Agora Verkehrswende

# Bike Sharing in a State of Transition

Action recommendations for German cities and municipalities in dealing with dockless systems


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Deutscher Städtetag

DStGB Deutscher Städte- und Gemeindebund

# Imprint

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## COMMISSIONED BY


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# Contents

# Preface

It is a normal weekday in 2013 in Beijing: We are sitting in a taxi headed to the Ministry of Transport, to take part in an exchange between Chinese and German experts. The topic to be discussed is the promotion of bicycle transport. Our taxi inches its way through the congested streets. The driver occasionally makes use of the "Fu ˇ lù", the wide bike lanes that are typical of China. But bicycles can hardly be found in these lanes anymore. They have long been crowded out by cars and electric scooters. What was once the bicycle kingdom is now the kingdom of the automobile.

When we visited Beijing the next time in 2017, we once again found ourselves stuck in traffic. The air had not improved noticeably. But flashing in between the otherwise solid line of cars were countless colorful bicycles. What had happened? Within a period of only two years, China's internet giants had founded companies offering large-scale dockless bike sharing in the metropolises of East Asia. What had started as a pilot project on the campus of Peking University had turned into a billion-dollar business within a short period of time. These companies, which received immense amounts of venture capital, now supply millions and millions of shared bikes in over 200 Chinese cities, bikes that are used by several hundred million customers. This unprecedented development is reflected in Chinese traffic statistics: Within the past two years, in Beijing's modal split, the bicycle has climbed from five to over eleven percent, while automobile traffic has declined by more than three percent.

The growth of the bike sharing business has not been restricted to China. The launch of the first companies in German cities in 2017 was immediately accompanied by controversial discussions. The situation beyond Germany is similar. Today there is hardly a European capital that cannot be explored on a dockless shared bike.

The initial public response was often marked by skepticism: These bicycles, according to some critical voices, would "clutter up" the limited public space in our city centers, while our own station-based bike sharing systems would suffer under the competition with the new bike providers, which for the most part do not coordinate their activities with cities.

On the other hand, the companies offering dockless bike sharing provide an opportunity to promote and bolster bicycling as part of a larger strategy for sustainable urban transport. The significance of the bicycle as a means of transport has grown enormously, especially over the past few years. One indication of this is the growing number of initiatives that are calling for referendums in support of bicycling.

Against this backdrop, we have been looking – as have many of the country's municipalities – at the question of whether and how these new dockless bike sharing services can make a contribution to a more sustainable urban transport system. We are therefore happy, together with our partners, the German Cyclists' Association (ADFC), the Association of German Cities (DST) and the German Association of Towns and Municipalities (DStGB), to present to you this publication "Bike Sharing in a State of Transition", a first guidebook on how to deal with the new mobility services.

The guidebook is directed primarily at stakeholders in politics and municipal administration. It is meant to show how cities and municipalities and dockless bike sharing providers can work together to make use of the opportunities presented by these new mobility services and minimize risks through cooperation.

Due to the dynamic development of the new bike sharing services, we see this guidebook as a living document that can serve as a basis for further discussion. The four publishers of this guidebook also see it as a foundation for dialogue with mobility companies, which we intend to expand on in the coming months, in part to decide if and when the guidebook should be updated.

Just three years ago, who could've imagined the pace at which providers from abroad would advance the development of dockless bike sharing? It seems that the pressing nature of the traffic problem in the metropoles of Asia can be a source of disruptive innovation. Dockless bike sharing is likely to be only a first harbinger of new mobility concepts emerging from China. It has the potential to have a major impact on the debate in Germany.

With this in mind, we hope that this publication will be read with interest, and that it can make a contribution to the discussion. Your comments, suggestions and criticisms are appreciated!

**Christian Hochfeld and Alexander Jung**
Berlin, 20 June 2018

"Bike sharing is a central building block for a vibrant bike-centered city – whether it is used for the first and last mile to public transportation systems, for one-way trips or to enable guests to be mobile and flexible. But it is not only mobility that benefits from bike sharing. Cities can utilize the efficient management of urban space to create more room for quality of life and social interaction. We therefore recommend this guidebook to all decision-makers, as it shows how bike sharing – if properly implemented – can augment the appeal of cities."

Ludger Koopmann
Deputy National Chairman,
German Cyclists' Association (ADFC)

"Bike sharing enhances short-range mobility options in the city and gives people a healthy and environmentally friendly mode of travel. It is a good supplement to the public transportation system. Requirements imposed by cities on station-based and dockless bike sharing are essential in order to optimize effectiveness and protect public space.
This guidebook was compiled with a great deal of practical expertise, and it underlines the continuing need for steering on the part of the federal and state governments."

Helmut Dedy
Executive Director,
Association of German Cities (DST)

"We have to build cities for people, not for motorized private transport. We have to create an environment in which people enjoy walking or riding a bike – this improves the quality of life and heightens the attractiveness of residential quarters and city centers, thus enhancing the appeal of the city as a whole. Bike sharing systems are a useful building block for this. This guidebook provides a wealth of useful information on how transportation services and the quality of mobility can be improved with the help of shared bikes."

Dr. Gerd Landsberg
Executive Director,
German Association of Towns
and Municipalities (DStGB)

# 01 | Introduction

Bike sharing services are on the rise all over the world. In many places, bike sharing has become an important component of municipal strategies for sustainable urban mobility solutions. For a long time, the bike sharing market in Germany was dominated for the most part by companies with station-based systems. Currently, however, the systems being developed are dockless, with new forms of distribution, operating structures, business models and areas of application. Just a few years ago, the tremendous dynamism of this development was hardly foreseeable. The present situation offers many opportunities, but it also means that municipal administrations are currently having trouble fulfilling their function as a key steering instance in urban transport policy (in part due to existing legal arrangements in Germany). The public discussion on opportunities and risks posed by these new systems, in particular with regard to their real benefits and their effects on public space, is in many European cities fraught with controversy and a high degree of media attention. Participants in this discussion are, in addition to cities, municipal associations and city networks, the operators of bike sharing systems, professional associations and (in some cases) the interested urban population.

This guidebook provides municipalities with concrete recommendations for action in dealing with the new dockless bike sharing systems. The starting point is the conviction of the publishers that these systems can promote cycling and in the process help bring about a transformation of the transportation system toward sustainability, as part of a larger urban mobility strategy. However, these effects can only develop under certain preconditions: namely, if the systems are viewed as an integrated component of a larger strategy bundle, if their benefits and risks are carefully weighed against each other, and if the municipalities can adequately meet their steering responsibilities. Appropriate action could also include regulatory measures, especially to achieve a balanced use of the scarce resource of public space. The guidebook is primarily directed at stakeholders in politics and municipal administrations, but is also meant for all other key players and

stakeholders who have a role in this discussion. It is also, insofar as there is a need for the reform of the regulatory framework, addressed at the legislator. This guidebook was compiled in cooperative effort between the Association of German Cities (DST), the German Association of Towns and Municipalities (DStGB), the German Cyclists' Association (ADFC) and Agora Verkehrswende. The information in the guidebook is additionally based on extensive literature and internet research, as well as on bilateral talks with various cities and other key players.

Given the extremely dynamic pace of development in the area of dockless bike sharing systems at present, such a publication naturally runs the risk of being overtaken by real-time developments, at least in some aspects. The publishers therefore intend to continually update this guidebook as a „living" document by engaging in regular dialogue with relevant actors.

# 02 | Potentials of bike sharing for sustainable urban transport

In recent decades, bike sharing has undergone various phases of development in Germany.[1] Starting in 2001, the dockless system Call a Bike flex, developed by Deutsche Bahn AG (DB AG) on the basis of a Munich start-up platform, was and remained for many years the best-known system on the German market. In 2004, the Leipzig-based company nextbike launched their – initially also flexible – system, which was largely financed through advertising on the bikes.[2] At the same time, station-based systems were successfully being developed outside of Germany, for the most part in Chinese and European cities. Cities like Hangzhou,[3] Paris[4] and Barcelona[5] demonstrated the viability of station-based bike sharing fleets, which initiated a shift toward these systems in German cities as well. This was associated not least of all with the hope that station-based systems would lead to a greater degree of reliability, more availability and better integration with the public transportation system through the planability of docking stations, as well as simpler framework conditions for service.

One of the most important projects in this context was StadtRad in Hamburg, operated since 2009 by DB AG but financed with municipal funds.[6] Subsequently, Call a Bike in Berlin switched to fixed docking stations, and a federally financed pilot project was launched in several cities. The pilot project led to several station-based systems, all of which were designed with connection to the public transportation system as a central element, and which tried out different operator models and tariff structures (e. g. Konrad in Kassel, meinRad in Mainz and NorisBike in Nuremberg).[7]

One thing that nearly all of the projects had in common was the relatively high financial cost of setting up and operating the systems, combined with relatively low usage numbers (often an average of no more than one use per bike and day,[8] despite the high quality of infrastructure and operations). Systems with significantly higher usage figures, such as that in Hamburg (nearly 3.5 uses per bike and day on average annually, with significantly higher figures on select days[9]) remain the exception so far, but show the promising potential of bike sharing.

Interlinking the service with public transportation systems was an important goal in most of these projects, although this turned out to be a challenge, particularly with regard to tariff integration.[10] As a result, numerous cities carried out tender procedures for public bike sharing systems that were geared to the above-mentioned developments and experiences.

## 2.1 Dockless bike sharing: new providers and systems

Since 2016, a shift in the structure of bike sharing services has been taking place in East Asia, and in particular in China. Initially this shift to dockless systems did not receive much attention in Germany, but since 2017 it can no longer be overlooked in German towns and cities. Within a matter of months, several new providers from China and Singapore, but also from Denmark, Germany and the US, launched dockless ventures in the German bike sharing market.

1 The "classical" tourist bike rental through bike shops, hotels, tourist information offices etc. will not be looked at in this guidebook.
2 Monheim (2012).
3 Public Bicycle started in 2008 in Hangzhou with 2800 shared bikes at 61 stations. By 2016 over 84,000 bikes were available at over 3500 stations. Source: ESCI (2016).
4 The docking station-based bike sharing system Vélib was introduced in 2007 in Paris with approximately 20,000 bikes at around 1500 stations. Source: C40 (2011).
5 Since its introduction in 2007, the bike sharing system Bicing in Barcelona has grown to 6000 bikes at 420 stations. Source: Bicing (2018).
6 Stadtportal Hamburg: Behörde für Wirtschaft, Verkehr und Innovation (2018).
7 Wuppertal Institut für Klima, Umwelt, Energie GmbH; Universität Stuttgart (2015).
8 BMVI (2014), p. 7.
9 Freie und Hansestadt Hamburg (2016).
10 According to an evaluation of federally funded pilot projects, this includes in particular the balancing of considerations of cost coverage and appeal, as well as cooperation and tariff agreements between public transportation companies and bike sharing operators. Source: Wuppertal Institut für Klima, Umwelt, Energie GmbH; Universität Stuttgart (2015).

This development has fundamentally changed the discussion about the significance of bike sharing, including how cities and municipalities should treat this transport option. The new systems (which are currently in place at various scales in cities such as Munich, Frankfurt and Berlin) are used very differently than systems previously available in Germany. They are characterized by the following features:

- Technically simple, low-maintenance bicycles
- Simple registration and use via smartphone; rental and return by scanning a QR code attached to the bike
- Lean tariff structure (as a rule between 50 cents and 1 euro for 20 to 30 minutes; in some cases, daily, monthly and annual subscriptions are also available)
- Bikes are available in the public road space without fixed stations, subject to corresponding interpretation of the term "public use" by the providers (see info box)
- Launch of platforms with fleet sizes generally in mid triple-digit range (exception Munich: 7000 bikes by oBike in August 2017[11]); further expansion has been announced in some cases, and in others has already occurred[12]
- For the most part, these services are concentrated in the centers of large cities, although a willingness has been expressed by some providers to expand the business model beyond this area and into the periphery.

Such dockless systems are controversial primarily because of the potential for a large number of bikes to be parked in a given location, considering the resulting negative impact on public space. For cities, the following factors play a central role in discussions:

11 Landeshauptstadt München (2018 a).

12 Mobike started in 2017 in Berlin with 700 bikes; in the meantime the fleet has grown to over 3500 bikes. Source: Berliner Zeitung (2018).


Figure 1.1: In Germany there are currently seven active providers of dockless bike sharing systems (from left to right: LIDL-Bike, oBike, LimeBike, BYKE, Mobike, Donkey Republic, ofo; Deezer nextbike is also one of the active providers in Germany. No bike from this provider was available at the time of this photo.)

- The number of available bikes is unusually high compared to previous fleet sizes. Figures such as 11 million registered users and 2.35 million bikes offered by 15 different providers in Beijing[13] and pictures of large-scale, often unregulated masses of shared bikes help create a deterring effect, even if the situation in Europe is nowhere near comparable.
- Particularly in large cities, numerous providers launched their systems on the market within a period of a few months. In Berlin, for example, in addition to nextbike and LIDL-Bike, six new companies rolled out their systems: BYKE, Donkey Republic, LimeBike, Mobike, oBike and ofo.
- The rapid proliferation of new providers has been facilitated in particular through a high level of investment from capital markets, something that until now has been unusual for bike sharing systems.[14]
- At present the operating sustainability of these platforms cannot be predicted. In individual cases, providers have significantly reduced their fleet, largely in the absence of coordination with municipalities. This is the case in Manchester, for example.[15]
- The technical quality and safety aspects of the bikes have in some cases been called into question (although independent assessments have not been conducted).
- In part due to a data security breach,[16] there is in some cases a perceived lack of transparency in the handling of customer data (in particular with regard to sharing information with third parties). The same applies to payment and registration terms (including restrictions on payment options, and the requirement of deposits and related security issues). Some providers have already responded to these concerns by providing assurances regarding compliance with European data privacy laws.[17]
- As far as can be determined, the resources invested by providers are in many cases not sufficient to ensure adequate fleet management (for example, with regard to bicycle maintenance, the relocation of improperly parked bikes, demand-based redistribution, or the disposal and recycling of bikes).
- In individual cases, there has been an overutilization of scarce public space, in particular when several providers are simultaneously active in one municipality. This can occur at the expense of other modes of transport and pedestrian uses.
- The shared bikes are sometimes parked at public bike racks, thus restricting their capacity for private bike parking (some providers even expressly recommend this approach, apparently to prevent complaints resulting from their bikes being parked in public space[18]). Exacerbating this situation is the fact that in many German cities, bicycle parking infrastructure is insufficient, and the fact that, proportionally, much more space is set aside for parked automobiles (partly due to the misappropriation of public space).
- Larger cities in particular already have publicly funded bike sharing schemes, for the most part station-based, some of which receive considerable municipal resources through longer-term contracts. To what extent the new companies jeopardize the profitability of the established systems is not yet foreseeable. The same applies to the question of whether and to what extent station-based systems may even benefit from a complementary addition of further dockless systems within the same urban space.

13 China Daily (2017).

14 In its fifth round of financing (series E, July 2017), ofo was able to raise USD 700 million. Major investors include Alibaba Group Holding Ltd., Hony Capital and CITIC Private Equity. Shortly before that, Mobike, in its fifth round of financing, (series E, June 2017), raised investments worth USD 600 million. Together these two companies have so far raised over USD 2.2 billion on the equity market. Source: Bloomberg (2017).

15 BBC (2017).

16 In 2017 there was a short-term data breach at the company oBike. Information belonging to individual users around the world, including names, cell phone numbers, email addresses, profile photos and location data, was freely accessible. Source: Bayrischer Rundfunk (2017).

17 See statement from oBike, for example: "We store your data safely according to the current industry standard. Your data will not be passed on to third-party companies that are not associated with oBike. Of course this also includes the sale of data – we do not sell any data to third-party companies." Source: oBike (2018).

18 Mobike, for example, recommends parking their bikes near "public bicycle racks near transit stations/bus stops." Source: Mobike (2018).

## An overview of dockless bike sharing systems (as of: May 2018)

| | TARIFF STRUCTURE | | | |
|---|---|---|---|---|
| | BASE FEE | DEPOSIT | BASIC RATE | BONUS-MALUS-SYSTEM[1] |
| BYKE | – | – | € 0.5/30 min | – |
| Deezer Nextbike (Flex)[2] | One time € 3 when registering by hotline, otherwise free | – | € 1.50/30 min (max. € 15/day) | – |
| Donkey Republic | – | – | € 1.25/30 min[3] | – |
| LIDL-Bike[4] | **Basic-rate:** € 3/year | – | € 1.50/first 30 min, then € 1/30 min, (max. € 15.50/day)[5] | – |
| LimeBike | – | – | **Lime:** $1/30 min<br>**Lime-E:** $1 base fee + $ 0.15/min[6] | – |
| Mobike | – | € 2 | **Mobike:** € 0.50/20 min<br>**Mobike Lite:** 1€/20 min | ✓ |
| oBike | – | € 79[7] | € 1/30 min | ✓ |
| ofo | – | – | € 0.80/20 min | ✓ |

| | SHARED BIKES | | |
|---|---|---|---|
| | TIRES | GEAR SHIFTING | ELECTRIC BIKES |
| BYKE | solid rubber tires | 3-gear | – |
| Deezer Nextbike (Flex) | pneumatic tires | 3-gear | – |
| Donkey Republic | pneumatic tires | 3-gear | – |
| LIDL-Bike | pneumatic tires | 7-gear | – |
| LimeBike | solid rubber tires | 3-gear | **Lime:** –<br>**Lime-E:** ✓ |
| Mobike | solid rubber tires | **Mobike:** –<br>**Mobike Lite:** some 3-gear | – |
| oBike | solid rubber tires | – | – |
| ofo | solid rubber tires | 3-gear | – |

1 Incentive system for the proper handling of shared bikes.
2 The tariffs apply to usage without stations.
3 Basic rate in Berlin, different tariffs in other cities.
4 Tariffs apply to usage without virtual return points.
5 € 12.50/day for BahnCard holders, students and senior citizens.
6 In the German app, tariffs are only specified in US dollars.
7 € 29 for students

Source: Own depiction

- At this point in time it is still difficult to empirically measure the actual benefit of the new systems for the urban transport system. For Germany, there is not yet any reliable long-term usage data available. Although initial data evaluations in China indicate a significant potential for using the shared bikes in conjunction with the public transportation system, these evaluations are only transferable to the situation in Germany to a limited degree because of differences in the usage setting.[19]
- There is considerable uncertainty on the part of some municipalities regarding how the new systems can or must be regulated. This pertains in particular to the question of where to draw the line between public use and special use (see information box). Some providers have indicated that they might under certain circumstances be willing to accept a classification as special use, while others have already submitted applications for special use permits.
- Particularly during the introductory phase of the first dockless systems in Germany (including in Munich), some municipalities complained of insufficient communication with local authorities on the part of the service providers. In the meantime, according to municipalities, there has been significant progress in this area.

## 2.2 Dockless bike sharing in sustainable urban transport: recognizing opportunities and meeting challenges

The market development of the new dockless bike sharing systems is still highly dynamic. In China alone, over 70 different providers were active in October of 2017.[20] The large providers are equipped with significant amounts of venture capital and are using a strategy of rapid expansion and high numbers of bikes to achieve an optimal position on the market. The aim of the providers seems to be the establishment of the bike sharing systems as platforms for additional services and advertising cooperation.[21] Despite the opening of such new avenues of value creation, the rapid expansion strategy on the basis of large fleet sizes is associated with a number of financial risks. In coming years we can therefore expect to see a market consolidation with a significant decline in the number of providers, as the current development in China has already indicated.[22]

In China the new bike sharing systems are starting to have a significant impact on mobility behavior in individual cities. In Beijing, for example, after a long period of decline, bicycle use has doubled since the introduction of dockless bike sharing systems; simultaneously, the number of short trips made by car has declined.[23] Whether or not this development will prove to be sustainable remains to be seen. However, when it comes to the undesirable side effects of the boom, China is already delivering the headlines that shape European perception. In the eyes of many, shared bikes are a veritable blight on the landscape, cluttering the sidewalks and restricting the use of public space, while also leading to mountains of unusable bikes in "bike cemeteries". The randomly parked and sometimes defective bicycles obstruct city sidewalks, hinder pedestrians, block entryways and are, generally speaking, considered an eyesore.

19 The evaluation of Mobike user data shows that in Shanghai, 90 % of all trips begin within 300 meters of a bus stop, and 51 % of all trips begin within 500 meters of a subway station. In Beijing, there are similar figures (81 % bus, 44 % subway). Source: Mobike (2017).

20 ITDP (2018).

21 In China, leading bike sharing providers already cooperate with companies and brands such as Disney, Pizza Hut and JD.com. Among other things, the shared bikes have already been used as advertising space for cinema releases. Source: AdAge (2017); China Money Network (2017). With oBike Flash, the Singapore-based company expanded its service portfolio to include a courier and express delivery services (so far only available in Singapore). Source: The Straits Times (2018).

22 As of February 2018, over 20 of the nearly 80 Chinese bike sharing providers had shut down operations. Source: ECNS (2018).

23 Based on a study by Mobike in cooperation with the China New Urbanization Research Institute at Tsinghua University in Beijing, bicycle traffic in Beijing has increased by 6.8% since the introduction of dockless bike sharing systems, while the share of private motor vehicle use in the modal share has declined by 3.2%. A particular decline was registered in the category of trips by car under five kilometers' distance. Source: ITDP (2018); Mobike (2017). Due to a lack of available data, however, the conclusions cannot be verified through fully independent sources.

## Dockless bike sharing – special use or public use?

Does the provision of shared bikes fall under "special use" of public space, and is it thus subject to permits from the relevant road authorities, or is it considered "public use" that does not require explicit permission from municipalities? This is a question that is now being dealt with not only by individual cities fighting the "uncontrolled clutter" of shared bikes on sidewalks. It is also one that is being looked at by the courts.

The city of Hamburg, for example, has issued clearance notices and imposed fines on the company nextbike. The Leipzig-based bike sharing company responded by filing a lawsuit with the Hamburg Administrative Court (Verwaltungsgericht Hamburg – VG). In its ruling of 31 March 2009, the VG decided that dockless shared bikes, even with advertising attached, are principally not subject to special use permits.[24] In the context of subsequent appeal proceedings, the Hamburg Higher Administrative Court (Oberverwaltungsgericht Hamburg – OVG) rejected the appeal. The ruling of the VG subsequently went into effect.[25] Based on this OVG ruling, bike sharing companies generally consider the parking of dockless shared bikes to be legitimate public use.

It must be noted that in 2010, shortly after the Hamburg case was decided, there were only around 6,000 shared bikes available across Germany.[26] By comparison, today there are approximately 16,000 bikes available in Berlin alone, around two thirds of which are dockless (as of March 2018).[27] This means that since the ruling was issued, the bike sharing market has undergone a significant change with regard to size of the bicycle fleet and underlying business models. This new situation could motivate a different court ruling in the future. As long as no other court judgment exists, however, the ruling of the Hamburg OVG will continue to serve as a precedent.

As a result, there is now broad consensus among municipal stakeholders that binding agreements or regulation-based cooperation with providers are to a certain degree necessary in order to integrate the systems into the urban transport landscape in a balanced and mutually compatible way.

Although the negative side effects of the dockless systems may be detrimental to the image of the service providers, this has not hindered their expansion on other continents. In European cities, there are by now a multitude of companies active on the market, among them the current market leaders Mobike and ofo. In cities with a less developed bicycle culture and lower levels of bike ownership, such as Milan and Florence, for example, the systems are generally seen in a positive light and are considered to be an opportunity to improve the linkage of bicycle transportation and public transportation.[28]

24 openJur (2013).
25 OVG Hamburg (2009).
26 Shaheen et al. (2010).
27 SenUVK (2018 a).

28 Both Valentino Sevino, the Mobility Planning Director in the Environment, Mobility and Territory Agency of the City of Milan, and Dario Nardella, Mayor of the City of Florence, welcome the introduction of dockless bike sharing offers and point to their potential contribution to sustainable mobility. Source: Cities Today (2017); Eltis (2017).

At the same time, the bike sharing companies are learning from mistakes they have made in communication with the cities, and now show a much greater willingness to be cooperative.

Regardless of occasionally negative experiences, however, many municipalities are focused primarily on the opportunities offered by the new systems as an element of a sustainable urban mobility strategy. In China, the UK, Austria and Germany, individual cities have developed and in some cases already implemented guidelines for action, requirement catalogs and cooperation agreements. These measures have been met with initial positive responses (e. g. in London and Manchester). One common approach is to establish clearly defined testing periods (more on this can be found in Section 3 under "Action recommendations"). In general, adherence to the following principles helps to ensure the balanced integration of the systems into a broader urban mobility concept:

1. Close cooperation between operators and local authorities – if possible based on written agreements – should be a fundamental prerequisite for the establishment of the systems.
2. The definition of minimum standards can help to ensure the technical quality of the bike sharing systems particularly with regard to legal requirements for ensuring road safety.
3. Specifications regarding how bikes can and should be parked enables systems to be operated in a way that is compatible with city life and does not pose significant encroachments to third-party interests.
4. The operators of bike sharing systems should commit to comply with minimum standards regarding data protection, payment methods and registration procedures.
5. Companies should share relevant usage data with local authorities for city and transport planning purposes, while complying with relevant data protection laws.

A number of professional associations and planning organizations have also positioned themselves on this issue, calling for improvements in the political and legal arrangements, particularly with regard to the use of public space, while at the same time recognizing the potentials and possible positive effects of such systems.


Figure 2.1: Milan welcomes dockless bike sharing. Ofo and Mobike bicycles feature the city's coat of arms.

## Key questions in dealing with dockless bike sharing systems

### STRATEGY AND CONCEPT:

- → How can the systems be integrated into citywide mobility strategies?
- → What is their actual benefit with regard to the transportation situation of the respective city?
- → What might a citywide bike sharing concept look like (if necessary as part of a strategy for collaborative mobility forms)?
- → How do various citywide concepts differ with regard to the specific operating environment (city size, city density, bicycle infrastructure, importance of bicycle traffic, importance of the public transportation system)?
- → How can systems be optimally combined with the public transportation system, and how can they supplement the public transportation system? Is it possible to establish a reliable scale for a respective city with regard to the ideal number of shared bikes?
- → In larger cities, how can a basic service level be achieved outside of the city center as well (e.g. to enable individuals to reach rail-bound public transportation)? Can station-based and dockless systems supplement each other? Are combined systems conceivable? How many different providers or systems can coexist in one city?

### POLITICAL ASPECTS, INCLUDING MUNICIPAL PARTNERSHIPS:

- → How can robust communication processes between providers and municipalities be established from an early stage in order to reach long-term cooperation agreements?
- → Where is there a need for oversight measures on the part of the municipalities (e.g. with regard to managing public space)? Which aspects can be left to the market or to the providers?
- → Where are there intersections with public interests (citywide mobility strategies, competition for scarce public space)?
- → What oversight and steering instruments exist, and how and in what situations can they be optimally utilized? Where are suitable instruments still missing?
- → What should robust cooperation agreements for dockless systems between municipalities and providers look like? How can it be ensured that companies conclude and comply with such agreements?
- → How can municipalities have an influence on the handling of data (in the interest of protecting the customer)?
- → Can municipalities use certain anonymous user data for their own planning purposes, and is this permitted?

# 03 | Recommended action for German cities and municipalities

After consideration of all opportunities and risks, the following becomes clear: The new providers of dockless bike sharing systems will expand their business model around the world and will continue their growth trajectory. Despite the associated challenges, cities and municipalities can benefit from this development. Bike sharing can make a key contribution to a sustainable, city-friendly and environmentally sound transportation situation. For now this applies in particular to larger cities, where the transport system is increasingly shaped by multimodal mobility behavior. Here, bike sharing can replace trips still made in large part by car, for example as part of multimodal trip chaining or on short trips with distances under three kilometers.[29] But there is also considerable potential in smaller cities and municipalities. In places where station-based systems have thus far not been established for financial reasons, dockless bike sharing fleets can present cities with an important additional mobility option that is less cost-intensive. However, it is not only cities and municipalities that are called upon to meet the potential of dockless bike sharing; the providers themselves must also have an interest in the successful operation of their systems. This is why cooperation between stakeholders is so essential. First and foremost, providers must learn from previous experiences with market entry in Germany, and must recognize the key role that municipalities play in the success of the systems.

Key municipal players and providers can work together to strengthen bicycling through these dockless systems and continue to advance the long-term position of bike sharing systems. Transparency and trust in the communication and cooperation process are the basic and decisive prerequisites for this. For just as the providers of such systems, with their financially solvent investors, will certainly continue to expand, so too can these providers expect a tightening of government oversight and regulation in the near future if they neglect to address the current need for action.

On this basis, constructive cooperation between municipalities and providers can bolster the beneficial development of dockless bike sharing systems. Such progress can benefit all parties involved: cities, municipalities, providers and citizens. Further possibilities for action that will encourage the integration of dockless bike sharing systems in the municipal transportation system, as seen from the standpoint of ADFC, DST, DStGB and Agora Verkehrswende, will be explored in the following part of this guidebook.

29 The share of trips under 3 kilometers taken by car is 37 % in metropolitan areas, 40 % in urban areas and 44 % in rural areas. Source: infas; DLR (2009).

## Info Box: station-based or dockless systems – alternatives or complementary offers?

This guidebook focuses on recommendations for dealing with dockless bike sharing systems. However, station-based systems also deserve a closer look, as these can be important for municipalities in their planning of sustainable, city-friendly and environmentally friendly transportation systems. The search for an ideal solution for an individual city must take the larger picture into account. The following information on station-based systems is based on the assumption that the main differences between both systems are largely known:

→ The shift from dockless to station-based systems in Germany was tied to the hope of a higher degree of reliability and availability, better interlinkage with the public transportation system through the planning of stations and simpler terms of service.

→ Among the impulses for this were the positive experiences with station-based systems in other European countries. Such systems have the advantage that they facilitate a balanced integration of bike sharing in the public space (through mandatory permits for the stations, better coordination of locations, more orderly parking arrangements etc.). The disadvantage is the considerable effort and the relatively high costs that go into planning and setting up such systems, which often take several years to put into place.

→ The station-based systems are, as a rule, tied to municipal co-funding and based on a contractual relationship between city and operating company. By taking on a portion of the financial cost at a contractual level, the municipality has the chance to influence the functional and operative quality of the systems as well as the integration of bike sharing in its overall citywide mobility strategy. Furthermore, the municipality is able to ensure reliable operation over a pre-defined period of time. To date, there is very little substantive experience with voluntary cooperation agreements for dockless systems.

→ Even if station-based systems are principally much more expensive than dockless systems, technical improvements and a higher operational efficiency have helped to lower costs. While ten years ago the subsidy level per bike and year amounted to around 1,500 to 2,500 euros, this amount has fallen to under 500 euros in some cases for systems of comparable quality.

→ And although the existence of a contractual relationship ensures a certain degree of continuity and planning security, it can often, depending on the design of the contract, hamper a quick reaction to new requirements and developments – for example, in the form of expanding an existing system. This is especially true when the systems are financed through advertising rights, and when an expansion of a system requires that the municipality provide new sites for advertising space (e.g. in Dublin). By contrast, it is much easier and faster to expand dockless systems, but due to the lack of contractual agreements, the expansion of these systems can entail risks in terms of the sustainability and reliability of the operating company's activity.

→ The question of which system is most suitable for the situation in a particular city can only be determined on a case-by-case basis, taking into account factors such as city size, the overarching transport concept, and the availability and possibilities of financial support, among other factors. In general, the smaller the city, the greater the difficultly in establishing a purely station-based system with sufficient transport-related benefits.

→ In general, the following aspects must be taken into account: The decision to adopt a station-based system does not preclude simultaneous support for dockless systems. This can be an advantage in particular for larger cities, provided that it is possible to develop appropriate solutions within the framework of an overarching and spatially differentiated bike sharing concept, and to implement these solution in coordination with the operators. Due to the relatively simple technical standards of the bikes so far, as well as the relatively simple tariff structures, the new dockless systems are likely to be more interesting for short distances – for example, as first and last-mile solution to link up with public transportation, or for small, compact city centers. Mixed systems could also be a suitable solution for certain situations, as can currently be observed in Berlin, among other places.

## 3.1 Strategic pursuit of a goal: bike sharing as part of citywide mobility strategies

City-specific planning strategies are necessary in order to achieve the potential offered by bike sharing solutions. A one-size-all solution for all municipalities simply does not exist. As a rule, cities should strive to develop an integrated strategy that takes into account other types of products and services in the area of collaborative mobility, such as car sharing and ride pooling, for example. A key objective here is to avoid a mere shift within or at the expense of environmentally friendly forms of transport, even if bike sharing, especially in city centers, can in certain cases bring about relief to the public transportation system at peak periods. This strategy must be a part of a citywide mobility policy. For this reason, considering the balanced integration of the systems in public space is not enough; instead, one should also focus on creating suitable legal and political arrangements that ensure the long-term compatibility of cities with collaborative forms of mobility. Relevant elements of this "bike sharing strategy" can also be used for agreements between municipalities and providers (see Section 3.2).

The following aspects in particular must be taken into account:

- When developing citywide mobility strategies (e. g. transportation development plans, sustainable urban mobility plans, or mobility masterplans), bike sharing and other innovative transport services should be considered at the level of both strategy and measures. Planning principles should be established in advance, such as those aimed at linking sharing services with the public transportation system, or those dealing with the scarcity of public space.
- When it comes to larger projects in the area of city planning, sharing services should be incorporated into local mobility concepts – for example, in the development of new residential areas on the peripheries (e. g. bike sharing as part of multimodal trip chaining or to promote mobility within a neighborhood), or in the development of neighborhood-based urban re-densification concepts. Key actors in this regard include entities that fund development measures, such as housing associations, for example.
- Data surveys on mobility behavior should be designed in such a way that potentials for bike sharing are recognizable in relation to the larger strategic objectives of the city, so that respective policy measures can be derived from this data (in a spatially differentiated way, if needed).

On this basis, integrated subconcepts for bike sharing can be developed that are adaptable to specific situations and have a greater degree of detail, taking the following aspects into account:

- Representation of the development potentials of bike sharing for the respective city (e. g. number of shared bikes per resident, absolute fleet size, number of different providers or possible cooperation between providers)
- Development of attributes that mesh with specific requirements of a city (e. g. determination of excluded areas by geofencing[31]; in larger cities possibly a spatial differentiation between station-based and dockless systems; possible consideration of mixed systems)
- Formulation of minimum standards – for example, regarding the technical configuration of the bikes (see also Section 3.2)
- Development of requirements for integration with the public transportation system, in close cooperation with the respective transportation associations or companies (for example, regarding the location of bike sharing stations, whether physical or virtual; designating parking zones for shared bikes; and tariff integration for various services)
- Checking if different bicycle types could be included in bike sharing fleets (e. g. electric bikes and cargo bikes)
- Identification of responsibilities and criteria for evaluation and impact research

30 In Berlin, for example, the amount of subsidies for the system that was selected through competitive bidding totals 7.5 million euros for five years for the final installment of 5500 bikes, i.e. around 275 euros per bike and year. Source: SenSW (2016).

31 "The word creation 'geofencing' is a combination of the words geography and fence. Here, the geo-data and the location of an object are combined in such a way that certain consequences are triggered if the object leaves the pre-defined area." Source: Gärtner (2011).

## 3.2 Cooperation instead of confrontation: agreements as the foundation for city-friendly dockless bike sharing

Against the backdrop dynamic developments, municipalities often don't have the time to draw up a strategic concept for bike sharing (such as that described in Section 3.1) before having to take action.

Instead, municipalities often have to react to short-term developments and come up with corresponding solutions within a short period of time. This does not, however, make strategic concepts superfluous. Such concepts can be developed in parallel to approaches that required specific and expedited action. For this reason, even short-term measures must be designed so as to promote the balanced development of bike sharing within the framework of a city-wide strategy and in the context of a 'no regrets' approach.

Which approaches can prove to be most effective in serving the interests of bicycling and of the cities themselves? First and foremost is the active and transparent communication between municipalities and providers on the basis of binding commitments and trust. Binding commitments are an effective tool for dealing productively with the challenges that municipalities face with these new systems. A common basis for action, developed and implemented jointly by municipalities and providers, beneficial developments to be encouraged, even in the absence of long-term strategic concepts, while also helping to avert legal disputes. While legal disputes may be unavoidable to reconcile opposing positions or answer open questions, they bind significant amounts of resources and don't always bring about desired outcomes.

With regard to dockless bike sharing, geofencing can be used in the GPS-based return process to automatically recognize whether the particular bike is located in an area where returns are not allowed. In such a case, a return of the bike is not possible. At the same time, this technology allows the return of a bike in a specially marked zone to be credited with bonus points.


Photo: XXX

Figure 3.1: LimeBike is currently the only dockless bike provider in Germany offering electric shared bikes (Lime-E). Additional providers (including Mobike) have announced the introduction of pedelecs.

## The core of the agreement: obligations and incentives

Despite current legal uncertainties, agreements between municipalities and bike sharing providers can provide a reliable basis for collaboration while also being compatibility with local conditions on the ground. As a supplement to the imposition of certain requirements, municipalities also provide positive enticements or incentives. Possible incentives include:

- → Voluntary financial services from the municipality as remuneration – for example, in exchange for the right to define the area served or set other standards according to the municipality's priorities
- → Designated parking areas by the municipality for the provider – for example, in particularly sensitive areas or at important public transport stations
- → Inclusion in the city's PR activities related to mobility (e.g. links to provider at the municipal website; integration of provider's bike locations in the city's route planners; etc.)
- → Awarding of a municipal "quality seal" to the provider, accompanied by an obligation to maintain certain standards and/or the granting of a right to use the city logo in joint communications

If a provider is willing to accept the classification of their system as special use, with the requirement to apply for corresponding permits, and agrees to establish this in the agreement, the municipality should seize on this opportunity. For even while the legal basis for such special use permits may be challenged or overturned in the future, such a provision will greatly enhance the extent to which the agreement is legally binding. In addition to governing the use of public space, the permits can include a variety of other aspects, such as preferred locations for offering bikes. It is important to make clear to the providers that these are binding arrangements that stem from mutual interests. Municipalities can underline this by, for example, keeping the special use fees as low as possible, or possibly even by making changes to the municipality's fee catalogs. The aim of the procedure, after all, is not for the municipalities to make money, but rather to regulate an essentially positive mobility service such that it finds an appropriate place within the urban space and can be operated in an effective and reliable manner.

It is also recommended that the contractual relationship between city and bike provider be formulated so that it is not deemed to be a substitute for a special use permit. While the municipal administration is bound by the rule of law (article 20[3] of German Basic Law), if the bike provider enters into obligations voluntarily and without "exigency", this will bolster the municipality's legal position in the long run.

Incentives offered by municipalities can facilitate a mutual basis for action, in conjunction with a written agreement, if possible in contract form. This contract can be designed with an extended timeframe, rather than simply as a reaction to short-term exigencies. In order to fully harness the potentials of dockless bike sharing systems, while at the same time ensuring a balance between public welfare and regulatory requirements, cities should follow the basic principle of "as much as necessary, as little as possible". The amount of regulation that results from this process can differ from city to city, depending on the local situation, but the main goal is to avoid overregulation, in part because of the lack of reliable data on many aspects of dockless bike sharing. In this way, exploratory activities designed for gathering experience should be expressly encouraged rather than prevented. In agreements between cities and bike providers, these activities can be governed by fixed-term agreements.

Another option, following the example of London, is to expressly define test phases, after which adjustments to the service or its operations can be made. The drafting of an agreement and of any regulations should, if possible, take place in cooperation with the providers, and should form the basis for a long-term dialog process. Depending on the local situation, it may also be also beneficial to involve additional key players or stakeholders, such as local transportation companies, for example.

The written agreement between municipality and bike providers should be made on the basis of a requirements catalog. On the one hand, this catalog should lay out the regulatory requirements that are indispensible for maintaining the interests of the public and should establish practicable procedures, even sanctioning mechanisms if needed. On the other hand, it should also contain possible incentives for the providers, if this is compatible with local conditions on the ground.

There are many kinds of agreements, with different conceivable scopes and formats, ranging from a binding contract (e. g. in the case of voluntary co-funding by the municipality) to city-specific informal agreements. A non-binding "memorandum of understanding" should be viewed only as a stop-gap solution. The willingness of service providers to not only accept such agreements, but also to actively seek them, has already grown markedly. In the process it can be beneficial for municipalities to


Figure 3.2: Seattle is testing designated parking zones to facilitate the orderly parking of dockless shared bikes.

consider, in addition to non-monetary incentives, the co-financing of special systems, in order to gain more influence over, say, system design or the quality of operations. This is an interesting option particularly for smaller cities and municipalities, but it could also help build the supply of bikes in areas beyond larger city centers. This would significantly amplify the acceptance and binding nature of these agreements.

The requirements catalog itself can take different forms as well: It can serve as the basis for the agreement or contain general determinations from the municipality that apply to all service providers. Furthermore, the catalog can establish varying degrees of binding force (depending on the underlying legal framework). A European comparison shows the spectrum of possible approaches, including legally binding "by-laws" in Dublin; a local police ordinance issued with determinations in Vienna; a "code of conduct" in London; and a "guidebook with recommendations" in Munich. The differences result not only from the various underlying national legal frameworks, but also from the differing aims with regard to the scope of regulation. In English-speaking countries, for example, obligations and sanctioning mechanisms are formulated in a much more binding and precise way than is the case in Germany, Austria and Switzerland. There are naturally also differences between cities that already have a system in place – as a rule, these systems are station-based, and directly or indirectly subsidized – and cities are only now starting to deal with the issue.

There is currently some legal uncertainly regarding competitive bidding procedures for determining the "best" provider of dockless bike sharing systems (from the city's perspective). Such procedures do not prevent municipalities from concluding incentive-based agreements with only those companies that meet the municipality's requirements. However, the municipality should respect statutory conditions and ensure that other companies fulfilling the same prerequisites can apply. It is equally conceivable to provide voluntary municipal co-financing to a company that is determined, in a transparent process, to best meet the municipality's required needs. A bilateral agreement, however, does not preclude other companies from establishing their own systems at the same time in the same city (within the realm of what is legally permissible).

## 3.3 Balancing quantity and quality: possible contents of agreements

What information should be included in the requirements catalog that forms the basis for the agreements between the municipality and provider? The following list, divided into different topics, points to some of the key topics that should be covered. Although it is intentionally designed to be broad ranging, it makes no claim to completeness. Each municipality can take from it building blocks to develop their own customized, made-to-fit solution that is oriented to local conditions on the ground. In the case of regulations that have already been integrated into a municipality's requirements catalog, there is a brief reference to practical examples.

### The overall concept: integration in the urban transport system

- Compatibility with overarching city-wide bike sharing concepts (if there is one)
- Designation of service area, if applicable tied to expansion scenarios
- Information on fleet size, if applicable with a time-frame for expansion scenarios or an option for the flexible adjustment of capacities depending on market developments and the intensity of use[32]
- Information on linkage with public transportation system (spatial distribution of pick-up and return points; cooperation on tariffs; platform integration)
- Clarification of fleet differentiation (such as use of electric bikes and/or cargo bikes)

### Technical system standards: the basis for safe cycling and long-term services

- Formulation of minimal technical standards for shared bikes (roadworthy set-up according to the German road traffic regulation, or *Straßenverkehrszulassungsordnung*)
- Clear identification of individual bicycles – for example, through a numbering system
- Locatability of the bikes

32 The city of Vienna pursues a relatively restrictive approach, with a capped fleet size of 1,500 shared bikes per company. Source: Stadt Wien (2018).

## Bike supply and bike parking: basic requirements for a balanced use of public space

- Setting clear rules for permitted and prohibited parking areas[33]
- Maintaining clearance for minimum sidewalk widths, emergency access, and green areas, etc., if applicable in combination with geofencing technology
- Clarification of whether and how public bicycle racks can be used for supplying and returning shared bikes[34]
- General restrictions regarding the concentration of bikes at one location.[35] Exceptions are conceivable at high-demand locations (public transportation stations, for example). A corresponding location plan should be developed in coordination between municipal authorities and bike sharing providers.
- If applicable, determination of rules for obtaining special use permits to offer bikes in certain public locations (procedures, fees, time limits, exclusive rights, sanctioning etc.), including acceptance of potential future changes in law regarding use of public space by shared bikes[36]

## Efficient and customer-friendly operations: avoiding conflicts between the operator, municipality and customer

- Determine a deadline for the re-distribution of unused bikes and removal or repair of defective bikes[37]
- Rules allowing the municipality to request relocation of bikes due to events and other temporary occurrences (demonstrations, construction sites etc.), with a deadline for implementation
- Pledge by operator to commit sufficient resources to ensure smooth fleet management on the ground
- Assurance of dedicated and regularly available contact persons for the municipality (see also section "Good communication")
- Arrangements so that operator assumes costs when shared bikes have to be moved or removed by public authority
- Rules ensuring removal of all bikes from the city by the provider if the system is no longer operational

## Good communication: the foundation for long-term relations and smooth cooperation

**Customer communication:**

- Customers must be provided with general terms and conditions for bike sharing, including guidelines
- Active communication with customers on the topic of parking/depositing bikes
- Points system with bonuses/penalties for customers to promote good transportation behavior, in particular when parking bikes[38]
  Refundable deposits in an appropriate and understandable form and the use of deposits according to applicable legal framework, dependent on the location of company headquarters[39]
- Payment methods according to industry standards (several payment methods must be possible)
- Customer hotline (24-hour availability)

33 In coordination with the company oBike, Munich introduced so-called No Parking Zones. Within these zones, it is not possible to end the bike rental process. Source: Landeshauptstadt München (2018 a).

34 In Berlin, dockless shared bikes may not be parked at public bicycle racks. Source: SenUVK (2018 a).

35 In Cologne, the targeted size for delivery and redistribution of bikes is a maximum of five shared bikes per location (within a radius of 100 meters). Source: Stadt Köln (2018).

36 From the viewpoint of the Senate Department for the Environment, Transport and Climate Protection (SenUVK) in Berlin, the bundled parking of dockless shared bikes in designated "return areas" or "collection points" constitutes a special use that is subject to a permit. Accordingly, a special use permit is required. Source: SenUVK (2018 a).

37 SenUVK Berlin requires that providers of improperly parked or defective bikes must be redistributed or removed within 24 hours at most. Source: SenUVK (2018 a). The city of Vienna is much stricter when it comes to redistribution/removal of shared bikes. Here, on business days between 6 am and 6 pm, a period of four hours is granted to take action, while at night and on the weekends, 12 hours are allowed before the bikes must be moved. Violations of these regulations are subject to an administrative fine of up to 700 euros. It should also be noted that the fleet size is limited to 1500 bikes per company. Source: Stadt Wien (2018).

38 Some companies have already integrated incentive systems for proper user behavior into their booking platforms (e. g. Mobike Score and oBike credit points). Source: Mobike (2018); oBike (2018).

39 The company oBike charges a refundable deposit of 79 euros, or 29 euros for students. The majority of bike companies active in Germany charge a very low deposit or none at all. oBike justifies their comparatively high deposit as being necessary to ensure that users treat the bikes responsibly. Source: oBike (2018).

**Communication between municipality and provider:**

- Clear identification of responsibilities and contact partners on both sides
- Definition of standards for the availability of company representatives[40]

### Handling of data: priority for data protection and benefit for municipality

- Compliance with data protection requirements and data security according to regulations in Germany and Europe (determining factor is not the location of company headquarters)
- No use of personal customer data by third parties
- Free transfer of anonymized user data to the city for traffic planning purposes[41]

40 In Berlin, a provider is required to respond to emails within 48 hours. Source: SenUVK (2018 a).

41 In its guidebook with recommendations for providers of dockless bike sharing systems, Munich specifies the transfer of data from users within the city (if possible down to individual bikes). The specific focus is on "(anonymized) figures on frequency of use, average duration of ride and rental and return locations for the past three months". All relevant data protection laws are followed in the transfer of data. Source: Landeshauptstadt München (2018 b).

## 3.4 Required reform of the legal framework: regulatory options for ensuring the implementation of medium to long-range strategies

Based on the foregoing information regarding the design of cooperation agreements between municipalities and the providers of dockless bike sharing systems, and regarding possible regulatory approaches, it becomes sufficiently clear that the existing legal framework in Germany, with its continuing privileged treatment of automobile transportation, is impairing the implementation of manageable, transparent and legally unambiguous solutions.

This holds true, on the one hand, for the still ambiguous legal status of bike parking in public space (including shared bikes) as a permissible form of public use, as well as for corresponding case law (Hamburg Administrative Court 2009). On the other hand, it applies to the insufficient clarifications in Section 29 of the German Road Traffic Regulations *StVO* regarding "excessive use of the road". These legal uncertainties are causing municipalities to exercise a considerable degree of restraint in regulating the use of public space through special use


Photo: Agora Verkehrswende

Figure 3.3: The Radlobby Wien ("Vienna Bike Lobby") distributes a guide to parking dockless shared bikes. Ofo has attached this information to their yellow bikes in Vienna.

permits, including with regard to dockless bike sharing systems. Given current developments, it is debatable as to whether it is still appropriate to differentiate between public use and special use solely on the basis of whether the relevant actor is considered to be a private citizen or business entity (the Hamburg Administrative Court ruled the former in its 2009 decision[42]). Against this background, most of the providers of new systems currently active in Germany assume that permits are not required for dockless bike sharing services. Without classification as special use, there is no solid legal ground for procedures aimed at selecting the best provider from the standpoint of the municipality by way of competitive bidding or a similar process. (This stands in sharp contrast to the situation in Switzerland, for example, where several cities intend to introduce such a procedure.)

It would be beneficial from the point of view of the municipalities (and possibly also of the companies) to eliminate the existing legal uncertainties in order to enable a uniform approach as quickly as possible. In the long run this would strengthen bike sharing as a key component of an integrated mobility strategy, and would also give the operators a sound foundation for long-term planning. It might be possible to adjust federal law accordingly, by, for example, amending section 29 of the German Road Traffic Regulations (StVo) with regard to "excessive use of the road", or to adjust regulations on bicycle parking so they also apply to parking shared bikes in public space. Alternatively, it might be conceivable for the federal states to anchor or clarify a special use requirement for dockless bike sharing systems in their federal road regulations. Finally, the special use statutes of cities could be adjusted. Such adjustments should reflect the priority of enabling the special use of bike sharing in public space free of charge, or at low cost.

42 openJur (2013)

# 04 | Summary

Bike sharing represents an important element of the sustainable urban mobility systems of the future. It can, if introduced at a suitable scale, contribute to a reduction in automobile traffic in urban centers, especially when it is incorporated into multimodal trip chains in conjunction with public transportation systems, or used for short trips in an commuting or recreational context.

The foregoing is principally true for the new dockless systems as well, which are being offered first and foremost by providers from Asia, who have become increasingly active in the German market since 2017. Especially in small and medium-sized cities as well as in neighborhoods on the periphery of large cities, such systems offer new opportunities for a wider range of sharing services. And in larger cities, they can function as a suitable complementary service to existing systems. However, initial experiences with these new services have underscored the need for a degree of guidance on the part of municipalities. Such guidance is essential for cities to harness the potential offered by these systems in a targeted way and to meet the challenges they pose (including negative impacts to public space or operational problems).

The decisive factor for the success of dockless bike sharing from the perspective of all concerned is intensive communication and close cooperation between the actors who represent the public interest and the providers of such systems. Ideally, the outcome of this collaboration should be an agreement that regulates the establishment and operation of bike sharing system in a legally binding manner while also ensuring its integration into the broader municipal transport strategy. To encourage fulfillment of the latter point, cities and municipalities can offer targeted incentives. This guidebook formulates requirements and provides a range of information regarding the design of such agreements. The overarching goal is to enable municipalities to develop their own specific solution that is custom-tailored to local conditions on the ground.

The action recommendations presented herein were developed based on experience gathered in various cities and municipalities. They are amplified with real-world examples. However, to date, long-range observations are limited, and only few empirically reliable evaluations of dockless bike sharing systems are available. Accordingly, there is a need for more research, yet not only about long term effects. Greater study of existing legal frameworks is required, in order to enable targeted adjustments that facilitate reliable and resilient agreements and procedures.

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