

DOCKLESS BIKESHARE REVOLUTION IN CHINA



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In recent years a new mode of transportation has emerged in China: dockless bikeshare.

Compared to traditional bikeshare systems with fixed stations and parking docks, this dockless model allows a rider to lock and unlock a GPS-enabled bike anywhere by smartphones. As an effective way to promote “Green Travel” and solve the “Last Mile” problem, dockless bikeshare gains popularity quickly in China and even all around the world.

AN EXPLOSION OF BIKES AND BIKING

The current dockless bikeshare system was born as a Peking University school project called Ofo in 2014. Later, a bikeshare company called Mobike first introduced the dockless bikeshare into urban cities. With the development of sharing economy, high-speed mobile networks, and smartphone technology, dockless bikeshare began to step into major cities in China in 2016 and got rapid expansion in 2017.

As of February 2018, there were more than 77 dockless bikeshare companies



Dockless bikeshare in Tianjin, China



Dockless bikeshare graveyards in Xiamen, China.

in China operating approximately 23 million bikes and serving 400 million registered users. The cumulative number of services has exceeded 17 billion.¹ The new bikeshare mode has become so popular with its vast amount, coverage, and convenience for the short distance commuters, which enables more people to bike in the city. The Mobike white paper shows the market share of biking in China increased significantly from 5.5% to 11.6% in 2017.² In Guangzhou, the bike volume along the BRT corridor is 100% higher than before the bikeshare comes in, according to a tracking survey of ITDP, an international NGO.

BENEFITS FOR CITIES

This bicycle renaissance caused by bikeshare helps cities to reduce auto emissions, ease air pollution and climate change by cutting vehicle journeys. In 2017, Mobike was awarded “Champions of the Earth” by UN Environment for creating 18.2 billion kilometres of rides in 200 cities, avoiding 4.4 million tonnes of carbon dioxide emissions, equivalent to taking 1.24 million cars off the road for a year.³

In the meantime, the bicycle renaissance saves 16.1 billion RMB of the congestion cost and bring 221.3 billion RMB of economic and social benefit to the whole society in one year.⁴ Dockless bikeshare has brought significant changes to China and even become one of China’s “New Four Major Inventions” as hailed by the Chinese media.

Biking infrastructure also leads to the improvement of the urban ecological environment. Guangzhou built 3000 kilometers of greenways especially for walking and biking, which has increased a large area of urban green space. The oxygen production of the greenway has reached 440000 tons, and the average concentration of air negative ions in urban green space is 440000/cm³, which is of great significance for improving air quality and alleviating urban diseases in Guangzhou.⁵

CHALLENGES FACING CITIES

A huge number of shared bikes poured into the city to provide short-distance public services, which not only brought great convenience to urban travel, but also yielded negative consequences such as blocked sidewalks and vandalism of the bikes. Due to the disorderly expansion of the market, oversupply has led to graveyards of bikes in more than 20 cities and raised deep concerns about quality control, maintenance, and management of these systems.

Also, the financial supervision of dockless bikeshare companies raises public concerns. Until now, the profit model of dockless bikeshare is still unclear, most companies chose to expand their scale by misappropriating the invested capital and users’ deposits, aiming to gain new customers and higher market

shares. After two years' operation, most companies are still unprofitable, and more than 22 companies were forced to go bankrupt, including Bluegogo, the third-largest DBS company in China. Also, hundreds of millions of dollars of customer bike deposits cannot be refunded. Until August 2018, Ofo was under pressure to refund a deposit of more than 241 million dollars to 14.69 million users.⁶

COOLING DOWN AND EXPLORATION OF THE SUSTAINABLE DEVELOPMENT MODEL

Facing the whole new challenges that never encountered before, the Chinese government tried to explore a new way for sustainable development of dockless bikeshare. Since 2016, the national government and cities started implementing policies to guide and regulate dockless bikeshare systems. To deal with oversupply, more than 25 cities had announced a moratorium on launching new shared bikes. Beijing cut down the number of shared bikes in the city from 2.35 million to 1.91 million.⁷ Guangzhou and Xiamen introduced an evaluation competition mechanism, which included the operation, maintenance, capital protection, and other indicators, to determine the dockless bikeshare companies' operating license and numbers of bikes in the next period. In early 2019, the national government began



Co-management of dockless bikeshare in Guangzhou.

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to formulate policies about financial supervision to refine the management of user deposits further. Most dockless bikeshare services are now deposit-free or binding to the social credit system.

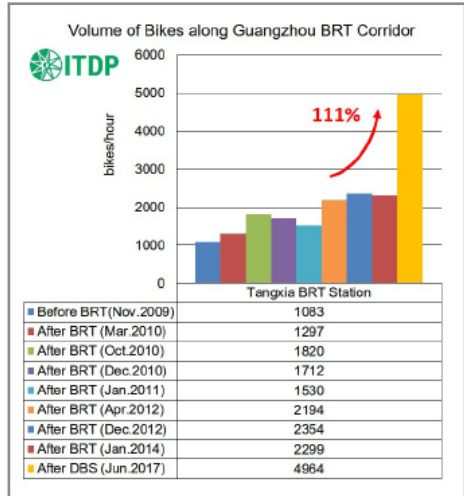
Also, cities pay more attention to the biking environment and step up efforts to improve bicycle infrastructure to meet the surging demand for biking. Shenzhen plans to build 100km bike lanes, 8000 bike parking zones, and even bicycle superhighways in the future.⁸ Meanwhile, the dockless bikeshare companies are trying to explore new ways like technological innovation, integrating into life service platform, or promoting new shared e-bike and e-scooter for sustainable development.



Bike volume of Guangzhou Zhongshan Avenue had increased by 100% after DBS launch.¹

LESSONS

Dockless bikeshare, as one of China's "new four great inventions", has led a round of green travel craze and brought convenience to public travel in the world. However, it has also brought obvious negative impacts on the urban environment. The management of dockless bikeshare involves many aspects, such as public space order management, uncivilized behavior management of cyclists, daily maintenance of bikes, bike lane planning, parking space setting, investment and evacuation, capital supervision, and so on.



Therefore, the city should actively explore the co-governance and co-management of the government, companies, and the public, promote the delicacy management of the industry, and protect the healthy and orderly development of dockless bikeshare:

1. Integrate dockless bikeshare into city goals

Dockless bikeshare can be a key component in achieving access, economic development, sustainability, health, and other efforts cities are already undertaking.⁹ The city should welcome and actively guide the development of dockless bikeshare.

2. Set policies and guidelines of dockless bikeshare

The city should set a series of policies and guidelines like management measures, operation service specification, shared bike's technical standard, and riding & parking guideline for the government, companies, and users.

3. Standardize industry management

The city should standardize the management of bike quality, launching, parking, fund, data sharing, operation evaluation, and emergency plan of the dockless bikeshare industry with the supervision of the public.

4. Promote user guidance

The city should promote civilized cycling and orderly parking guidance by media and the internet to improve users' behavior.

5. Improve the cycling infrastructure

The city should improve bike lanes, bike parking zones, human-oriented streets, and promote Car-free Day for better cycling.

DO'S

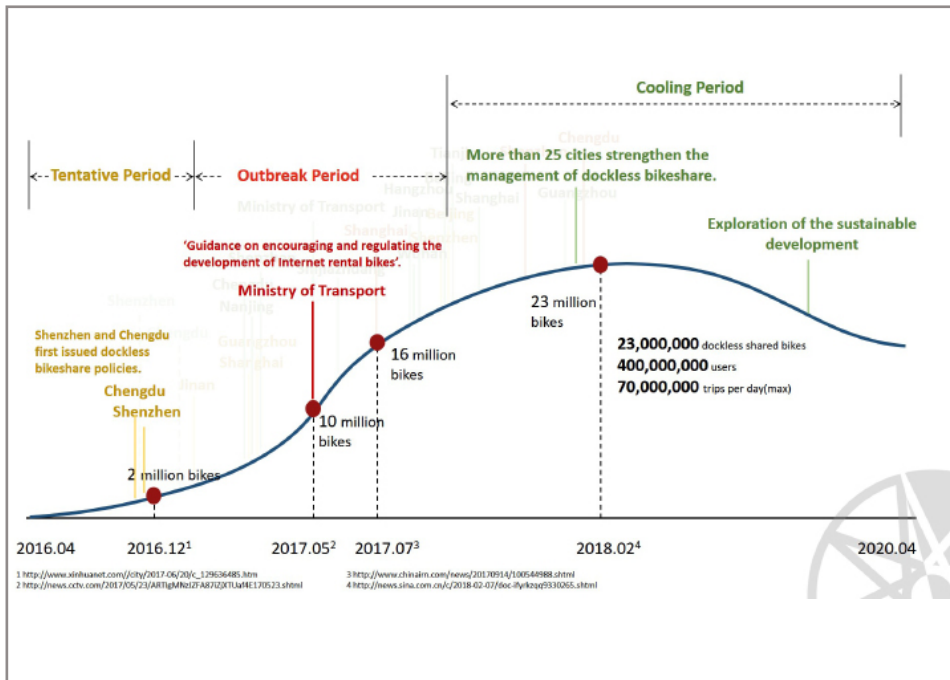
- Welcome and actively guide the development of dockless bikeshare
- Co-governance and co-management of the government, dockless bikeshare companies, and the public

DON'TS

- 'Wait and see' policies
- Manage dockless bikeshare only by transportation department or the police

ABOUT THE AUTHOR

Deng Han is an Innovative Transportation Project Manager of Institute for Transportation & Development Policy (ITDP) and a consultant of the Asian Development Bank and the World Bank who focuses on Non-motorized Traffic, Bike Sharing, Child-friendly City and Sustainable Transportation Policy.



NOTES

1) Ministry of Transport of the People's Republic of China(2018), 23 million shared bicycles have been released so far, <http://kuaixun.stcn.com/2018/0207/13961465.shtml>

2) Mobike(2017), Mobike White Paper Report 2017, <https://chinachannel.co/wp-content/uploads/2017/05/Mobike-White-Paper-9.png>

3) Inspirational environmental leaders from Chile, China and United States win UN's top environmental honour, <https://www.unenvironment.org/news-and-stories/press-release/inspirational-environmental-leaders-chile-china-and-united-states>

4) The China Academy of Information and Communications Technology(2017), Report on the Economic and Social impact of sharing bicycles in 2017, http://www.sohu.com/a/221294391_735021

5) He Junyong. Benefit Evaluation of Guangzhou Greenway Project. MS thesis. Chinese Academy of Forestry, 2014.

6) The deposit for sharing bicycles will be refunded by two days at the latest from June. <https://news.sina.com.cn/c/2019-05-28/doc-ihvhiew5231861.shtml>

7) The number of bicycles shared in Beijing fell to 1.91 million from 2.35 million in September last year. The real-time regulatory platform was launched at the end of the year. http://epaper.bjnews.com.cn/html/2018-08/03/content_728024.htm?div=-1

8) 1000 km bike lanes to be built in Shenzhen in three years. <https://static.nfapp.southcn.com/content/201801/26/c934145.html>

9) ITDP(2018), Optimizing dockless bikeshare for cities, www.itdp.org

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