



## ANALYSIS ON THE PROBLEM AND STRATEGY OF SHARING BICYCLES IN GUANGZHOU, CHINA

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### Abstracts:

With the continuous acceleration of urbanization in developing countries, the number of urban population is also increasing. In order to solve the problem of urban residents' travel, the number of shared bicycles has increased. The investment of shared bicycles is a good solution to the traditional situation of urban traffic. The problems that cannot be solved under the following conditions have provided convenience for the travel of citizens. Many acute problems in the city also arise. This study analyzes the adverse effects of the existing shared bicycle management model in Guangzhou on the city. Through the development of the current situation of related shared bicycles and the re-search on governance literature, we must not let shared bicycles become the scourge of Guangzhou City. Under the influence of policies and regulations, the transformation of the future development model of shared bicycles should be rationally guided, and the management mode of shared bicycles should be rationally optimized to make the city more orderly and standardized, and put forward reasonable suggestions.

**Keywords:** Shared bicycles, management model, policies and regulations, urban residents, Guangzhou

### Introduction:

With the development of the national economy, the process of urbanization has been accelerated, and the living standards of urban residents have been continuously improved. Cars have become a necessity for urban residents' lives. While cars bring convenience to urban residents' lives, they also bring urban residents. There are many problems. With the introduction of shared bicycles, the problem of

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urban traffic congestion can be effectively alleviated, and it has brought great convenience to urban residents to travel in the morning and evening. Shared bicycles are not only highly recognized by policy makers, but also widely supported by urban users because of their advantages such as no-pile borrowing, parking and parking, green environmental protection, and convenience. They have become urban users in a short period of time. However, due to the rapid advancement of shared bicycles, relevant laws and regulations have not been well implemented in urban planning, resulting in many problems in urban development of shared bicycles. In this context, how to get a reasonable plan for future shared bicycles and strengthen the management of shared bicycles. To achieve green development, green life, green travel, achieve sustainable development, and maximize the positive effects of shared bicycles are issues that policy and regulation makers have to face.

However, the rapid expansion of shared bicycles has brought challenges to policy and regulation makers and supervision and management, which requires us to conduct in-depth exploration. Through the introduction of relevant policies and unresolved problems caused by shared bicycles in cities, we will list and consult relevant policies and regulations. The data are analyzed and discussed using scientific means, and relevant suggestions are finally put forward. Provide feasible reference suggestions and theoretical basis for current policies. This paper summarizes and analyzes the previous research, and further provides a new perspective for the urban problems caused by shared bicycles, how policy makers and shared bicycle companies should deal with them effectively, so as to provide a new perspective for the development and promotion of shared bicycles in the future. Provide a reference idea. The development of shared bicycles has brought good benefits to the residents of the city. Although it has been well connected to the last mile of travel, relieved the traffic pressure of the last mile, and brought convenience to the citizens themselves, this novelty The transportation policy framework is still in an imperfect state until now. It is not only the companies that develop shared bicycles how to solve such problems, but the relevant policy makers should also cooperate with relevant business units to jointly make the management of shared bicycles develop towards a standardized model and be closely linked with the development of the city. Citizens themselves should also cooperate with the makers of laws and regulations and different types of bicycle-sharing companies, and achieve joint governance of the three, so that the entire city can develop in an orderly manner, so that shared bicycles can achieve greater sharing benefits.



Figure 1: Development history of online travel services(  
Image source: 2017 China Bike Sharing Industry Research Report)

## **Material and Methods:**

### **Research ideas:**

Based on the governance theory of the interaction of policy and regulation decision makers, enterprise implementation, and citizen feedback, this paper conducts an in-depth and effective analysis of the urban problems brought about by shared bicycles in Guangzhou. Under the theory of joint governance of the three, whether the joint governance of policy and regulation makers, managers of related enterprises and social citizens is compatible with each other, long-term echoes, and whether the governance methods are efficient, scientific, and long-term orderly, and then extract a joint perspective on Guangzhou City. Policies and regulations provide optimized solutions and relevant reasonable suggestions in the mode of shared bicycle management.

### **Innovation:**

Through the research on the current situation, development, and governance literature of related bicycles, a rich theoretical system of knowledge is constructed. Through reading and summarizing the current policies of shared bicycles, the management mode of related enterprises and the relevant theoretical system of joint governance, and then to analyze and study the direct and indirect impact of the loopholes in the regulations of shared bicycle management in Guangzhou on the development of shared bicycles. Then the problem is more clearly explained, and the corresponding solution is proposed, and finally the corresponding conclusion is drawn.

### **Research method:**

Using the principle of triangle stability, the lawmakers, shared bicycles and urban users are placed on any three sides of the triangle. According to the Marxist dialectics, because the world is in constant development and change, the contradictions also have the sameness and struggle, and mutual Dependence and mutual transformation, in the face of urban problems, due to external pressure, the shape of the triangle is constantly changing, and the sides of the triangle are kept approximately equal for a period of time, so it is in the most stable state, which is the development of the city. Since the action of the force is mutual, only the three sides are kept approximately stable. Under the action of the external force, according to the action of the force, the action of the force is mutual. The rods have an inward pull so that they do not collapse under external forces.

### **The development and construction of shared bicycles in Guangzhou:**

According to the data, in June 2010, Guangzhou held the Asian Games. The concept of environmental protection is low carbon, energy saving, green, environmental protection, health and sustainable development. 18 public bicycle service points in Guangzhou have been set up along the BRT. The characteristics of low cost and convenient riding attract most Guangzhou citizens; Mobike was born in Guangzhou in September 2016. With the development of the city, the industry of shared

bicycles has developed rapidly. More than 20 kinds of shared bicycles indicate that more than 20 kinds of shared bicycle companies have entered Guangzhou, such as ofo small yellow cars, hello little blue cars, etc. In the congested traffic environment of Guangzhou, the types of shared bicycles have increased for the people of the city.” The "last mile" travel brings great convenience and drives the development of Guangzhou's sharing economy. Due to the imperfection of corresponding policies and regulations, it has brought many problems in cities while obtaining benefits, including the low quality of shared bicycle users, so there has been a phenomenon of random parking and random disposal; shared bicycle deposits are difficult to return. The problem is also a huge problem that has not been solved for a long time. Some related bicycle sharing companies have even been brought to court, thereby losing the trust of consumers and losing the market.

According to the "2017 China Shared Bicycle Industry Research Report", from November 2016 to February 2017, the number of active users of Mobike was on the rise. , but rebounded rapidly after the Spring Festival, and the number of active users at the end of February reached the highest value of 7.693 million, an increase of 4.557 million or about 2.5 times compared to the end of October 2016; Mobike is currently in the overall travel car service industry. The penetration rate in China has reached 13.9%; during the same period, the overall active users of ofo shared bicycles have steadily increased, with the number of active users reaching 3.691 million, an increase of 2.88 million compared to the end of October 2016, an increase of about 4.6 times. The highest penetration rate in the service industry is 6.7%.

Taking Mobike as an example, as of March 2017, Mobike has entered 33 cities, including Beijing, Shanghai, Guangzhou, Shenzhen, Chengdu, Xiamen, Wuhan, etc., which entered in 2016, and Hefei, which was newly deployed in 2017 Xi'an, Changsha, Fuzhou, Singapore and other cities at home and abroad. The results of the service quality assessment of shared bicycle companies in the second quarter of 2021 recently announced by the Guangzhou Municipal Transportation Department show that there are still time-period and regional parking supply and demand imbalances in some areas (such as the entrances and exits of hot subway stations, etc.), which is specifically reflected in this point In the morning and evening peak hours, the phenomenon of bicycle silting and random parking is more prominent, and there is often traffic congestion around the point. It is difficult for enterprises to dispatch trucks to clear and transport them in a timely and effective manner. It will still be a prominent problem that enterprises need to solve urgently. At present, the operating quota for the six districts of Guangzhou city center is confirmed to be 400,000 vehicles.

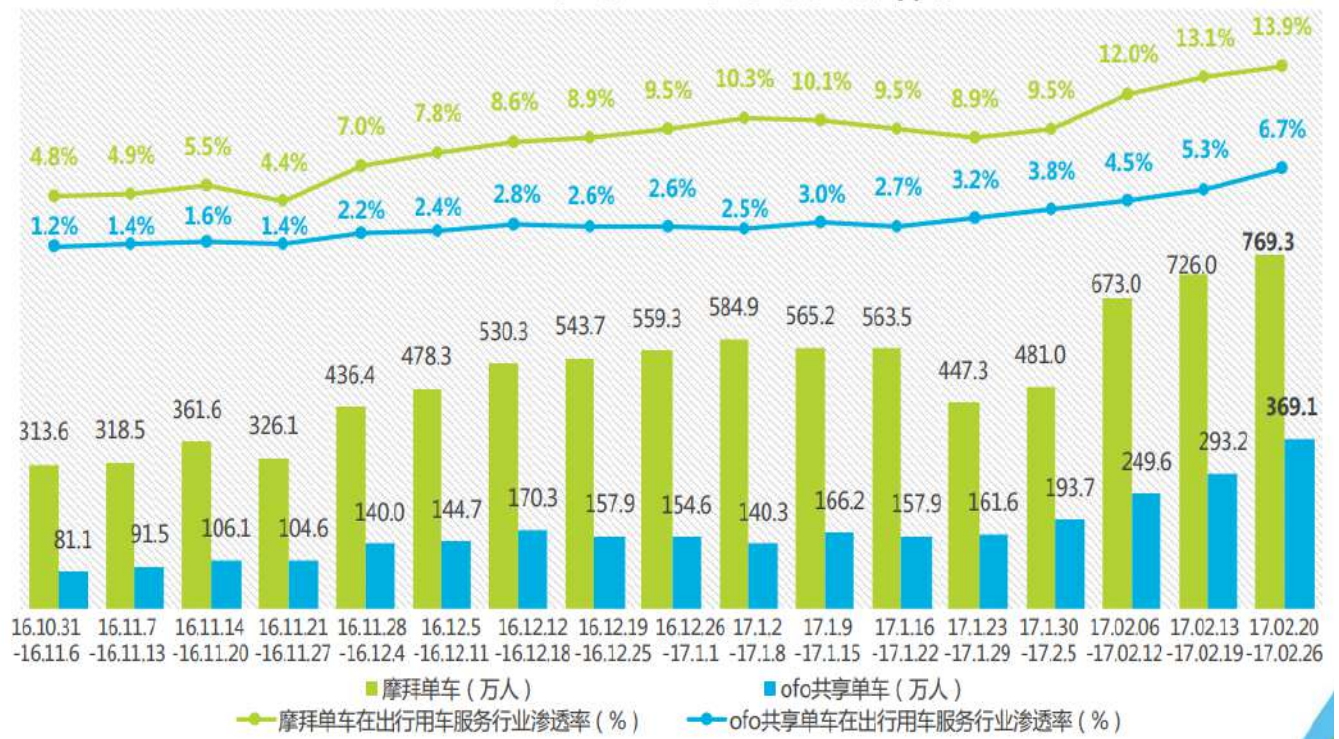


Figure 2: App-side WAU of major players from November 2016 to February 2017 (Image source: 2017 China Bike Sharing Industry Research Report)



Figure 3: Mobike city layout (Image source: 2017 China Bike Sharing Industry Research Report)



Figure 4: ofo bike city layout  
(Image source: 2017 China Bike Sharing Industry Research Report)

In 2019, three companies were identified through public bidding to carry out shared bicycle business services in the six districts of downtown Guangzhou, with operating quotas of 180,000, 120,000 and 100,000 vehicles respectively, and an operation period of 3 years. Mobike (now Meituan Bicycle), Hello Bicycle and Qingju Bicycle won the bids and obtained the above three different operating quotas respectively. The effect of controlling the total amount is obvious. The disorderly over-investment of enterprises has been effectively controlled, and the total number of vehicles in the six central districts has been reduced from more than 1 million vehicles at the peak period to about 400,000 vehicles. There has been a marked improvement before.

Problems existing in current policies in the development and construction of shared bicycles in Guangzhou:

**Laws and regulations need to be improved:**

Articles 24 and 25 of the "Guangzhou Public Bicycle System Management Measures" found that the current policies, laws and regulations are not perfect. The specific manifestation is that the policy and regulation makers did not give a detailed description of the time and frequency of comprehensive evaluation of the relevant behavior of the management unit, which led to the insufficient efforts of bicycle sharing companies to regularly conduct questionnaire surveys on the quality of bicycles after

riding by urban citizens. The problems of urban public bicycles are reported to the makers of urban policies and regulations in a timely manner. Over time, the problems of urban public bicycles have become more and more serious. Body damage, brake failure and tire leakage have not been well resolved, which will eventually bring inconvenience to urban users' riding; relevant citizens are also aware of the problems of shared bicycles, and call relevant telephones to file complaints and related work. The personnel responded hastily to this incident, and did not solve the problem of public bicycles from practical actions.

In the "Guangzhou Internet Rental Bicycle Management Measures" promulgated and implemented on September 21, 2020, it is clearly stipulated that the total amount of shared bicycles should be controlled at the source, and the city's total scale should be assessed every 3 years. In addition to stipulating the total amount control, the "Administrative Measures", which was first introduced in China, further refines various regulations such as quota allocation, standardized operation of enterprises, and penalties for violations, which will help guide the better development of the industry. However, due to problems such as excessive delivery and untimely regional scheduling, there are still a large number of bicycles parked indiscriminately in areas with high vehicle usage, obstructing traffic and sidewalks, affecting the appearance of the city.

### **There are gaps in the supervision and management of shared bicycle companies:**

In order to obtain their own interests, each enterprise invests at all costs. Because the functional units do not properly supervise the enterprise, the quality of the enterprise's investment in shared bicycles is immeasurable, and there is also an imbalance in the amount of investment, and the urban population density is high. The amount of investment is relatively large, and the amount of investment in rural areas with a small population is relatively small, and some old urban areas are not even invested. Some citizens have low quality and weak legal awareness and safety awareness, causing many shared bicycles to be vandalized. They smashed the lock bolts of shared bicycles and rode them away, and randomly discarded bicycles in grass piles or even under overpasses. Seriously destroy the appearance of the city, reduce the per capita quality of urban citizens, and bring adverse effects on the stability and development of the city.

According to news reports, Guangzhou-based bicycle-sharing companies and related units have held several themed events of "Civilized Riding with Heart and Mind" and "Safe and Civilized Travel and Building Harmonious Transportation". Due to the lack of publicity, the propagandists of shared bicycle companies simply convened citizens to give lectures and trainings in an area of the city in the publicity and education of urban users, and instilled in the citizens how to troubleshoot related problems during cycling and how to effectively use them after use. Bicycles are parked in the area, and the participating citizens did not receive material rewards, so the on-site participation was low, and the quality of publicity and education of relevant staff of bicycle-sharing companies could not be well guaranteed.

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So far in 2022, the bicycle-sharing industry chain has gradually matured, and upstream suppliers are the key, which measures the company's mass production capacity and iterative update speed; the problems caused by the logistics connection process and the search for the most suitable downstream profit model still need to be explored; When expanding the profit model, it is necessary to consider its feasibility. For example, the advertisement of the car body will affect the appearance of the city, and the cooperation with scenic spots/cycling clubs will face similar problems such as small user volume. As a shared bicycle company itself, it also has management responsibilities and obligations to control.

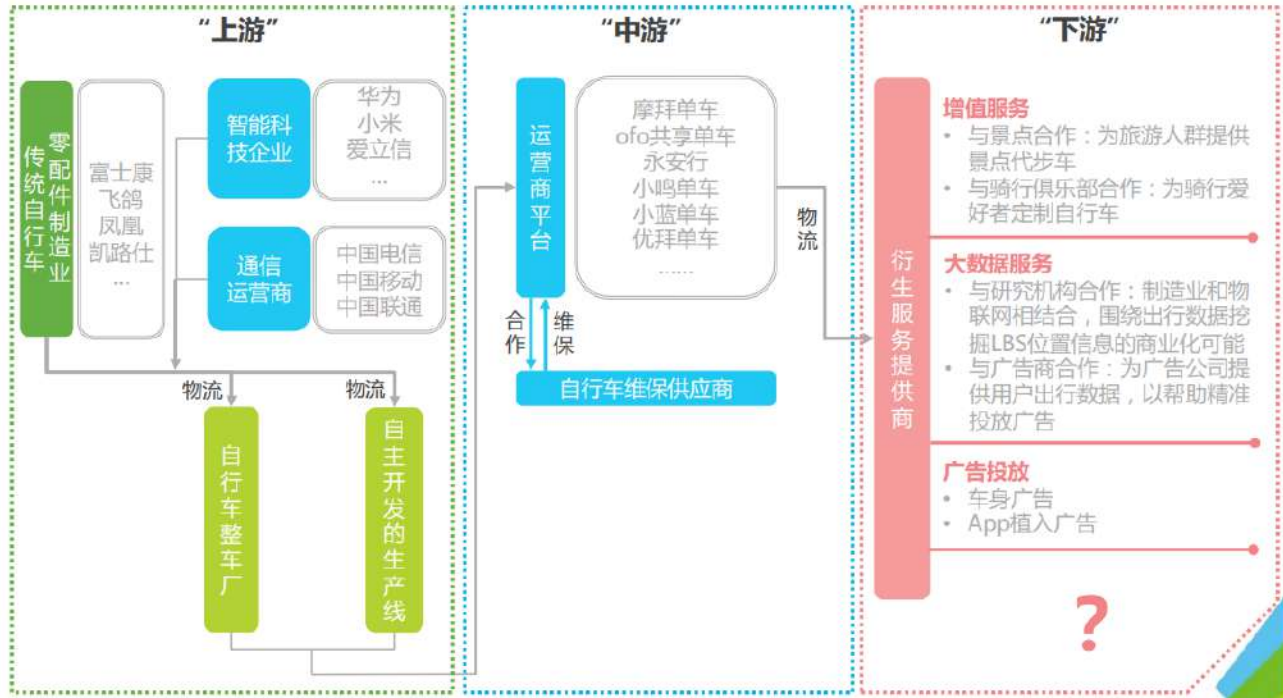


Figure 5: Shared bicycle industry chain  
(Image source: 2017 China Bike Sharing Industry Research Report)



Figure 6: Shared bicycle  
(Image source: <https://cn.weforum.org/agenda/2018/08/f81a7e90-97c9-4f3f-8fc2-a63a12c65050/>)



**Conclusion:**

Relevant units in Guangzhou should formulate comprehensive policies, laws and regulations for shared bicycles to restrict the behavior of urban users, and strive to cover a wide range of areas. And clearly destroy, abandoned shared bicycles should be subject to a corresponding punishment mechanism in order to better regulate and restrict the use of shared bicycles users. The relevant staff of the municipal transportation department should pay attention to the calls of citizens at any time, make relevant records carefully and solve them in a timely manner.

At the same time, if companies want to gain an advantage in the competition, they must improve their competitiveness, provide users with the best services, and balance the number of shared bicycles in urban and rural areas. When the user scans the QR code of the bicycle to enter the unlocking interface, play a short video for a few seconds about the issues that need to be paid attention to in riding and returning the bicycle and related text precautions for the rider to watch and click the agree button before unlocking and riding, and a text reminder Users need to ride bicycles in a civilized manner, and they cannot park or park indiscriminately. Otherwise, high dispatch fees will be charged to restrain urban residents from riding bicycles in a civilized manner. At the same time, in order to understand and collect the needs and suggestions of users, car-sharing companies need to constantly adjust themselves, not only to provide people with the best riding experience, but also to promote each other and develop together in terms of common governance.

In terms of publicity and education for urban citizens by bicycle-sharing-related enterprises and organizations and jointly holding related activities, in addition to regularly popularizing the correct use of shared bicycles to citizens, relevant bicycle-sharing laws and regulations basic knowledge competition games should be carried out, and three levels should be set. Prizes are awarded to winners of different levels with gifts and rewards of different prices. In addition, each participant can receive corresponding material rewards, thereby enhancing the enthusiasm of citizens to participate, allowing them to receive material gifts at the same time. You can get spiritual satisfaction.

As a low-carbon and green way of travel, shared bicycles are loved by most bicycle-sharing riders, but they have brought a lot of traffic problems to the city. This paper starts from the perspective of policy and regulation formulation, and according to the stability principle of the triangle, policy and regulation makers, bicycle companies and users should form a stable iron triangle to jointly discuss a joint governance scheme. The specific manifestation is that each enterprise should report the problems encountered in the management of shared bicycles to the relevant departments in a timely manner. The relevant departments should give feedback to the enterprise requirements and guide the adjustment of the market economic structure, and also cultivate the sense of ownership of bicycle users. While establishing contacts with various bike-sharing companies, law and regulation makers encourage each bike-sharing company to establish a joint network of shared bike systems for unified and standardized management. Each company is both independent and connected to each other to discuss how to provide services for bike users.

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Create benefits and achieve the goal of intelligent system integration. And establish a good image of the city, and then promote the formulation of policies and regulations in the direction of legalization, systematization, and efficiency, and put forward relevant suggestions.

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