ISSN: 2637-6067 DOI: 10.6918/IJOSSER.202002_3(1).0014

The Planning Strategy of Urban Space Under the Influence of Shared Transportation

Xingru Yin[1, a, *]

[1]School of Fine Arts, Sichuan University of Science & Engineering, Zigong, 643000, China.

[a]Corresponding author Email: 215766144@qq.com

Abstract

The emergence of Shared transportation has brought far-reaching impact on urban space. Through objective analysis of this impact and combining with the new characteristics of urban space under Shared transportation, the following strategies are proposed for urban space planning in China: activating space stock, road Sharing and establishing credit system.These Suggestions have strong operability and can provide some inspiration for decision-makers.

Keywords

Shared transportation; Urban space; Planning strategy.

1. Introduction

In recent years, the sharing economy based on information technology has risen rapidly and penetrated into all aspects of social work and life. The concept of Shared transportation arises at the historic moment in this context, the essence of Shared transportation is the deep integration of information technology to social comprehensive transportation resources. Shared transportation has shown great vitality due to its characteristics of environmental protection, efficiency and individuation, among which Shared cars and Shared bikes are the most deeply developed[1-3], extensive and representative fields in China. The emergence of Shared transportation changes the traditional operation order of urban space and broadens its development dimension[4]; However, due to its short history, there are still many imperfections in policies and regulations, so there are many problems. Therefore, it is urgent for decision-makers to consider the overall urban space planning under the existence of Shared transportation. Based on previous studies, this paper will make a scientific and in-depth summary of the characteristics of urban space under the influence of Shared transportation, and then propose some targeted strategies for specific problems.

2. The Impact of Shared Transportation on Urban Space

2.1. Positive Impact

The myriad business models that have sprung up in the "Shared transport" boom fall into two broad categories. One is time-sharing rental model, such as Mobike[2,3];The other is the "owner-share" model, such as Didi[1,3] hitch. These two transaction modes are to simplify the transaction hierarchy through the combination of Internet platforms and big data, accurately match services, and finally reflect on the space, thus enhancing the utilization efficiency of urban space and supplementing the space quality.

2.1.1 Enhancement of space utilization

With the help of mobile payment tools, the temporary transfer of the right to use idle resources can be quickly realized, the transaction efficiency is improved, idle transportation resources

ISSN: 2637-6067 DOI: 10.6918/IJOSSER.202002_3(1).0014

are quickly activated, and urban space can be used in combination, which is conducive to reducing urban space stock.

2.1.2 Spatial quality supplement

Personalized Shared-transportation services based on big data can meet people's demands for differentiated services in time and space, The diversification of services give the demanders more choices, so it can penetrate into areas not covered by traditional means of transportation, such as the "last kilometer" problem that bike-sharing strives to solve. In this way, multiple switches of different transportation vehicles in adjacent time can be completed efficiently, so as to truly connect urban space and improve the service quality of urban space.

2.2. Negative Impact

As an emerging industry, the development time of Shared transportation is relatively short. From the perspective of the enterprise, the enterprise operation is not standardized, supporting facilities are insufficient; From the perspective of the government, urban space distribution lacks institutional guarantee and government supervision is chaotic.Personally, moral quality needs to be improved. So there will be some problems as follows: Excessive shared transportation resources invades the original public space of the city, which seriously disturbes the original order of the urban space and leading to the imbalance of urban space governance to some extent. For example, Shared bicycles were once called "urban garbage".

3. The Characteristics of Urban Space Under Shared Transportation

As can be seen from the above analysis of the impact of Shared transportation on urban space, the service of its online-platform is characterized by openness and decentralization[1,3,5], Through mobile phone terminals, people can easily access transportation services and related resources in all corners of the city. Therefore, the use of urban space is characterized by mobility. At the same time, because of this, the scale of urban space required for sharing transportation is more flexible and diversified. In a word, Shared transportation not only expands the urban space in terms of scale, but also divides the use time of urban space to some extent, making part of urban space become multi-functional and complex sites.

4. Planning Strategy

4.1. Activate the Urban Stock Space and Create the Compound Benefit By Using the Urban Space

In the new era, the drastic changes in economy and society directly affect the transformation of planning work, so that urban gray space can be utilized to create compound benefits and realize the maximum utilization of urban space resources. At this stage, there will be a large number of urban gray Spaces, and planners can make full use of the characteristics of decentralized and multi-scale of the Shared transportation and transform them into a series of small scale composite Spaces with a small investment.For possible problems such as insufficient and difficult parking Spaces, three-dimensional parking Spaces can be added or time-sharing management[6] can be implemented on the basis of refined spatial layout. The specific refined spatial layout includes the improvement of communication facilities. In a word, various micro-sized Shared Spaces can be set up flexibly to activate the vitality of urban space and reduce the stock space.

4.2. Road Sharing--optimize the Spatial Structure of Urban Roads

Reasonable distribution of road use right is the key to smooth urban transportation space[6,7,8]. In the past urban road planning, motor transformation has been the focus of attention for a long time, so that the proportion of right of road occupied by motor

ISSN: 2637-6067 DOI: 10.6918/IJOSSER.202002_3(1).0014

transportation can reach 70%~80%; however, with the emergence of Shared transportation, motorized transportation represented by cars only accounts for 20%~30%. Nowadays, the modes of travel are more and more diversified, with the development of Shared bikes and Shared parking, supporting and protecting the vulnerable modes of transportation is an important planning tool to optimize the urban transportation space and promote green and low-carbon travel. The distribution proportion of right of road occupied by different means of transportation can refer to the spatial planning concept of "transportation safety and tranquility". For example, facilities such as bike-sharing rental points and Shared parking Spaces can be added, and they can be connected with public services such as schools, parks and businesses, so that Shared transportation becomes the most convenient system for the public to travel.

4.3. Establish the Credit System of Shared Transportation and Improve the Space Management System

The construction of Shared transportation management and credit system, which is led by the government and participated by enterprises and the public, can create a harmonious, stable and sustainable urban space. On the one hand, Governments should improve space control methods, Managers can consider from the following aspects: (a) opening up Shared space for urban transport and establishing a system of space access;(b) to monitor the behaviours of the parties to Shared transport and assess the integrity of the participation. Enterprises and individuals that violate the rules of sharing behavior are given credit downgrade, enterprises and individuals that maintain the order of sharing space are given credit bonus, enterprises and individuals with poor credit records are given space idle, and the use of urban space is prohibited or limited. For example, the lack of parking space is an important factor restricting the development of Shared cars. If the government can provide an appropriate amount of public parking Spaces and regulate the use and parking of Shared cars, it will be conducive to the ease of parking, collection and operation of Shared cars, so as to improve the efficiency and convenience of urban transportation. On the other hand, relevant operating enterprises need to do the following things :(1) abide by relevant regulations of the city and market rules and assume management responsibilities;(2) improve the level of offline supporting services and constantly innovate the operation model;(3) Addressing the unbalanced development of Shared transportation. For example, currently, there are so many Shared bikes in the central area of big cities that some areas are saturated, but they cannot meet the needs of residents in the periphery and medium-sized cities. Finally, a sound public participation and urban governance mechanism[9] should be established to effectively protect the public interests, distinguish the public and interest groups in the process of urban planning and implementation, and divide the implementation methods of public participation of different groups, so as to absorb public Suggestions to the maximum extent.

5. Conclusions

Shared transportation is a kind of green travel way to realize the efficient use of urban transportation resources. Its emergence has caused a great impact on urban space. Based on the summary of the new characteristics of urban space, three specific strategies are put forward for different problems: activating the space stock, sharing the right of way and establishing the credit system. If these strategies can be implemented from the perspective of policies, regulations and urban planning, they will guarantee the further healthy development of Shared transportation.

ISSN: 2637-6067 DOI: 10.6918/IJOSSER.202002_3(1).0014

References

[1] Li Yijia;Lai Xuhua.China's urban traffic report for the first half of 2016[R]. Didi media research institute, 2016,

[2] Chen Guopeng. Research on the Private Cars Sharing Mode to Alleviate Urban Transportation Congestion in The "Internet +Transportation" Perspective[J].Urban Development Studies, 2016 (2): 105-109.

[3] Zhao Sidong, Wang Xingping. Sharing City Planning Driven By Sharing Economy [J]. Planners, 2018 (5): 12-17.

[4] Zhuo Jian, Wu Zhuoye, Xu Yijing.Road Sharing Oriented Open Block Planning And Design [J]. Planners, 2017(7): 19-25.

[5] Nie Jingxin, Liu Helin, Zhang Xianchun.The Characters, Connotation, Spatial Rules And Planning Strategy Of Sharing Economy In The New Era[J].Planners,2018(5): 5-11.

[6] Transport for London. Streetscape Guidance2009: A Guide to Better London Streets[R].STR/023, London: Transport for London, 2009.

[7] Jan Gehl. Public Spaces, Public Life[J]. Copenhagen: The Danish Architectural Press, 2002.

[8] New York City Department of Transportation. Street Design Manual[R]. New York City: New York City Department of Transportation, 2009.

[9] Shen Jie, Li Xinyu, Qiu Xiaogao. Public Participation In Urban Planning In Sharing Economy [J]. Planners, 2018(5): 18-23.