## **Integration of Regional Culture and Traffic Design**

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**Abstract:** With the development of social-economic science and technology culture and information, transportation has penetrated into all levels of human activities. While the transportation industry is introducing convergence technology and new styles, its culture has been impacted. The cultural attributes of transportation have gradually been replaced by commerce. As a result, the city has formed a scene of one side of a thousand cities. This article embarks from the region culture transportation equipment, makes every effort to explore the cultural spirit in the transportation equipment design. This paper studies the integration of regional culture and transportation of regional culture and transportation equipment design in the context of globalization.

## 1. Introduction

Cultural is rooted in specific geographical conditions, such as geographic locations, climatic conditions, historical factors, humanistic spiritual development, and gradually form a cultural integration with distinctive geographical properties.

Public transport usually refers to a public link serving the city's transportation, which covers a wide range, including urban rail, subway and bus transfer, etc.

## 2. Regional Cultural Spirit in Transit Design

## 2.1 Regional Cultural Attributes of Transportation

The regional cultural attribute of transportation is a form of transportation with regional characteristics, which is rooted in the historical period, social conditions and natural conditions. Each regional history evolution has its own development of memory and the attitude of people's lives in various classes, and the level of social development, different natural conditions have caused different traffic, and regional cultural expression often has distinctive geographicality. For example, Not in ancient times. In the case of a machine Common transportation is in the form of horse-drawn carriages. In mountainous areas, even oxen or donkeys are used as a means of transportation.

## **2.2 Characteristics of Traffic**

Transportation, especially public transportation, usually has the dual attributes of transportation hub and transportation building. Because of its different location or characteristics, it generally has the following characteristics:

## 2.2.1 Symbolicity

Transportation, especially vehicles, is usually symbolic, which can provide a hint for passengers. Metaphor shows the landmark image of a city through different sensory experiences through the symbols of vehicles. The symbolic attributes of them are mainly reflected in two aspects: On the one hand, he demonstrates a comprehensive reaction to a technical culture in the era. It is an

embodiment of the development level of urban modern technology. On the other hand, it is also an important display window of urban area image.

## 2.2.2 Openness

For transportation, its openness is mainly reflected in two levels. First of all, the vehicle is an openness in the transportation facilities, mainly reflects a need for transportation facilities to urban residents, transportation, not only in line with the trend of transportation facilities, while paying attention to transportation facilities and overall image of urban development. Second, the design of the transportation must highlight the correlation between the transportation industry and the social regional environment, and it is also necessary to take into account the effective link between urban residents and cities, so that it can play the role of the bond and will be the natural society.

#### 2.2.3 Cultural Attributes

The cultural attributes expressed by transportation mainly refer to Audience groups, a major language of the common way of life, and an expression appropriate to the local environment in which the region is located. Transportation can reflect the characteristics of life, reflect the unique geographical distribution, the unique historical composition, the unique cultural accumulation, and the special national cohesion Especially under certain conditions of time and place, traffic is the concentrated expression of typical things, so it can arouse people's different senses, spiritual resonance and emotional edification.

As a manifestation of culture, it is also necessarily associated with the local human history, natural environment, productivity level. In this regard, the process of transportation design is not only more deeper, but also the surface of the technical link. It is the embodiment of cultural connotation and traffic is a carrier of culture, with cultural properties.

## 2.2.4 The Inevitability of Development

Under the environment of the globalization, each newly expanded city is always costly, the city multiculturalism, transportation trend, and expression of the city with a complete transformation of nature. Its expression and language are becoming increasingly assimilated, which is tantamount to disappearing, and the differences in cultural attributes between different regions have swallowed up the continuation of the cultural expression of traffic regions.

The traffic development has a long history of transportation<sup>[1]</sup>, and there is a certain continuity, agglomerates more or less historical development scores, and those with a long history of construction, there is still a unique life in the traffic social development environment.

In the face of the cultural invasion of globalization, the regional culture with local characteristics should be preserved, continued and developed, rather than submerged in the design and transformation. Continuing the visual memory impact created by the traditional development of transportation and highlighting the unique regional culture is an important way to combine the attributes of transportation design and regional culture. Under the background of globalization, it is an inevitable trend for the development of traffic design to strengthen the integration of traffic design and regional culture and highlight regional culture in traffic design.

## 3. The Integration of Regional Culture and Traffic Design

#### **3.1 Draw Lessons from Local Cultural Symbols**

Different regional cultures are often expressed through symbols. The exterior and interior design of traffic can distinguish the specific areas to which the design content belongs. In order to make the traffic design have a specific geographical culture, cultural symbols are integrated into the appearance or interior design, and the content of the local culture is reflected in the connotation of the domain culture.

## 3.2 Simulate the Local Characteristic Culture

Different regions usually have different customs and cultures, thus forming different traffic

cultures. In traffic design, we should learn from local culture and customs, through the designer's own interpretation of the meaning and symbols represented by different cultures, integrate color and words into the concept of traffic design, and integrate local customs and regional characteristics with the concept of traffic design. Fully displaying the regional cultural characteristics is the unique feature of traffic design.

#### **3.3 Create Local Culture**

In different geographical environments, traffic combinations are also different, which is mainly caused by different regional cultures<sup>[2]</sup>.For example, because of its good terrain conditions, the plain area is easy to form a gentle traffic situation, so we usually use carriages or cars or buses on the road. For mountainous regions, due to their different geographical positions, there are different ways in different geographic locations<sup>[3]</sup>, the terrain is high and low, the mountain roads are narrow, and there are not many flat roads. In the past, local residents used horses or donkeys to carry goods down the mountain. In transportation design, the local cultural factors should be integrated into which local cultural factors should be integrated depending on their local location<sup>[4]</sup>, and they will continue to seek breakthroughs, and create such new transportation with geographical cultural characteristics. For example, like a ring road, let the three public actually have such a place of vitality and cultural life.

#### **3.4 Draw Lessons from the Local Style**

Drawing lessons from local patterns is to create a region One of the main means of transportation. However, we must deal with it in order to become a cultural expression of regional transportation. The two complement each other and constitute the profound cultural connotation and characteristics of local transportation. In transportation design, in order to ensure that the local culture can be reserved, it should be considered in the design to integrate geographic text into the design concept, but also contribute to the principle of saving, but also in the transportation design concept. The charm of local culture, so that the regional culture is fully released, thereby forming a unique tradition.

# 4. A Case Study on the Design of Changsha-Zhuzhou-Xiangtan Inter-City Tourist Rail Transit Vehicles

#### 4.1 Design Overview

Changsha-Zhuzhou-Xiangtan is located in the central part of Hunan Province, a famous tourism and cultural province in China. Surrounded by mountains and rivers, the terrain belongs to the alternating pattern of hills and plains. They has rich historical and cultural resources, such as Yuelu Mountain in Changsha<sup>[5]</sup>, Yandi Mausoleum in Zhuzhou, Mao Zedong's former residence in Xiangtan and so on. Its rich historical culture and unique red culture have jointly constructed the Huxiang cultural heritage of them.

#### 4.2 Morphological Orientation of Regional Cultural Symbols in Changsha-Zhuzhou-Xiangtan

The starting point of the design of Changsha-Zhuzhou-Xiangtan inter-city tourist vehicles is to combine the impression of red tourism with contemporary traffic design. The construction of the carriage image focuses on the form of the Red Tourism Long March, which is consistent with the body of the traffic. The image of the car door is taken from the eaves of the Aiwan Pavilion in Yuelu Mountain, which symbolizes the broad and profound culture of Chu State. The shape of the locomotive is taken from ancient buildings, such as the eaves and window grilles of Yandi Mausoleum, which symbolizes a long history.

In the layout of the interior of the carriage, the seats are designed in the connection of mountain and water, which has a strong guidance. Besides the pattern of the project and the carriage, it highlights the symbol of Huxiang culture linked by mountains and rivers. This design highlights the traffic as a symbol of the gateway to the Huxiang region, and the culture is conducive to beautifying the city and facilitating the effective identification of passengers.

#### 4.3 The Choice of Body Color

In terms of body color, because Changsha-Zhuzhou-Xiangtan belongs to the birthplace of red culture, Reddish color belongs to one of the main colors of red culture. And Chairman Mao's former residence belongs to this kind of maroon color, which just meets this need. In order to coordinate the overall color of the car body with the tone of the local environment in Changsha-Zhuzhou-Xiangtan, we use a large area of maroon as the main tone, supplemented by other colors as the source of the car. Considering that the land of Changsha-Zhuzhou-Xiangtan belongs to red soil, in order to meet the requirements of the body and the ground, we also designed the bottom of the body to be dark maroon.

By updating and evolving the local color texture of them. The continuous development of their color shows the regional culture in the design of intercity carriages.

#### 4.4 The Expression of the Decoration in the Carriages

The design of body decoration will mainly focus on the three aspects of doors, windows, roof and seats.

The doors is combined with the arch shape of Yuelu Academy, which assists the window structure and continues the style of Yuelu Academy while incorporating a small amount of modern language. In terms of windows, it combines the size of the external doors and windows of Du Fu's attic in Changsha, and It adopts the decorative technique of large glass windows to improve it.

Since Changsha, Zhuhu is located in the subtropical monsoon climate, the precipitation is concentrated, the vehicle body and the body have a high demand for flooding and drainage, so the top of the body and the periphery of the roof around the body uses the pneumonia structure of Yan Emperor.

The layout of the seats in the car adopts the undulating terrain structure of them, which is a combination of mountains and rivers and the shape of the seats, creating an undulating attention pattern.

For the door and window, roof, front and car seats of the intercity tourist train, the focus of the three decorations, combined with the symbols of geographical culture, to achieve the integration of geographical culture and intercity tourist train transportation design.

#### 5. Conclusion

Public transportation is the product of urban development. It is a regional iconic feature, under the impact of new cultural development thinking and technology levels, more need to focus on the design of local culture.

Through the above analysis, the final integration of regional culture and traffic design needs to adopt the form of external space suitable for local needs. Through the cultural symbols, space form, etc. To interpret the transformation of different regional cultures, and the use of modern structure and the combination of local appropriate color technology to achieve the unity of traffic regional culture and design expression needs, so as to create a traffic design that is suitable for the climate environment of Changsha-Zhuzhou-Xiangtan and promotes the cultural needs of Changsha-Zhuzhou-Xiangtan and highlights the cultural characteristics of different regions.

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## References

[1] Uzunoğlu K, Uzunoğlu S S. The Importance of Pedestrianization in Cities-Assessment of Pedestrianized Streets in Nicosia Walled City. European Journal of Sustainable Development, Vol.9, no.2, pp.589-589, 2020.

[2] Zhou H, Gao H. The impact of urban morphology on urban transportation mode: A case study of Tokyo. Case Studies on Transport Policy, Vol.8, no.1, pp.197-205, 2020.

[3] Choudhury P, Foroughi C, Larson B. Work - from - anywhere: The productivity effects of geographic flexibility. Strategic Management Journal, Vol.42, no.4, pp.655-683, 2021.

[4] Gopalkrishnan N. Cultural diversity and mental health: Considerations for policy and practice. Frontiers in public health, Vol.6, pp.179, 2018.

[5] CHANG X, ZHANG X, DAI J, et al. Comparison of stable isotope effects under different time scales: Taking Changsha as an example. Quaternary Sciences, Vol.41, no.1, pp.99-110, 2021.