

SHARING ECONOMY DRIVES GREEN TRAFFIC

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ABSTRACT

The primary purpose of this study was to solve the problems of traffic congestion and environmental pollution caused by the development of urbanization, realize the sustainable development of traffic. This paper studies the application of new green traffic represented by shared traffic under the background of the shared economy. Taking the shared bike as an example, discuss its application status and development suggestions in China. The green traffic development under the shared economic environment has recognized by the market, but it still needs to continue to combine with practical problems to achieve sustainable development.

Keywords: sharing economy, green traffic, shared traffic, bike-sharing

1. BACKGROUND

Since the reform and opening up, our country urbanization construction has got the rapid development, at the same time has also brought the "city disease" such as the city congestion, the environment pollution and so on. With the rapid growth of motor vehicles in China, it adds over 20 million new vehicles each year. Since 2009, the number of motor vehicles in the world has been the largest, and the huge number of motor vehicles is one of the main causes of urban congestion. At present, the rate of public transport travel is less than 50%, but the non-public transport vehicle rental, maintenance, and other costs are rising year by year. To achieve sustainable development, "green traffic", a new traffic mode aiming at environmental protection produced. For the encouragement and promotion of urban residents' green travel, the solution of urban traffic congestion, the environmental protection and economic transformation of urban travel environment, and for the sustainable development of urban traffic, its necessity and urgency have become more and more obvious.

The primary purpose of this essay was to solve the problems of traffic congestion and environmental pollution caused by the development of urbanization, realize the sustainable development of traffic. This paper studies the application of new green traffic represented by shared traffic under the background of the shared economy. At present, the upsurge of urban sharing economy has led to many shared forms of transportation, such as sharing car rentals and online car-hailing, sharing electric cars, sharing bicycles and so on. These

new modes of transportation, because of their convenience and economy, quickly opened the market, and the scale of the market also rapidly expanded. It is very important to study the impact of new green traffic from the perspective of shared economy for China's urbanization traffic problems.

2. THE EMERGENCE OF THE “SHARING ECONOMY”

With the Internet information age, “sharing economy” has become popular. The field of its development is changing from life-oriented service to production-oriented service, the sharing service platform is changing from a simple platform to a multi-level comprehensive platform, and the sharing content is changing from sharing idle individual means of living to platform configuration of idle means of production.

The basic characteristics of the “sharing economy” model are the sharing economic behavior among individual consumers, such as sharing, exchanging, lending, leasing and so on (*Yang, 2016*). At present, the sharing economy has the after forms: first, the demand side pays a certain amount of expenses to the supply side to get the right to use; Second, using a payed third-party platform, the demand side and the supply side improve their respective information and trade with each other; Third, the supply side through their own or their own platform to trade with the demand side, from the production to the transaction is the delivery side to offer services. In transportation, the success of foreign Uber and domestic Mobike and Ofo, such as Didi Taxi and other shared economic models is the third form.

3. SHARED TRANSPORTATION: SHARE-BASED TRAVEL TRANSPORT

We define shared traffic (Shared Mobility) as "a common car, bicycle, or another low-speed mode of transportation that allows users to get short-term transportation services based on their personal needs, rather than ownership of the car."

Shared traffic is the most exemplary and leading field in the development of the shared economy in China. It integrates urban traffic idle resources through Internet public service platform, realizes dynamic, timely, accurate and efficient matching of traffic supply and demand, and forms a new transportation service form of efficient allocation of traffic resources. With the promulgation and implementation of relevant national policies such as network booking taxi, Internet rental bicycle and mini-bus, and issuing local supporting implementation rules, the order of shared traffic development is becoming more and more standardized (*Zhao, 2016*). It is gradually becoming a new force which changes the traditional transportation service and reconstructs the urban traffic pattern.

Shared traffic is the core area of shared urban construction. First, we should strengthen the management of shared traffic planning, integrate shared traffic planning and construction into urban planning and special urban traffic planning, and share the vision of long-term planning and short-term construction plan of traffic development, and the database of major supporting projects. Second, combined with the national and local policies, the positioning of different shared traffic patterns in the urban comprehensive transportation system

defined. According to the public nature of traffic travel, low carbonization, and intensive level, the planning and construction carried out. Non-motorized shared travel modes such as shared bicycles should have priority support and should integrate with urban slow-walking system planning. Third, focus on promoting the integration of shared transport and public transport development. Finally, speed up the construction of shared parking system (Li, 2017).

Currently, it shows common shared traffic examples in Table 1.

Table 1: Common shared traffic

Categories	Brand	Country	Remarks
Car-sharing	Uber	America	special car
	Bla Bla	France	Shared car
	Autolib	France	Electric vehicle
	Shengzhou icar	China	Fuel vehicle
	Didi	China	Special+shared car
	Gofun	China	Electric+ Fuel vehicle
	EVCARD	China	Electric vehicle
Bike-sharing	Spinlister	America	-----
	Ofo	China	Time-sharing lease
	Mobike	China	Time-sharing lease
Park-sharing	Park Tag	Germany	-----
	51parking	China	WeChat Mini Program
Navigate-sharing	Boatbound	America	Shared yacht
	Netjets	America	Idle private jet rental

4. GREEN TRAFFIC

In 1994, Canadian scholar Chris Bradshaw put forward the concept of “green transportation system” for the first time. According to the degree of environmental harm and resource consumption, seven kinds of common travel modes ranked in order: walking, bicycles, public transport, commuter, private car (Shaheen, 2016.). He thinks to solve urban traffic problems, more attention should pay on accessibility rather than traffic patency, while green traffic introduces the concept of “people-oriented”, which fully considers the subjective feelings such as human accessibility.

Sustainable development is the goal of urban mobility planning transformation. “green traffic” has applied under this framework in urban transportation as an important part. This transportation system can significantly reduce traffic congestion, reduce environmental pollution, and use resources.

Because of the “people-oriented” thinking of green traffic, we have considered people’s subjective feelings. The research of green traffic is in (1) various travel modes in the green traffic system; (2) factors which influenced the green traffic; (3) policy published in the green traffic system. At present, the sharing economy used in urban transportation is an economic model based on cooperative consumption theory. Many application cases, such as sharing

bicycles, show the advantages of flexibility, convenience and cost-saving, and so on. But the current green traffic system and this new traffic mode seldom combined. By integrating the influence factors of the existing green traffic modes, putting forward the hypothesis and empirical analysis of the shared traffic, which is helpful to meet the users' needs, explore the market rules and develop the emerging industries. It will provide the basis to industry stakeholders and government departments to decide.

5. "SHARING BICYCLE"

5.1 The emergence of shared bicycles

The shared bicycle is a new product under the shared economy. It is a kind of bicycle system which faces to the short and medium distance travel, adopts the time-sharing charging mode and can be transferable under the "Internet" environment. It has the characteristics of flexible and convenient, safe economy, low carbon environmental protection and so on. The rental process of shared bikes is simple. Users can download the APP, of shared bikes and check out the bikes that can rent in the surrounding areas. They can also find the parking points of bicycles by booking ahead of time through mobile phones, to realize green travel.

Shared bicycles belong to a category of green traffic with features that other green traffic modes do not have, such as low rental price, convenient transfer, and a wide range of options to choose from, and so on. Sharing bicycles with the advantages of economy, convenience, low carbon and other advantages quickly opened the market, city governments are also more optimistic about the operation of shared bikes, encouraging the public to choose the way to share bicycles. The environmental protection function of shared bicycles has widely publicized. Bike sharing solves the problem of "last kilometer" travel, and it will lead to a new era of green travel.

5.2 Development status of shared bicycles in China

From introducing bike sharing mode from 2007 to 2017, the boom of bike sharing in China has shocked the world in 10 years. The current findings of shared bikes are:

- (1) The popularization rate is high; the demand is big. In 2018, the domestic shared bicycle user reached 298 million people. Ofo, Mobike, Harrow as the representative of the sharing bike because of its convenience, low-carbon environmental protection, low-cost, high performance and other characteristics, won the favor of the public, the demand for shared bicycles is also increasing.
- (2) Relieve the traffic pressure in the morning and evening. With the rapid development of China's economy, industrialization and urbanization, the number of motor vehicles are increasing day by day, and the urban traffic pressure is also increasing. The emergence of shared bikes improves the utilization of roads, relieves the pressure of urban traffic travel to a certain extent, and solves the embarrassment of the "last kilometer", thus achieving a good point-to-point trip.

- (3) Change the concept of riding and lead the green trip. Shared bicycles use Internet technology and GPS positioning systems to facilitate people to locate vehicles in proximity. Sharing bikes adhere to sustainable development, environment-friendly economic concept, to provide users with convenient, fast, green and healthy travel services.
- (4) The parking status of the shared bicycle. Internet-sharing bicycle brings great convenience to people. However, some users do not park the vehicle according to the regulations, not only influence the traffic order and the appearance of the city but also the potential safety hazard. the society also has the unethical behavior to lock, destroy, steal the bicycle, wear and steal the two-dimension code without permission.

4. CONCLUSION AND RECOMMENDATIONS

Shared traffic is the product of green traffic innovation and economic mode innovation. At present, the shared economic market has gradually become mature, there is fierce competition, the survival, and development of relevant enterprises and access to market opportunities is essential. At present, the market has recognized the supplementary role of the new green traffic to under a wide range of entrepreneurial attempts. The development of green traffic under the environment of the shared economy needs not only the joint regulation of government, enterprises, and users but also the concrete analysis according to the concrete reasons for the problems. From the small and- medium-sized aspects of life, strengthen supervision, improve punishment measures, improve the level of technology and so on. The management of shared bicycles requires a combination of macro-control and micro-management to promote the sustainable development of shared bikes.

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