

## A Study on Shared Bicycle Traffic Planning under Green Traffic Concept

Wang Xue

School of Management, Shenzhen Polytechnic, Shenzhen, Guangdong, 518055, China

email: wangxue@szpt.edu.cn

**Keywords:** Green Transport Concept, Shared Bicycle, Traffic Planning

**Abstract:** The development of shared economy has given us more convenient life, and the concept of shared economy development is realized through the participation of all people. Sharing economy can integrate resources, improve the utilization rate of resources, make better use of social resources, and also promote social equity. Sharing bikes is one of the pioneers of the sharing economy, the project was founded to facilitate travel and energy conservation and emission reduction, with the characteristics of resource sharing and environmental protection. The current legal system related to the sharing economy is not perfect, which has caused some obstacles to the development of the sharing economy. With the development of economy, the city's transportation has undergone important reforms. With the increase of the number of vehicles, urban residents have increased the requirements for all aspects of travel, so it is necessary to plan the urban transportation to meet the travel needs. Sharing bicycles is a slow travel mode. In urban planning, many cities show road congestion, and planning a route for sharing bicycles can effectively alleviate the problem of travel congestion, but also enrich the diversified travel needs of residents, and can promote low-carbon environmental protection and promote the process of national fitness. From the point of view of green traffic concept, this paper analyzes the main points of shared bicycle traffic planning for reference.

### 1. Introduction

As the urbanization process continues to advance, the scale of the city also gradually began to expand, which for residents, means that their travel distance will continue to increase, the scope of activities will not be short, the direct consequence of this is urban traffic congestion. Traffic congestion makes urban roads crowded, affects the normal travel of residents, but also increases the incidence of traffic accidents, and the emergence of traffic accidents will make the original congested roads more crowded, forming a vicious circle. The most prominent problem in urban planning is that the demand for transportation increases with economic development, which requires the expansion of urban infrastructure [1]. In the process, however, it not only adds a small amount of resources and energy, but also has a great impact on the environment, which is contrary to the concept of sustainable development. In urban traffic planning, it is necessary to combine the urban conditions, such as traffic flow, urban road characteristics, urban economic situation and so on, so as to make a comprehensive and effective planning plan. The idea of sharing is not only to integrate resources, improve the utilization of all kinds of resources, but also to save energy and reduce emissions and low carbon life needs. Sharing bikes is a green way to travel, reducing carbon emissions per inhabitant, and easing current congestion problems, which are important for urban traffic planning [2].



Figure 1 Shared bikes

## 2. The Meaning of Sharing Bikes

At present, there are many researches on shared economy in society, and different researchers have different interpretations on their contents. Some people believe that such a mechanism can promote the overall development of human beings, while others believe that the shared economy is through the coordination of development goals, modalities, etc., so that more people can create and enjoy the fruits of development, so as to meet their diverse needs and get a good experience. Sharing economy is an economic model based on the concept of shared development, which is not equivalent to the concept of common prosperity. Common development can be achieved at any time, and common prosperity can only be achieved in a productive society. Sharing economy is to pursue the value goal of freedom and emphasize the unity between development and sharing. To sum up, the connotation of shared development lies in many aspects, from the view of enjoying groups, it is a good way for more people to enjoy the fruits of economic development, and from the content point of view, it is the result of the common construction and development of the whole people.

The main content of shared economy is to develop the role of idle resources in society, in the Internet era, the emergence of shared economy is inevitable. With the acceleration of information flow and the expansion of the scope, the efficient utilization of idle resources has become a mainstream economic development mode. It is mainly based on the right to use resources, through the lower cost and efficient allocation of resources to users and owners, resources to people in high demand, the key to sharing resources is not to exclude objects other than owners of the right to use resources [3]. People need to pay a certain cost to use such resources, but the cost of doing so is much lower than the cost of possession.



Figure 2 Shared bikes

Sharing bicycle is a classic economic sharing mode. With the help of Internet platform and big data technology, enterprises put a large number of bicycles on the market for people to use, which

solves the distance that other means of transportation can not reach in the travel, and it has the function of energy saving and environmental protection and low carbon travel. Sharing bikes is a tool that enterprises provide to any object to use, as long as the mobile device scan the QR code on the car can be used, very fast and simple. Sharing bikes is unique in that it does not require centralized management of vehicles, but through decentralized management, and in a large range, people can use and stop using them at any time [4]. Through mobile devices people can find the nearest vehicle nearby. Shared bikes have GPS positioning, and people can quickly find vehicles they want to use, thus facilitating travel.

With the emergence of the concept of green environmental protection, the use of shared bicycle meets the needs of the development of the times. As an environmentally friendly economic situation, shared bikes not only provide a convenient way to travel, but also reduce the use of motor vehicles, save resources, but also reduce carbon emissions. Sharing bikes itself is also a sign of green travel, and people can regulate their green travel through the environmental protection concept they convey.

### 3. The Concept of Green Transport

In the current construction of resource-saving and environment-friendly social situation, the concept of green transport as a new urban transport concept came into being. The significance for the planning and development of the city. The development of urban transportation system is closely related to urban planning, and green transportation holds the concept of sustainable development, which is of great practical significance to the current development and future development of the city. The urban transportation system created by the concept of green transportation can not only promote the future development of the city, but also solve the problems of the current transportation system. The development of green transportation is related to many factors of the city, so we should ensure the rationality of urban development and planning when doing green transportation research, and integrate sustainable development and ecology into the concept of transportation, so as to ensure the effective utilization of urban transportation development resources, reduce the pollution to the city and ensure the sustainable operation of urban transportation.



Figure 3 Shared bikes

### 4. Green Traffic Construction Requirements

In the planning process of urban transportation system, we should pay attention to ecological protection, especially in highway project planning, and take environmental protection design into account. The concept of green traffic puts forward that environmental protection design should be incorporated into the design of urban traffic system, and the field survey of the city should be done well in the concrete work, the environment and landscape of the road should be deeply investigated, and the scientific traffic layout should be formulated according to the actual requirements and the constraints of the environment, so as to reduce the impact on the environment during the construction process [5]. At the same time, it is necessary to do a good job in the construction of

pollutants, to avoid secondary damage to the environment. In the process of construction of green transportation system, it is necessary to combine the design scheme to meet the requirements of green transportation in construction. This includes the construction of ecological environment in the region, hydrological vegetation and other factors to ensure that the work will not adversely affect the ecological environment. Road construction should be carried out in strict accordance with relevant specifications.

With the development of cities, the conflict between urban road planning and land becomes more and more intense. In order to ensure the efficiency of urban land use and do a good job of road planning, it is necessary to explore the development mode with local characteristics according to the characteristics of the city, so as to realize the harmony between man and nature, traffic and land. In the process of urban green traffic planning, the first thing to ensure is the rationality of traffic planning, and the rationality of its implementation should be considered comprehensively. Urban transportation needs to integrate cultural, ecological and benefit factors, and rationally allocate land resources. Because different cities are different, it is necessary to make reasonable overall planning according to the regional situation, so as to create a characteristic modern transportation system.

## **5. Shared Bicycle Traffic Planning under Green Traffic Concept**

### **5.1. The concept of Green Traffic**

The core of green traffic is to reduce traffic congestion, save the loss of resources and energy, and promote environmental friendliness. Green transportation should pay attention to the overall development of urban transportation and environment, resources and urban planning. The urban traffic planning based on the concept of green transportation needs to include the coordination between reasonable, public, rail and other traffic, avoid the problem of traffic congestion in each link, and minimize the adverse effects of these links on the environment, and put the pressure of environmental pressure and resources into an acceptable range. At the same time, the measurement standard of traffic efficiency should be people-oriented and take the public interest as the starting point [6].

### **5.2. Green Traffic Planning**

To balance the efficiency and fairness of green transport planning, we need to take public transport as the leading, gradually build a diversified urban transport system, to create a more environmentally friendly and normal green transport environment. This needs to start from the traffic management, the policy support memory plan, guarantees the social fairness, realizes the green traffic and the slow traffic.

## **6. Summary**

To sum up, in the urban planning of green transportation, we should take low carbon green as the main guiding concept. With the emergence of the concept of green environmental protection, the use of shared bicycle meets the needs of the development of the times. As an environmentally friendly economic situation, shared bikes not only provide a convenient way to travel, but also reduce the use of motor vehicles, save resources, but also reduce carbon emissions. Through the development of shared bicycles, the realization of low carbon and green travel of residents, but also ease the traffic pressure, for the sustainable development of urban traffic to provide a guarantee.

## **References**

- [1] Gao, Bin. Application Analysis of Shared Bicycle in Building Green Traffic. Heilongjiang Transportation Technology, vol. 42, no. 11, pp. 182-183186, 2019.
- [2] Xu, Nuo. A Study and Empirical Analysis on the Influence of First Trade Peripheral on Shared Bicycle Layout. Business, no. 29, pp. 147-48, 2019.

- [3] Zhao, Xiyong. Analysis of Civil Legal Issues under the Development of Shared Cycling. *Economic Research Guide*, no. 12, pp. 1198-199, 2018.
- [4] Chen, Shiyu., Gu, Yushi., Xu, Huizhen. Discussion on the Operation Mode and Development of Shared Bicycle. *China Collective Economy*, no. 17, pp. 166-68, 2019.
- [5] Tao, Haijiang. A probe into the profit model of shared bicycle enterprise. *Enterprise Technology and Development*, no. 4, pp. 162-163, 2019.
- [6] Yuan, Shu. Research on the Integration of Shared Bicycle and Urban Traffic Network Construction —— A Case Study of Nanjing. *Science, Education and Culture*, no. 33, pp. 185-188, 2018.