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Bike Share Development in Chile

Known as the “Uber of bikes,” dockless bike sharing startups have boomed around the world including Chile, over the past years. Those companies provide people with a new mobility option. They offer bikes which you could unlock with an app and use at very little cost. You can leave a bike almost wherever you complete the trip as long as it is within the public realm, instead of parking them at a docking station.

Doubtless, dockless bike sharing is a low-cost, innovative, convenient, and relatively safe transportation option. However, it may also bring a lot of problems – sidewalk blocking, bike maintenance and safety issues, lack of financial transparency, etc. Therefore, it is essential for the local government to not only encourage the development of dockless bike sharing, but also design and implement rules to regulate its operation.

I. Dockless bike share companies have developed rapidly worldwide.

A. Bike sharing system has existed since the late 1960s.

The first generation of bike sharing system dates back to the late 1960s in Amsterdam.¹ But bike share becomes widely recognized in 2005 thanks to the design of docking stations and smart technology for bike check-in and check-out.² Since then, bike share programs have

¹ Guo Y. Identifying the factors affecting bike-sharing usage and degree of satisfaction in Ningbo, China. <https://doi.org/10.1371/journal.pone.0185100>.

² DeMaio P. Bike-sharing: history, impacts, models of provision, and future. *Journal of Public Transportation*. 2009; 12 (4): 41–56.

expanded rapidly around the world. As of June 2014, public bike share systems were available in 712 cities among 50 countries, operating about 800,000 bikes at 37,000 stations.³

This docking-based bike share system provides flexible mobility, reduces emissions and fuel use, and improves residents' health. But serving only stations, the service is far less convenient than a private bike used door-to-door. Moreover, governments run most of the docking-based bike share programs, which can be costly to the public.⁴

B. Dockless bike sharing has grown rapidly over the past years.

In 2014, five Chinese students from Peking university founded Ofo, a dockless bike share company aimed to serve transports needs on the campus. In 2015, Peking University students witnessed over 2,000 Ofo bikes placed and shared on campus.⁵ Early in 2016, with the development of smartphone technology and high speed mobile networks, the dockless bike sharing startups started exploding in China.⁶

Compared to the traditional docking-based bike share systems, this dockless model is far more convenient. Typically, users download an app on their phone, pay a certain amount of deposit through mobile payment, then they can locate an available bike via the app map, scan the

³ Susan A. Shaheen. Public Bikesharing in North America During a Period of Rapid Expansion: Understanding Business Models, Industry Trends and User Impacts. <http://transweb.sjsu.edu/PDFs/research/1131-public-bikesharing-business-models-trends-impacts.pdf>.

⁴ Lucas. Law Hurting Shared Bike Scheme. <https://www.theage.com.au/national/victoria/helmet-law-hurting-shared-bike-scheme-20101128-18cf2.html>.

⁵ Shaokun L. The Development and Policy Recommendations for Dockless Bike Share (DBS) in China. [http://cefhlgghdlbobdpihfdadojifnpgbjj/http://www.itdp-china.org/media/dbs/article/Dockless%20Bike%20Share%20\(DBS\)%20in%20China.pdf](http://cefhlgghdlbobdpihfdadojifnpgbjj/http://www.itdp-china.org/media/dbs/article/Dockless%20Bike%20Share%20(DBS)%20in%20China.pdf).

⁶ ITDP. Dockless Bikeshare: What We Know So Far. <https://www.itdp.org/dockless-bikeshare-know-so-far/>.

QR code on the bike to unlock it. When they are done using it, they could simply manually close the lock to stop the app timer. In addition, supported almost entirely by venture capital funding, those startups can function without government subsidy. This allows them to avoid government procurement processes and related regulation.⁷

Compared to a private bike, people who use dockless shared bikes do not need to worry about theft, vandalism, parking, storage, or maintenance.⁸

As of October 2017, there were more than 70 dockless bike share companies in China operating about 16 million bikes. They have placed more than 1.6 million dockless bikes and generated over 130 million subscribers.⁹ Ofo and Mobike are the two largest companies, together operating 14 million bikes in more than 165 cities. More than one third of those bikes are located in three major cities – Beijing, Shanghai, and Chengdu – all of which have traditional dock-based bike share systems.¹⁰ On average, users are taking more than 60 million dockless bike trips per day. According to online map provider AMAP's 2017 report, the number of car trips under five kilometers in both Beijing and Shanghai has decreased for the first time in years. This corresponds with the increase in dockless bike usage.¹¹

⁷ *Id.*

⁸ Zhang, H. Bikesharing in Europe, the Americas, and Asia: Past, Present, and Future. <https://archive.is/20130411082415/http://trb.metapress.com/content/92836574u717n007/?genre=article&id=doi:10.3141/2143-20>.

⁹ Guidelines to Regulate Bicycle And Traffic Standards. http://www.gov.cn/xinwen/2017-08/03/content_5215640.htm.

¹⁰ ITDP. Dockless Bikeshare: What We Know So Far. <https://www.itdp.org/dockless-bikeshare-know-so-far/>.

¹¹ *Id.*

In 2017, major Chinese bike share startups have raised significant venture capital funds to launch operations across the world.¹² In June 2017, Mobike lunched in Manchester. Around the same time, Ofo launched in Cambridge, Oxford and the US. In July, several companies launched in Amsterdam without permission. In August, Mobile entered the Italian market in Milan and Florence. At the end of August, Ofo launched bikes in Vienna. In September, Mobike lunched in London.¹³

To date, Ofo has expanded to more than 250 cities in 20 countries including France, Germany, Hungary, the UK, Japan, India, the US, etc.¹⁴ Similarly, Mobike has been operating in more than 200 cities around the world.¹⁵

C. Bike sharing has developed for over 10 years in Chile

In Chile, bike-sharing first began to take hold in 2008.¹⁶ The Greater Santiago is the pioneer Chilean city in cycling infrastructure. It has 45 km of bikeways over an area of 14 square km in total. Providencia was the first to set up Chile's first bike sharing scheme. The system has 150 bikes distributed across 18 stations located near metro stations. Each station has

¹² UITP. Unlicensed Dockless Bike Sharing. http://www.uitp.org/sites/default/files/cck-focus-papers-files/Dockless_bikesharing_position_ECF_UITP_.pdf.

¹³ Summary of Articles about Chinese Dockless Bike Sharing Companies. <http://ebma-brussels.eu/wp-content/uploads/2017/09/Summary-of-Articles-about-Chinese-dockless-bike-sharing-companies.pdf>.

¹⁴ <https://www.ofo.com/us/en/about>.

¹⁵ <https://mobike.com/global/>.

¹⁶ *Id.*

20 bikes operating from 7:30am to 8:30 pm, Monday through Saturday.¹⁷ Users must first register. The registration fee is USD4 a month or USD30 per year. As of 2013, there were about 3,000 registered users.¹⁸

Currently the most popular bike-sharing system in Chile is run by BikeSantiago. Since its launch in 2013, the program has been a huge success. There are over 205 stations located in Santiago. Cyclists have taken over 1.2 million trips. The service is very affordable. The program charges users a registration fee of 4,990 Chilean pesos (around USD 7.5) per month. The first 30-minute use for any registered users is free; every next 30 minutes cost about USD 0.75.¹⁹

It is found that most trips with shared bikes are short trips (less than 20 minutes). People usually use the system to get connected to the Santiago metro system in order to commute to work. And thus choice of destination is strongly determined by the presence of metro stops.²⁰ Based on this study, Santiago is a perfect place for dockless bikes to thrive.

In early 2018, both Ofo and Mobike launched in Santiago, Chile. Currently, Ofo and Mobike bikes are very common to see in Santiago's streets. Acknowledging Chile's central role in modern mobility, the Institute for Transportation and Development Policy hold a summit in

¹⁷ Felipe González. A combined destination and route choice model for a bicycle sharing system. <https://link.springer.com/article/10.1007/s11116-015-9581-6>.

¹⁸ *Id.*

¹⁹ See <http://www.bikesantiago.cl/>.

²⁰ Felipe González. A combined destination and route choice model for a bicycle sharing system. <https://link.springer.com/article/10.1007/s11116-015-9581-6>.

Santiago in 2017 to discuss dockless bike share systems, and how these informal providers shall be regulated.²¹

II. The rapid development of dockless bike share companies may generate problems for Chile.

The dockless bike share companies doubtlessly contribute to a more efficient, convenient, low-cost and green transportation system. It solves the “last mile” challenge public transit commuters face, reduces traffic congestion, and benefits the tourism industry.²² This explains its rapid development. However, the rapid development may also yield negative consequences that state regulators should be aware of.

A. Public nuisance issue.

Many cities have experienced public nuisance resulted from the flooding of dockless bikes. Competing bike share companies are trying to occupy the market by flooding cities with their bikes. Some riders leave bikes on sidewalks. Lacking redistribution efforts by bike share companies, bikes sometimes inundate popular areas in the cities. In addition, low number of staff to manage the bikes results in a large number of discarded bikes piling up in public spaces. For instance, there are currently around 600,000 discarded bikes in Shenzhen.²³

²¹ See <https://mobilizesummit.org/past-summits/santiago-chile/>.

²² Guidelines to Regulate Bicycle And Traffic Standards. http://www.gov.cn/xinwen/2017-08/03/content_5215640.htm.

²³ UITP. Unlicensed Dockless Bike Sharing. http://www.uitp.org/sites/default/files/cck-focus-papers-files/Dockless_bikesharing_position_ECF_UITP_.pdf.

An extreme example can be found in Coronado. In March 2018, the Coronado City Council has voted to declare the dockless shared bikes a public nuisance and has decided to impound those left stationary on the island. One Coronado resident comments that, “if people would park the yellow ones on a regular bicycle parking place, that’s one thing, but they don’t. They throw them on the ground. You have the green ones and the orange ones and it’s basically litter.”²⁴

B. Maintenance and safety issue.

In March 2017, an eleven-year-old boy unlocked an Ofo bike manually and got killed in a car accident while riding the bike. This brought safety issues of bike sharing to the public’s attention. In this particular case, the boy manually opened the mechanical lock, which was supposed to be unlocked by only Ofo users through the app. This suggests lock design defects or maintenance failure.²⁵

Unsafety rendered by the lack of maintenance is a key issue associated with the bike sharing system. Many bikes have been reported as missing saddles, with their locks broken or QR code scratched off. Although most companies write in their terms and conditions that the rider has to check the bike’s mechanical faults before they begin their ride, a lot of riders may

²⁴ City of Coronado declares dockless bikes a public nuisance. <http://www.cbs8.com/story/37771242/coronado-to-declare-dockless-bikes-a-public-nuisance>.

²⁵ Steve Yang. Ofo Bike Sharing: Riding on a Bumping Road. https://www.centennialcollege.hku.hk/f/upload/3010/ofo_17_006_Case%20&%20Teaching%20Note.pdf.

not be able to do that lacking the skill set. They may find themselves riding a bike that is not well maintained.²⁶

C. Deposit misuse and other financial issue.

While most dockless bikeshare operators raise a lot of venture capital funds and can generate revenue from a combination of usage fees and in-app advertising, many of them still need the user deposit money to expand.²⁷ Expansion can be very costly as they need to produce millions of bikes with no cash advance.

Starting in late 2017, a number of dockless bike sharing startups have gone bankrupt, apparently taking away the users' deposit. The third biggest bike share company Bluegogo was one of them. Bluegogo had around 20 million users and collected around USD 300 million deposits. Everything has been burned to follow the expansion pace of Ofo and Mobike. This raises a red flag on the use of deposit.²⁸

In addition, users may also suffer financially by scanning fake QR codes. Tech-savvy thieves have begun sticking fake QR codes over the genuine ones on dockless bikes. When users scan the codes, they may transfer their money to the fraud.²⁹

²⁶ Dockless bike share: privacy and safety concerns voiced ahead of Sydney launch. <https://www.theguardian.com/australia-news/2017/jun/25/dockless-bike-share-privacy-and-safety-concerns-voiced-ahead-of-sydney-launch>.

²⁷ ITDP. Dockless Bikeshare: What We Know So Far. <https://www.itdp.org/dockless-bikeshare-know-so-far/>.

²⁸ How Chinese dockless bike-share firms are managing customers deposits? <http://www.bikeshare-news.com/2018/01/09/how-chinese-dockless-bike-share-firms-are-managing-customers-deposits/>.

²⁹ Summary of Articles about Chinese Dockless bike sharing companies. <http://ebma-brussels.eu/wp-content/uploads/2017/09/Summary-of-Articles-about-Chinese-dockless-bike-sharing-companies.pdf>.

D. Information security.

From registering as a user on dockless bike sharing apps to taking a ride, a user basically transfers her name, payment information, geographic location and route information to the bike company server.³⁰ If a dockless bike sharing app generates enough comprehensive location and route data, it can figure out where a user lives, and even who a user's family and friends are.

Most bike share companies declare that they reserve the right to store and process customer information in their privacy policies. Many articles have pointed out the concern that U.S. users' data eventually land in China. Mobike's U.S. user privacy policy reads, "by signing up, accessing and/or using the Services, you expressly consent to our transmission, processing and storage of your information in locations outside the United States or your country or region of residence." Ofo has similar provision: "your personal information will... be processed by staff operating outside the United States who work for us or for one of our suppliers."³¹

Many large Chinese companies have been reported to share their data with government authorities, including Baidu, Tencent, and Alibaba. Some data privacy experts thus expressed concerns that dockless bike sharing companies may open up customer data to a government.

III. Many counties have implemented rules to regulate dockless bike sharing.

³⁰ Laura Bliss. Are Dockless Bikes A Cybersecurity Threat? <https://www.citylab.com/transportation/2018/02/are-dockless-bikes-a-cybersecurity-threat/552206>.

³¹ *Id.*

Typically, what follows fast-growing innovations is regulation scrutiny, especially in the new “sharing economy.”³² China is among the first countries which experienced the problems brought by this new-born dockless bike share system and realized that self-regulation by the market will not solve them all. The Chinese government has thus taken a more active role in regulating the system. Most western cities, having seen the chaos happened in China, are taking a more stringent way towards controlling the introduction of dockless bikes. They either allow only pilot programs or ban the bikes all before devising feasible regulations.

A. China’s national government and several cities have implemented policies to regulate dockless bike sharing.

In August 2017, China’s Ministry of Transportation issued a guideline of regulating dockless bike sharing operation. The guideline targets to address bike maintenance, unsafe use of bikes, misuse of deposit funds, and data security issue. The guideline suggests an age limit of 12 for users, electric parking fences, separating deposit funds from other company funds, enhancing data security protection, etc.

To adhere to the guideline, to date, around 30 Chinese cities have issued regulations to regulate bike sharing. Shanghai, which has the most dockless bikes in the world, issued one of China’s first city-level bike sharing regulations in October 2017.³³

³² Dockless Bike-Sharing: the next regulatory quagmire. <http://inlinepolicy.com/2017/dockless-bike-sharing-the-next-regulatory-quagmire/>.

³³ Hui Jiang. Chinese Cities Aim to Rein in Bike-Sharing Boom. <http://www.wri.org/blog/2018/01/chinese-cities-aim-rein-bike-sharing-boom>.

Those local regulations contain more stringent rules. More than 6 cities including Shanghai, Beijing, and Shenzhen have banned placing new bikes into the cities. Many cities require the companies to have one maintenance worker for every 200 bikes.³⁴ Shenzhen's bike share regulation stipulates that companies should properly dispose of wrongly parked bikes within 30 minutes. If a company fails to do so, the city would confiscate those bikes.³⁵ In addition, all bikes need to have smart locks, and each bike must receive maintenance every two months.³⁶

On Aug. 18, Shanghai's municipal transportation bureau sent a notice to a number of bike-sharing companies demanding they no longer place bikes in Shanghai, and aggressively relocate bikes scattered carelessly across the city.³⁷ In the same month, Chief of Ofo's operation team in Shanghai said that, "this month Ofo has dispatched 8- extra carts to relocate bikes, and we have a total of 2,500 operations staff working on cleanup and repairs. We are proactively cooperating with the government's calls to clean up the city."

B. Some American cities have launched pilot dockless bike share programs to see how to better regulate this new system.

³⁴ Summary of Articles about Chinese Dockless bike sharing companies. <http://ebma-brussels.eu/wp-content/uploads/2017/09/Summary-of-Articles-about-Chinese-dockless-bike-sharing-companies.pdf>.

³⁵ Shenzhen gets tough on bike-sharing operators. http://www.chinadaily.com.cn/business/tech/2017-08/25/content_31084676.htm.

³⁶ *Id.*

³⁷ Chinese cities are saying "enough already" to bike-sharing services run rampant. <https://qz.com/1058438/chinese-cities-saying-enough-already-to-chaos-generated-by-bike-sharing-services-like-ofo-and-mobike/>.

Dockless bike share companies have lunched in a number of U.S. cities. Seattle was the first major city to welcome dockless bikes. In July 2017, Seattle launched a pilot program, creating a permit for dockless bike share companies to obtain in order to enter the Seattle market. Permit requirements cover safety, parking, operations, and data sharing.³⁸ The program allowed each company to roll out its fleet slowly. As of mid-December, each of the three companies with permit operate around 3,000 to 5,000 bikes in Seattle.³⁹ The Seattle Department of Transportation was collecting bike share data through December 2017 and is now in the process of evaluating the data. It will decide upon how bike share can work in Seattle going forward.⁴⁰

San Francisco adopted similar approach as Seattle. Other cities, such as Washington, D.C. and Dallas took more of a “wait and see” approach.⁴¹ They allow dockless bike share companies to operate with very limited regulation during a pilot period, collect data from the companies, in order to judge what regulations are needed.

Some cities, including New York, fought the dockless bike share companies from start operating using the Uber-style tactics without consulting city officials.⁴² But later the companies have then opted to work with local government. In December 2017, the city issued Request for Expressions of Interest regarding Dockless Bike Share Program, in order to investigate the

³⁸ Bike Share Permit Requirements. <https://www.seattle.gov/Documents/Departments/SDOT/BikeProgram/BicycleSharePermitRequirements.pdf>.

³⁹ As Seattle’s bike-sharing pilot concludes, here’s what 2018 has in store for the neon newcomers. <https://www.geekwire.com/2017/seattles-bike-sharing-pilot-concludes-heres-2018-store-neon-newcomers/>.

⁴⁰ <https://www.seattle.gov/transportation/projects-and-programs/programs/bike-program/bike-share>.

⁴¹ ITDP. Dockless Bikeshare: What We Know So Far. <https://www.itdp.org/dockless-bikeshare-know-so-far/>.

⁴² Dockless Bike Shares Are Here. Are Cities Ready for Them? <http://www.governing.com/gov-dockless-bikeshare.html>.

feasibility of instituting dockless models of bike share.⁴³ According to this Request, dockless bike share companies are allowed to pilot in the city. But they need to meet certain parking, safety and maintenance standards. For example, each bike available for use must have received a maintenance check and cleaning within the last 45 days. Damaged, unclean or otherwise unusable bikes must be repaired or removed within 72 hours.⁴⁴

C. Major European cities aim at better regulating dockless bike share.

In August 2017, the municipality of Amsterdam announced that all dockless shared bikes would be banned while they are figuring out a way to streamline the industry.⁴⁵ A few weeks before the announcement, thousands of shared bikes have been placed on the sidewalks of Amsterdam, which raised concerns about the use of scarce public space in the city. Amsterdam emphasized that they are not against the concept of dockless bike sharing. They Just need to develop new policies to regulate the dockless bike sharing system. One municipality's spokesman said that, they have to ban the dockless shared bikes because the bike operators placed their bikes into the city without consulting the city first.⁴⁶

In October 2017, Paris Deputy Mayor for Urban Planning Jean-Louis Missika said that, they will ask the government to give the city power to regulate dockless bike share companies under the form of licensing. Like Amsterdam, Paris government seems in favor of dockless bike

⁴³ <http://www.nyc.gov/html/dot/downloads/pdf/rfei-dockless-bikeshare.pdf>.

⁴⁴ *Id.*

⁴⁵ Amsterdam aims at better regulation of shared bikes. http://www.xinhuanet.com/english/2017-08/03/c_136494659.htm.

⁴⁶ *Id.*

sharing, but not too happy with the way they started operation in the city. Missika emphasized that the city does not want dockless bike share companies to enter the Paris market the way Uber and Airbnb did.⁴⁷

In February 2018, London Assembly Transport Committee issued a new report, saying that the Transport for London shall tightly regulate dockless bike hire schemes via operational licenses.⁴⁸ Following the launch of several dockless bike sharing companies without prior consultation, the Transport for Lon issued the Code of Practice for Dockless Cycle Hire Services in September 2017. The code sets forth a variety of requirements for bike operators, including meeting safety standards, having robust maintenance regimes, promptly removing any bike causing an obstruction to other road users, etc.⁴⁹ The Committee acknowledges the code, but recommend that it would further endorse a tougher operational licensing system to regulate the industry.

IV. Policy recommendation for Chilean regulators

As mentioned above, many Asian, American and European cities have realized the importance of government intervention in dockless bike sharing operation and are actively seeking better ways to regulate the business. Latin American countries, especially highly developed cities like Santiago are the next battles for dockless bike share companies. As more

⁴⁷ Paris wants to regulate Asian bike-share operators. <https://uk.reuters.com/article/uk-france-paris-bicycles/paris-wants-to-regulate-asian-bike-share-operators-idUKKBN1CPIU5>.

⁴⁸ Dockless bike schemes should be licensed, says London transport committee. <https://www.bikebiz.com/news/licencing-for-dockless-in-london>.

⁴⁹ Future transport How is London responding to technological innovation? https://www.london.gov.uk/sites/default/files/future_transport_report_-_final.pdf.

and more dockless bikes are being introduced into the everyday life of Chilean citizens, the Chilean government shall make quick decisions of how to better regulate them. In terms of regulation designing, this paper proposes the following guidelines:

First, Chilean cities may consider licenses, permits and/or fees to control market access. Governments can ensure a clear picture and better control over all dockless bike companies operating within a city by requesting a license or permit. Cities can require proof that the bike company has complied to all relevant regulations in the license application material. They can also consider request a fee proportionate to the number of operating bikes. The fees can be used to cover administrative cost, including permit review, safety inspection, managing requests and complains, etc.⁵⁰

Second, cities should define a detailed standard and requirements for bike quality, maintenance, service, deposit control and data security insurance. This includes determining the bike quality standard, fleet size, service area, parking area, minimum maintenance requirements, minimum response time, etc.

In particular, the following measures may be most easily neglected: (1) require company logo and a unique bike number to appear on each bike; (2) require a 24-hour customer service phone number to appear on each bike; (3) require a safety instruction on each bike; (4) require a mechanism for users to report easily bikes in need of maintenance; (5) establish detailed rules requiring bike companies to purchase appropriate insurance plans for users; (6) require monthly reporting to the government that specifies the number of bikes in service, the number of bikes

⁵⁰ North American Bikeshare Association. Dockless Bikeshare Regulation Preliminary Guidance. <http://nabsa.net/wp-content/uploads/2017/09/Dockless-Regulation-Preliminary-Guidance-1.pdf>.

out of service, summary of customer complaints, summary of maintenance activities, summary of deposit fee usage, etc.

V. Conclusion

Dockless bike sharing systems have been rapidly marching toward the world, changing the way how people get around the city. A reasonable and robust regulation is the key in ensuring a healthy and sustainable dockless bike sharing system. As one of the most developed cities in Latin America, Santiago is likely to be the next thriving center of dockless bikes. With the launch of two dockless bike pioneer companies – Ofo and Mobike – in Santiago, the Chilean government is forced to quickly come up with regulating resolutions. In designing those regulations, the government could consider a licensing-based market access system plus detailed requirement in terms of bike quality, maintenance, deposit fee usage, and data security issues.