

Study on the Effect of Colored Pavement on Improving the Safety of Intersections

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Abstract

The colored road surface can not only meet the driving function of the vehicle, but also has a good environmental protection function. Under the premise of promoting traffic safety, the pavement of colored roads with large traffic flow can improve the color environment of the intersection, affecting people's perception and overall impression of the city.

Keywords

Colored roads, intersections, traffic safety.

1. Current Status of Domestic Traffic Safety

At present, China is in the period of economic rise, and small cars have entered thousands of households. Road traffic safety has become one of the hot issues of concern around the world, hindering economic development, social progress and the happy life of the people. In recent years, with the increase in the number of motor vehicles, the road traffic accident rate has become increasingly fierce. It not only caused great loss of social wealth and resources, but also had certain adverse effects on social stability and residents' well-being.

How to solve the negative traffic safety problems caused by the rapid increase in the number of motor vehicles, ensure the sound, rapid, and stable development of the social economy, analyze the impact of different factors on road traffic safety, and explore and study effective ways to improve the road traffic environment and Measures are the problems that must be faced and solved in the healthy development of road traffic in China. In recent years, research at home and abroad has shown that the use of color road auxiliary signals to control intersections can greatly improve the traffic safety of intersections and beautify the urban environment.

2. The Effect of Colored Pavement on the Traffic Safety of Intersections

Generally speaking, from the perspective of color science, the cool color shades of black and gray are visually and psychologically [1], which gives people a feeling of negativity, which makes people feel depressed and a little heavy. Therefore, rational use of the psychological effects of color on people, the use of color roads and traffic signs, the design of a new road color to dress up with gray hints of people's roads, can make people's travel more comfortable, more fun, safer. Figure 1 is a schematic view of a colored pavement at an intersection.

2.1 Beautify the Intersection Environment and Enhance the Taste of the City

The color of the traditional city intersection is too cool, can not be coordinated with the buildings around the intersection (such as shopping malls), and can not meet the human yearning and pursuit of good things. The color pavement is paved at the intersection, giving a beautiful and comfortable feeling, and it can reflect the taste and charm of the city and create a clean city image.

2.2 Guide the Flow of Vehicles and Organize Urban Traffic

Motor vehicle drivers and non-motorized drivers and pedestrians are most concerned about road conditions, so improving road conditions and giving drivers and pedestrians the right guidance is conducive to organizing urban traffic [2]. Colored asphalt pavement can visually distinguish road rights, that is, motor vehicle lanes and non-motor vehicle lanes, which can attract the attention of

drivers, prevent lanes from mixing and improve traffic safety. The color road is more intuitive, enabling drivers and pedestrians to make timely judgments and regulate traffic order [3].

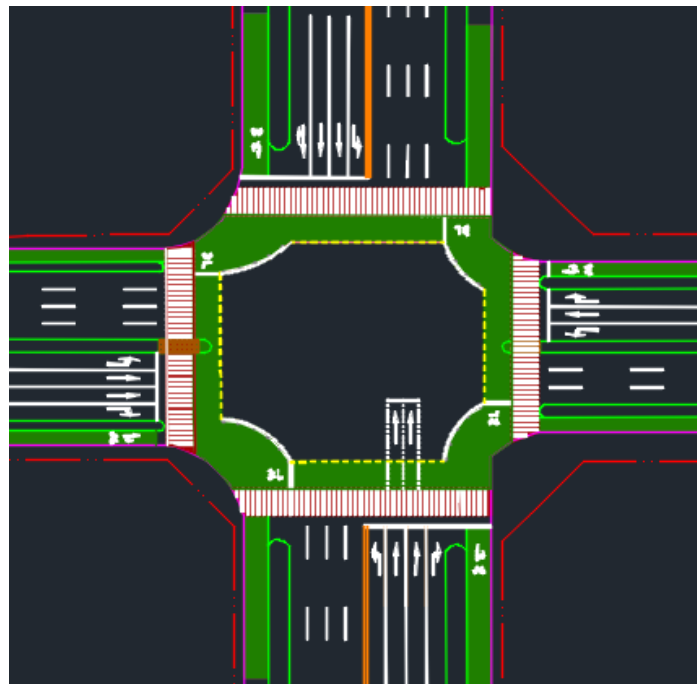


Figure 1. Colored pavement intersection

2.3 Significant Warning Effect to Improve Travel Safety

The colored pavement provides a strong visual impact for drivers and pedestrians, with significant warnings and landscape effects. For example, paving a red pavement between white crosswalks can intuitively alert the driver to slow down and ensure the safety of vehicles and pedestrians. A circle of yellow dashed lines in the middle of the intersection is visually and clearly indicated as a non-motorized entry area, while green is indicated as a non-motorized area. The driving area of the vehicle is clear and it is safer to pass through the intersection.

2.4 Relieve Visual Fatigue and Concentrate

The driver looks at the monotonous road surface for a long time, and is prone to visual fatigue. Symptoms of mental distraction and emotional impetuosity can make false judgments and increase the possibility of traffic accidents. Pave a colorful pavement at the intersection to make the driver's mind clearer and better focused.

3. Summary

The traffic pavement with large traffic flow paves the colored road surface to play the role of the auxiliary signal light control intersection, guiding the driver and pedestrians to pass through the intersection safely. It is also a beautiful scenery of the city [4], but the paving of the colored road is expensive. Therefore, it is necessary to analyze the specific problems of whether or not it is necessary to lay a colored pavement at the intersection.

References

- [1] Traffic Management Bureau of the Ministry of Public Security. Road Traffic Psychology [M]. Beijing: Mass Press, 2001.
- [2] Yuan Hongwei, Xiao Guiping, Nie Lei, et al. Discussion on the relationship between color and traffic safety[J]. Industrial Safety and Protection, 2006, 32(5): 62-64.
- [3] Japanese Civil Engineering Society. Paving Engineering [M]. Tokyo: Japanese Society of Civil Engineers, 1995.

- [4] Ren Shaoying, Liu Xiao. Application and Prospect of Colored Asphalt Concrete Pavement [J]. Journal of Inner Mongolia University of Technology, 2006, 27 (4): 176-179.