

The Development and Policy Recommendations for Dockless Bike Share (DBS) in China

Liu Shaokun, Li Wei, Deng Han @ ITDP *Institute for Transportation and Development Policy*

In 2014, the ofo was established by a Peking University graduate Dai Wei and 4 partners, which aimed at serving the internal transportation needs within the campus. In June 2015, the Peking University witnessed more than 2000 ofo bikes being shared, and then the dockless bike share (DBS) market has boomed over the entire country and attracted the attention from the investors and giant companies. In 2016, the growing popular sharing economy together with high speed mobile networks and smart phone technology brought the DBS business to nearly every corner of China and created a colorful playground for different operators with different colors as their identities. This kind of new bike-sharing model has become so popular with its huge amount, coverage, popularity and convenience for the short distance commuters.

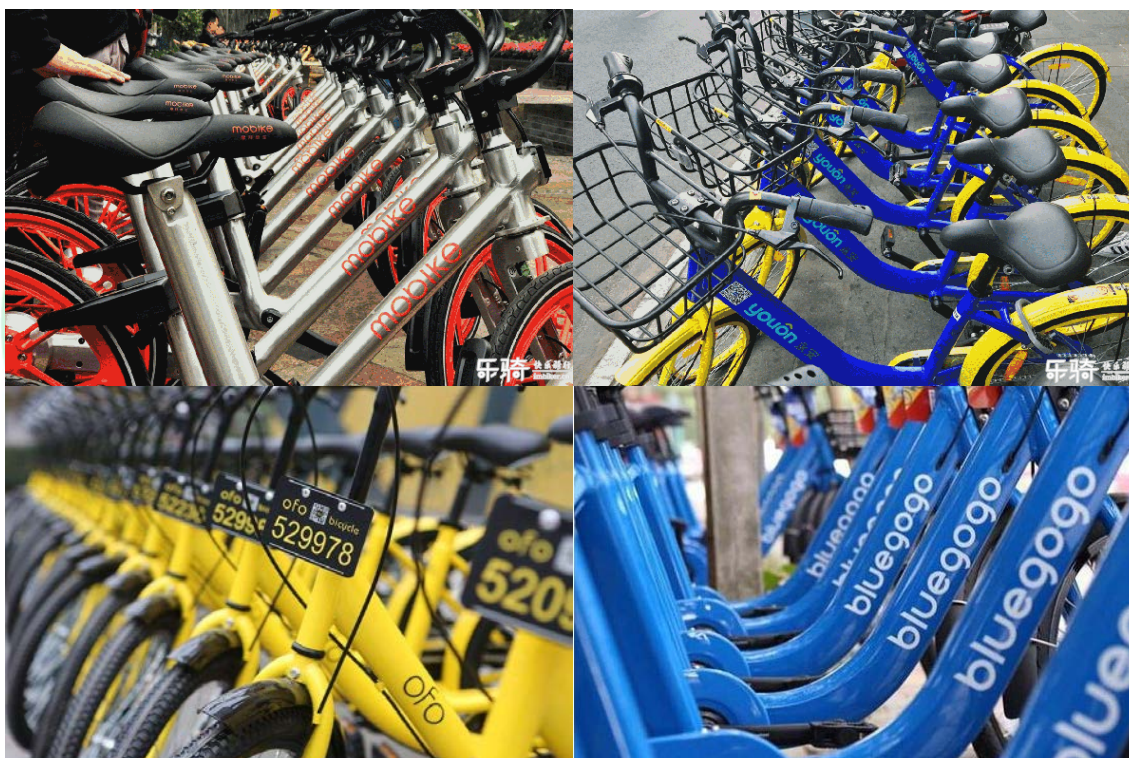


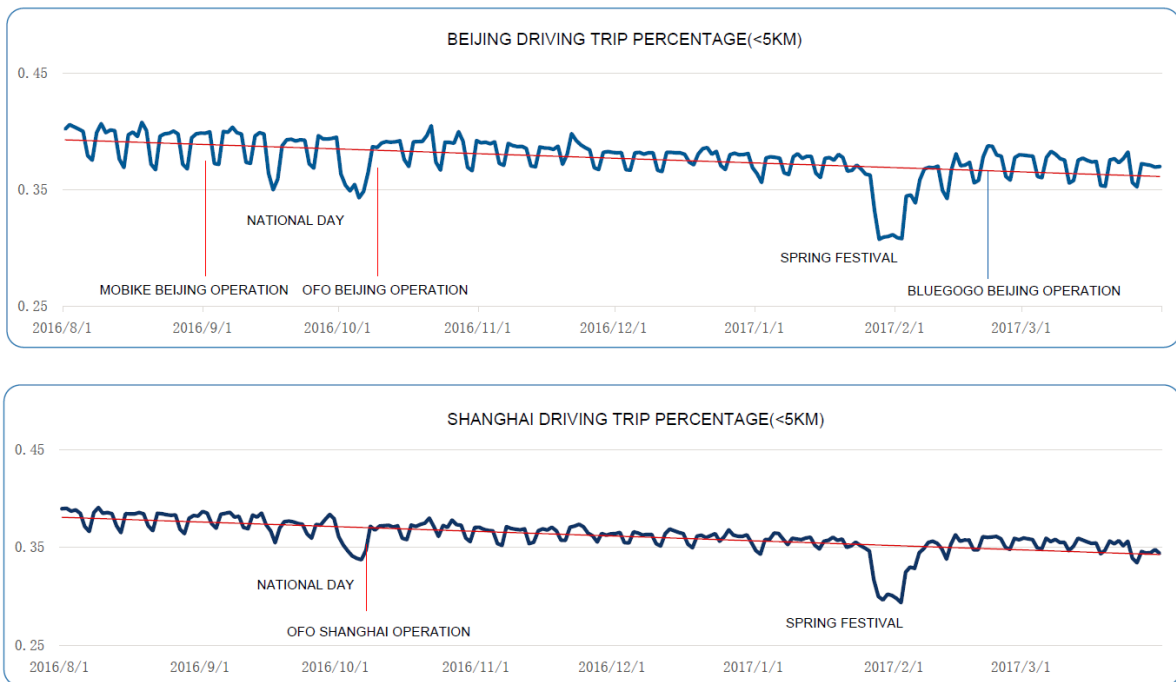
Photo source: internet

Compared with the traditional public bike with fixed parking docks, this dockless bike-sharing model is innovative in technology and operation. It does not require the fixed dock, lock and service terminal, instead, it can be accessed through the on-board GPS, the Internet +, and the mobile payment to lock/unlock and pay by scanning the QR code on the bikes (except ofo) in the smartphone Apps, which gives the users great convenience and flexibility. A survey result showed that more than 90% of the users believe DBS will be the future trend of the public bike industry.

According to the statistics of the Cheetah Global Lab, until April 2017, there are 45 DBS operators in China with around 7.2 million bikes. While for the big two, the Mobike is operating in more than 50 cities with around 3 million bikes and 20 million times maximum daily usage. The accumulated usage of the Mobike has amounted to 600 million times since its establishment; while for ofo, it now

operates 3 million bikes in more than 70 cities.

The boost of the DBS business has significantly released the bike travel demand in China and improved the mobility mode share structure in the cities and the air quality as well. The Report of Traffic Analysis in Major Cities in Q1 2017 produced by AMAP, a major online map provider, indicates that the short distance travel (within 5 km) by car in Beijing and Shanghai has been remarkably reduced since the DBS became popular, which also means DBS has replaced numbers of short distance travel by car in 2016 and then contributed to the air quality improvement and energy conservation efforts.



Graphic source: The report of traffic analysis in major cities in Q1 2017 produced by AMAP

The DBS is now attracting more investors and players in the market. According to the statistics, until April 2017, in the four cities of Shanghai, Shenzhen, Beijing and Chengdu, there are around 450 thousand, 520 thousand, 700 thousand and 500 thousand bikes respectively, which have posed a big challenge for the urban administrators. The tradition of the city mobility modes, the lack of cycling infrastructure, the inactions in management have led to great difficulties and urgent challenges for the urban management authorities on how to ensure the effective utilization of the city public space and the smooth traffic.



Over supply



Blocking sidewalk



Vandalism



Lack of bike lane



Potential safety risk

Photo source: internet&ITDP

There are no existing solutions for this new-born bike-sharing model and its new problems. The popularity of the bike-sharing has even highlighted the previous underdevelopment of the cycling infrastructure in the city. The government is now exploring the policy on how to guide and regulate the bike-sharing and operation. More than 10 cities have carried out their regulations, but it is still in the stage of exploration and the solutions still facing the matter of trial and error.

CITI	Policy/Regulation
Shenzhen	Several opinions on encouraging the regulation of Internet bicycle service (Draft)
	Shenzhen bicycle parking area (curbside) implementation guidelines (Trial)
Chengdu	Chengdu trial opinions on encouraging DBS development
	Chengdu technical guidelines for NMT parking in downtown public areas
Shanghai	DBS service specification
	DBS technical specification - part I: Bicycles
	DBS technical specification - part II: E-Moped
Beijing	Beijing guidance on encouraging orderly development for DBS(Trial)
Xiamen	Xiamen bicycle parking area implementation guidelines (Trial)
Guangzhou	Guangzhou downtown bicycle parking area implementation technical guidelines
Ji'nan	Several opinions of Ji'nan on encouraging and regulating the development of DBS (Draft)
	Ji'nan market access requirements for DBS operators
	Ji'nan downtown DBS parking area implementation technical guidelines
Fuzhou	Opinions on the implementation of daily standard management for DBS in Gulou District
	Standard management commitment for DBS.
Nanjing	Several opinions on promoting healthy development of DBS in Nanjing (Draft)
Tianjin	Interim measures for DBS management in Tianjin (Draft)

The new challenges are not only for the infrastructure, but also for the innovation in service and operation system, which would be the core for the future development of the DBS business. To solve this difficulty, market alone is not enough, it needs the joint efforts from the government, the bike operators and the users under a regulation framework and play their own roles for cooperation and mutual development. ITDP therefore proposing the following policy recommendations on DBS:

A. Better positioning of DBS in the city mobility structure and providing targeted policy support

DBS itself is a market player but participates in the public service area. The mobility model of DBS can be considered as a part of the public welfare facilities. The marketized public service provider in nature has a better competitive advantage in service quality and efficiency. However, the business seeks for profit anytime in providing its services, which in turn become not enthusiastic enough in bearing the cost of public service, one example could be the illegal and random parking. When the investors and capital are enough, the service of the bike-sharing can be guaranteed, however, once the investors are not so interested someday, the bike-sharing model has to shift from seeking profit to

providing public services with stricter regulations and higher operating cost. Therefore, in the very beginning of the bike-sharing development, targeted policy support is necessarily needed in optimizing the traffic structure apart from promoting the green and more convenient travel for the citizens. A better positioning of DBS in the city mobility structure and the targeted policy support could be the key and basis for the sustainable development of the DBS initiatives.

B. Developing the guidelines and regulations, defining the rights and responsibilities of the government, operators and users to lay a solid foundation for the bike operation and management

With the wild growth of the DBS business, this model has also led to problems such as illegal parking, vandalism, theft, intransparency of the deposit and the faulty operation and management of the bike companies. The disorderly competition without regulation has become the primary challenge in the DBS market. More and more irresponsible behaviors by the users are also bringing the debate on the civilized awareness of the Chinese people. Actually, the so called “low quality” people are just those “no-regulated people” without proper laws and regulations. The misbehaviors of the certain group cannot represent the all. For the new things like the DBS, market alone is not enough to solve all the problems. A free and flexible business environment with proper regulations shall be created timely to allow the government, the operators and users play their own roles and grow together.

Therefore, the guidelines and regulations shall be carried out to clearly define the responsibilities of the government, operators and users. The operators shall put the bikes into the market by themselves, the government shall provide the guidance, infrastructure support and relevant policy safeguard, while the users shall rent the bikes under the regulations so that the rights and interests of each party could be guaranteed.

C. Sticking to the principle of “people-oriented” and providing an accessible, green and safe cycling environment

a) Improving the appropriate cycling facilities including the bicycle lanes and parking facilities

The boosting of DBS all over the country has highlighted the past underpriority of cycling and the lack of bicycle facilities within the cities. To create a safe, convenient and accessible environment, improving the bicycle facilities could be a necessity. The first priority is providing proper parking space for the bikes, not only for the convenience of the users but also for easier urban management. The parking space shall be close to the needs like the bus stops, the business areas, the commercial areas and the residential areas. The second point is strengthening the construction of the bike designated lanes to provide a safe, comfortable and accessible environment for cycling.

b) Improving the safety and quality of the bikes and developing the technical standards of the shared bikes

The DBS have much heavier and more frequent usage than the personal bikes. The existing national standard for bikes is far from enough. Also, the use of the shared bike is different from the ordinary bikes which requires a specialized technical specification. The hardware of the bikes shall be specially designed to ensure the safety of the users.

c) Adopting different payment methods to ensure social inclusiveness

Most of the Mobike and ofo users are young people who are capable in using the smartphones and Apps in unlocking and paying the DBS. However, the elderly generation might have some difficulty in using the DBS. The traditional Youon Public Bike have several payment choices which can be easily used by the elderly and have a better coverage of the users. Adopting different payment methods

could lay a solid foundation for using the bikes by most of the people and contributes to social inclusive development and equity.

D. Defining the responsibilities of each government authorities to improve the management and public services

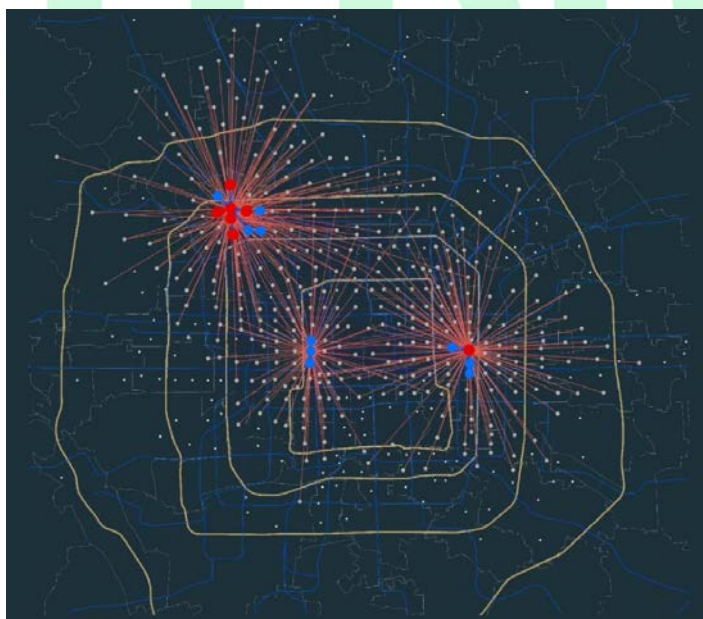
The operation of the bike-sharing requires the use of urban roads and parking space. The wide spreading of the bike-sharing has already posed new challenges for the government. Since the management involves several different departments, the responsibilities of each government authorities shall be better defined to improve the management efficiency and avoid lack of coordination, as well as ensure the orderly operation of the market. Similar actions like the deposit management, insurance system, complaint redressing mechanism and law enforcement shall also be established and improved to build a regulated public space environment.

E. Encouraging technical and managerial innovation in tackling the new challenges

The competition among the operators should be on the technological and service fronts, not in the number of bicycles. It is recommended that GPS shall be installed on each bike for the basis of informationization. The “geo fencing” technology could also be adopted in the urban management, which could easily solve the illegal parking problem in a fast and efficient manner. A comprehensive monitoring platform shall also be established to share the information and big data so as to better plan the scope of the bikes and layout of the parking places. Operators are also encouraged to build their own designated parking spaces for the bikes, while in the dense areas, the multi-storey parking buildings can also be considered for a more efficient circulation of the bikes.



Geo-fencing parking (trial) in Guangzhou
Photo source: internet



Origin analysis for key DBS destinations in Beijing
Graphic source: Mobike

F. Establishing the service standard for DBS to ensure the rights and interest of each party

It is recommended to establish the service standard for DBS to regulate the renting activities and ensure the rights of the operators and users. The service, operation and quality of the DBS can be standardized through a well-defined service standard and regulation. The following aspects shall be considered: clearly regulating the DBS operation, establishing a market access and quitting

mechanism for the operators, defining a detailed service standard and requirements, enhancing the dispatching and maintenance of the bikes, and improving the regulations to guarantee the rights and interests of each party.

