catering, accommodation, staff rest and other functions in the integrated building. The advantage of centralized space is to speed up the turnover of traffic flow and avoid congestion, but the disadvantage is that it can not form effective slow-paced outdoor activities and rest due to short stay time.

2.4. Simple Architectural Design and Single Landscape Level
Each service area has high similarity in style and lacks local characteristics. As an important node of highway, service area bears the mission of local culture dissemination, resource sharing and information exchange. Therefore, in the architectural design, we should build the landmark landscape with the idea of shaping the regional cultural dissemination and landscape display.

In the greening of the site, most of the plants are allocated in a small amount in the necessary places, the types and forms are single, mainly reflected in the "pull-through" planting, a large area of randomly scattered, linear arrangement of planting forms, without the embodiment of landscape aesthetics, plants also lack landscape level, landscape effect is poor, and the combination with the natural environment is also very prominent.

2.5. Lack of humanized design concept
Due to the limitation of land use, the service area mainly meets the basic functional needs of passengers, but this mode often ignores the psychological and physiological needs of passengers and passengers. Its internal facilities are one-sided pursuit of "small and complete", excessive pursuit of economic income, often ignoring the psychological and physiological needs of the crew, lack of human care [4].

3. Principles of Service Area Planning

3.1. Principle of Integrity
Integrity is embodied in two aspects: on the one hand, the integrity of service area landscape and surrounding environment. The surrounding environment should consider such factors as terrain, topography and vegetation, and pay attention to the coordination between the selection and expression of landscape elements in the service area and the surrounding environment to form a unified whole. On the other hand, the theme landscape of the service area is unified as a whole. It emphasizes the harmony and unification with the surrounding environment, the theme landscape of the service area itself, and the integration of the local landscape and the overall landscape, so as to make the service area organically unified in design style, color matching and so on.
3.2. Principle of Humanization

The landscape design of service area adheres to the principle of people-oriented design, requiring complete landscape facilities, considerate service and attention to details, which can meet the needs of people of different ages and genders, reflect the basic humanistic care and social equity, and make the landscape environment and tourists closely integrated [5].

3.3. Principle of Culture

Different historical culture and geographical environment reflect different regional characteristics. Landscape building needs to combine the local cultural background and plant connotation. Every place has its own unique cultural background. The best way to embody the regional cultural symbols and symbols of a place is to embody them in architecture. Local historical and cultural connotations and landmark characteristics are reflected by plants, buildings and garden sketches to meet the changing needs of people's dynamic and static viewing.

3.4. Principle of Characteristic

Service area landscape cannot be uniform, to strengthen the characteristics of regional landscape, otherwise it is difficult to play a functional role to achieve good landscape effect. In view of the characteristics of functional zoning in service area, the emphasis is laid on creating landscape features in front of entrance and exit, parking lot and comprehensive service building, so as to improve the ornamentality and comfort.

4. Planning Key Points of Transport Integration Service Area

4.1. Regionalization

As a stage to show local characteristics, highway service area can not only effectively promote the rapid development of service area and surrounding economy, but also become a local regional propaganda window, and promote the overall development and promotion of local economy, tourism and so on [6]. Analyzing the location of the service area and combining with the scenic area, we should consider the construction of service area which is suitable for local needs, has local characteristics and culture, has perfect service function, and closely combines plant landscape and scenic area. The main purpose is to build the service area into a front hall leading to the reception of the scenic area.

From a macro point of view, service area with good surrounding resources can be considered as a multi-functional tourism complex. Service area can cooperate with surrounding cities and towns, optimize service facilities, increase the recreational, leisure, service and aesthetic functions needed by tourists, so it can give full play to their driving functions, enhance and develop the surrounding areas. From the perspective of landscape, the use of landscaping elements such as signs, sketches, etc. can intuitively display the local characteristics of tourism resources, cultural heritage, folk culture and other content, so that past passengers can feel the regional characteristics of culture in the service area. Secondly, we should adopt market-oriented operation, integrate landscape design with local characteristics of human resources and natural resources, specially set up a series of market-oriented marketing of local food, specialty sales and other special products, accelerate the formation and development of regional cultural characteristics service area, and form a propaganda window to promote regional culture.

For example, the service area of Gandan Temple in Tibet takes the business operation mode of "company + brand store + characteristic store + RV camp" to create a miniature of Gandan Temple. In the overall design and planning, the religious elements of the Gelug faction are added, featured catering, leisure and entertainment facilities, cultural products display and sale are added, making it a comprehensive commercial center in the suburbs, and driving the development of local tourism economy.
4.2. Tpicalization
After determining the theme of the service area, the theme content will be integrated into the architectural design, landscape design and VI design. In the service area, the traffic flow line is divided into three parts by adding elements of the theme, and the theme is highlighted by the combination of greening. Architectural design should refine the theme color and cultural elements, integrate them into the facade of the building, make it more identifiable, and attract passengers and passengers from the parking area to the service complex clearly and conveniently. View design combines theme, pays attention to creating theme landscape atmosphere, strengthens the interaction within the site, improves the comfort of the environment, and promotes the expression of landscape theme connotation through theme design of landscape sketches, paving and greening. VI design should annotate and express the theme culture and connotation through the elements of logo modelling and color positioning, which correspond to the theme.

For example, Chongqing Jiangxiaobai Theme Service Area combines consumer brand and local culture to become a city's business card. The theme service station uses Jiang Xiaobai's color, blue and white plaid to create a new visual experience, Jiang Xiaobai's four youth IP symbols, animation image signs and so on are embedded in the whole design. See Figure 1.

![Jiang Xiaobai Service Area, Chongqing.](image)

4.3. Business Diversification
With the gradual improvement of China's highway network, the change of consumer's life concept and consumption mode, the function of service area has been changing from single function service mode to multiple function service mode. In order to make highway service area an important part of local tourism, realize the win-win effect of tourists, highway service industry and tourism industry, and promote the joint development of service area and local economy, it will help to promote the formation of industrial value chains such as warehousing logistics, passenger transportation, tourism leisure, product display and marketing, and promote the service area from transportation post to marketing. The transformation of business and tourist destinations.

By expanding service functions and optimizing the internal environment, we can build diversified service area with strong diversity and functionality, promote the transformation from traditional to leisure service area, and enhance the overall image and economic benefits.

For example, the Meicun service area in Jiangsu Province, which integrates shopping, leisure, catering, business and tourism, meets the various needs of the traveling population, is a good service area to meet the diversified needs. See Figure 2.
4.4. Hommization

The core of humanization is people-oriented, demand-oriented, to meet people's diverse, personalized and advanced needs. In order to meet the increasing needs of passengers, in the process of planning, information networking and scaling should be formed, its service functions should be expanded, its role should be changed, the service area should be taken as the basic platform and the passenger as the center, while providing basic needs for passengers, the local road conditions, local characteristics, local delicacies and tourist attractions should also be comprehensively and systematically introduced to passengers. Point, etc.

Provide a good rest environment for passengers, to achieve a certain attraction, and promote the highway service area from "emergency" to "leisure" transformation. When planning the interior of the service area, it is necessary to ensure the rationality of the layout of the parking lot and the exterior free activity area, and the separation of passengers and vehicles without interference in the middle. The interior venues are guided by landscape and restricted by marking, and multiple measures are taken to make the traffic organization more orderly. Through the combination of off-site landscape, greening, paving, service facilities and structures, the landscape sign is used to induce good traffic and the natural isolation of greening from functional partitions.

For example, the maternal and child room in Anhui Xiangpu service area is open all day, equipped with adult and baby seats, console, free supplies such as boiling water, towels, paper towels, etc.; self-service coin-operated car washing machine meets passenger demand, all kinds of humanized facilities are perfect. See Figure 3.

4.5. Ecologicalization

The combination of service area and specific terrain and landform is the most important consideration in landscape design. The terrain and physiognomy of the site is not only the pure artistic expression of nature, but also the important support of landscape design. Landscape construction in service area
should retain the original landform as far as possible, which can not only reduce the cost of landscape construction, but also reflect the regional characteristics of service area.

With the service area of environmental renovation, the landscape greening in the service area should be optimized, and an ecological service area integrating parking, consumption and entertainment should be built. The main idea of this area is to optimize energy conservation and emission reduction, and to build an organic, green and environmentally friendly product supply system. Strengthen the propaganda of ecological service area construction and ecological civilization, strengthen the environmental protection, conservation and ecological consciousness of the crew, promote the integration of ecological and green concepts with crew members, and build the service area into a post station of environmental protection, green energy conservation and health, so as to ensure the ecological nature of the service area construction [7].

For example, Jiangxi Lushan Sea Service Zone makes full use of its surrounding resources, combines with the beautiful features of Lushan Sea Lake District, integrates a large number of low-carbon environmental protection, energy saving and emission reduction concepts, and applies low-carbon environmental protection technologies from power hydraulic systems to lighting and ventilation systems.

5. Conclusion

(1) The main problems existing in service areas in China are lack of landscape design standards, lack of overall planning, single traffic flow line, simple design and lack of humanization, etc. In the planning and design of service areas, key considerations should be taken into account.

(2) Under the background of traffic and travel integration, the planning of expressway service area should meet the principles of integrity, humanity, culture and characteristics.

(3) The design of expressway service area should be considered from five aspects: regionalization, thematization, commercial diversification, humanization and ecologicalization, so as to improve the service quality of the service area.

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