Paying for bike-sharing systems

EXAMPLES AND TRENDS FROM LATIN AMERICA
Bike-sharing systems (BSS) have played a key role in discussions around how to promote cycling in cities for more than a decade. This role has further increased with the emergence of private dockless systems since 2015. There are now thousands of BSS in operation in cities across the world, particularly in Europe, Asia, and North America.

Creating a BSS, however, is not simply a matter of replicating a model that has worked in another city. BSSs are one element of a city’s overall transport infrastructure, like roads, buses, metros, bike lanes, sidewalks, etc. Their implementation must be based around a city’s context, including: (a) the applicable laws and regulations with respect to planning and operation of a BSS; (b) its integration with public transport networks, particularly its ability to connect transport nodes with offices and residences; and (c) the potential of cycling as a mode of transport in the city and any relevant sustainability or development objectives (Moon-Miklaucic et al., 2018).

There are several planning guides for cities to understand the technical, legal, operational, commercial and financial options behind a BSS (ITDP, 2013; ITDP, 2018a; Montezuma, 2015). An initial analysis should help cities answer the following questions:

- **WHAT CAN A BSS DO FOR THE CITY?**
- **IS THE CITY READY TO IMPLEMENT A BSS?**
- **IS A BSS THE RIGHT OPTION FOR THE CITY?**

Only when these questions can be satisfactorily answered, should the city discuss how to create the best possible BSS. This technical and operational analysis should not preclude financing options or be based around a city’s preferred instrument. In other words, the decision to resort to financing from the municipal budget or to the private sector should be made based on what is best for the BSS, rather than before these technical specifications are known.

The financing and funding options for a BSS will be dependent on the operational structure that the city chooses. In all cases, the city will be involved in this structure: the degree of involvement will depend on the selected technology and the role of the private sector in the system’s operation. Broadly, BSS can be divided into three types based on who owns the assets and who delivers the service, according to local regulations.

- **Publicly owned and operated:** A public body owns the bikes, stations, software, etc. and directly delivers the service.
- **Publicly owned and privately operated:** A public body owns the bikes, stations, software, etc., but a private entity delivers the service according to a contract.
- **Privately owned and operated:** One or more private entities own the bikes, stations, software, etc., and also deliver the service, according to local regulations.

Cities in Latin America have, over the last decade, experimented with all three types of operational structure – which are, in any case, not completely exclusive. Buenos Aires’s Ecobici was initially managed by the city, together with Serttel (Brüa & Irade, 2013); a new operator, Tembici, will be in charge from 2019 (PBSC, 2018). A different Ecobici, in Mexico City, is operated by the media company ClearChannel, also operating several systems in Europe (Delgado, 2017). However, in recent years, with the emergence of private dockless companies and larger operators, there has been a tendency toward models that are fully managed by the private sector and that do not rely on public financing or subsidy. This has been in line with global shifts in the bike-sharing industry.
Bike-sharing systems (BSSs) are one element of a city’s overall transport infrastructure, like roads, buses, metros, bike lanes, sidewalks, etc. Their implementation must be based around a city’s context.
How to finance bike-sharing systems

A BSS includes a package of assets: bikes, stations (if necessary), vehicles to rebalance the number of bikes across the city, any software required to operate the stations, mobile apps, or the bikes, a control centre, etc. Relative to other forms of transport, BSSs require limited upfront capital investment (Moon-Miklaucic et al., 2019). Capital investment for traditional BSSs are estimated at between US$900-$3,500 per bike (ITDP, 2018: 33): even the largest systems’ total cost has not exceeded the US$ tens of millions. Dockless systems, which don’t rely on fixed stations, have lower capital costs (Pal and Zhang, 2015).

The relatively paltry capital investment required for a BSS makes it unlikely that cities will be able to access external financing, which is generally reserved for larger projects. However, it also makes it unnecessary for cities to incur debt to establish a BSS. There are few examples of external financing for BSSs. Buenos Aires received a US$50m loan from the International Finance Corporation in 2017 which financed the development of a new Bus Rapid Transit line and included new bicycle lanes and bike-sharing stations along the route (IFIC, 2017). The Asian Development Bank launched BSSs in three cities in southeast Asia in 2012, funded by a US$2m grant from the Government of Japan (ADB, 2012). Private investment from developers or universities may also be accessed to finance the expansion of systems, after its establishment (ITDP, 2014: 127).

The most well-documented example of a BSS financed by accessing capital markets is New York City’s Citi Bike. This BSS was founded with the explicit intention of not requiring public financing or subsidies (ITDP, 2014). Citi Bike is privately owned by Lyft Inc. and operated by subsidiary company Motivate. The operator received a US$42m loan from Goldman Sachs’s Urban Investments Group in 2012 to cover the capital costs of the scheme. In 2014, in order to finance a doubling of the scheme, the operator raised US$30m in equity from its then owners, Bikeshare Holdings LLC, and a further US$15m loan from Goldman Sachs (NYC DOT, 2014). A US$5m investment from The Partnership Fund for New York City specifically financed the scheme’s expansion in lower-income communities (NYC DOT, 2014). An additional injection of capital came in November 2018, when Lyft completed its acquisition of operator Motivate by making a 5-year, US$100m investment in Citi Bike to ‘double its current service area and more than triple its number of bikes to nearly 40,000’ (Citi Bike, 2018).

However, this example is not reflective of how most BSSs have been financed. It is likely more reflective of New York City’s wealth, financial industry and of the scheme’s prestige. No other BSS has come close to raising a similar amount of capital through both debt and equity, although some, like St Louis’s BSS in the U.S., have also followed the principle of being exclusively privately funded (ITDP, 2018: 74).

Most commonly, BSSs have been financed directly through municipal budgets and related sources:

- The establishment and expansion of London’s BSS, now called Santander Bikes, was financed by Transport for London, the city’s transport agency. Publicly-available estimates for the capital costs range from £140m for the first six years to a total of £195m between 2011 and 2018 (Quilty-Harper & Payne, 2011; Ponsford & Lee-Zogbessou, 2018).
Paris, Milan and other cities contracted out the operation of their BSS to advertising agencies, whereby these companies can, in return, sell all or part of the city’s outdoor advertising. The financing of the BSSs is devolved to each advertising agency. These schemes technically don’t require a public subsidy, but cities forgo potential advertising revenues which can be greater than the value of the BSS contract: estimates for Paris suggest that the advertising agency generated up to €60m annually (ITDP, 2018).

Chicago’s Divvy was initially financed by grants from the U.S. federal government and resources raised from the city’s Tax Increment Financing programme (Greenfield, 2013).

Cities in Latin America have followed a variety of these financing models. Buenos Aires initially owned and operated its BSS, Ecobici, which is subsidised and free to all users. In Mexico City, the city owns the assets behind Ecobici, but the system is operated by Clear Channel Outdoors, an advertising agency. Other schemes, like Bike Rio, are run entirely by private companies based on a concession.

The bike-sharing sector in Latin America has shifted in recent years due to the exponential growth of Tembici, a Brazilian private bike-share operator, and to the emergence of private dockless companies. Tembici, founded in 2010, expanded its operations from Recife, Sao Paulo and Rio de Janeiro in 2017 to now include 16 Brazilian cities and, from 2019, Buenos Aires and Santiago de Chile (Rivas, 2018; Serrano, 2019). Tembici’s business model varies by city, but in Rio de Janeiro the operator is partnering with Banco Itaú, a Brazilian bank, to privately own and operate the Bike Rio system with only a limited relationship with the city.

Private dockless companies operate in Mexico City – Mobike, Vbike, Dezba (Moon-Miklauic et al., 2018) – in Sao Paulo – Yellow, among others (Clark, 2018) – and in an increasing number of cities. These companies are mostly backed by venture capital and there is limited information available about their financial sustainability.
How to fund bike-sharing systems

BSSs can have significant operating costs. The main cost is incurred in rebalancing bikes across the system, but others include staffing, maintenance, marketing and administration costs (ITDP, 2018). If the BSS is financed through a loan, debt repayments may also constitute a significant operating cost.

The funding for a BSS can come from a variety of sources (Table 1). However, studies so far suggest that these are often not enough to break even (Montezuma, 2015; ITDP, 2018). User fees, both for single rides or through memberships, constitute the bulk of revenues, but are seldom sufficient to cover all of the operation and maintenance costs. Some BSSs come close: in Washington D.C., 97% of Capital Bikeshare’s costs are covered by fares, while user fees make up for 80% of the costs of Chicago’s Divvy system (ITDP, 2018). The gap is filled through sponsorships, advertising, fees, taxes, subsidies and permits.

### Main funding sources

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>User fees</td>
<td>Washington D.C.’s Capital Bikeshare recovers almost all of its costs through user fees. London’s Santander Bikes includes daily and annual memberships, and pooled and individual business memberships.</td>
</tr>
<tr>
<td>Naming rights</td>
<td>London’s BSS was initially named after Barclays Bank, but has been sponsored by Santander Bikes for £6.25m a year since 2015. The naming rights for Barcelona’s Bicing were sold to Vodafone for €1.2m a year (Ajuntament de Barcelona, 2014).</td>
</tr>
<tr>
<td>Advertising space</td>
<td>Chicago’s Divvy is sponsored by Blue Cross and Blue Shield of Illinois, whose logo appears on the system’s bikes and vans (City of Chicago, 2014). The city is also able to attract further sponsor for the system’s docking stations and kiosks (Greenfield, 2014).</td>
</tr>
<tr>
<td>Parking fees</td>
<td>Revenue for the operation of Barcelona’s Bicing comes from on-street parking fees (ITDP, 2014).</td>
</tr>
<tr>
<td>Taxes</td>
<td>Medellín’s EnCicla is funded through environmental taxation (Soto, 2019).</td>
</tr>
<tr>
<td>Subsidies</td>
<td>Buenos Aires’s and Medellín’s BSS are free for users and the cost of each trip is subsidised by the city.</td>
</tr>
<tr>
<td>Permits</td>
<td>Private dockless companies may operate after purchasing a permit, calculated by bike or as a lump sum. The payment for these permits can cover some of the city’s operating costs, particularly administrative costs.</td>
</tr>
</tbody>
</table>

Table 1. Main funding sources for bike-sharing systems. Adapted from Moon-Miklaucic et al., 2018.
The cases of New York City and London show how cities can maximise the sources of funding available to them. In New York City, the initial loan from Goldman Sachs was guaranteed against the scheme’s advertising partner and user fees. CitiBank contributed an initial US$41m over five years for the scheme’s naming rights and advertising, extended to US$70.5m through 2024 (Flegenheimer, 2012; NYC DOT, 2014). CitiBank’s decision to purchase the naming rights was based on the positive association of being linked to New York City’s first new transport network in 100 years, as well as its advertising potential; internal surveys by CityBank suggest that the bank’s favourability rating tripled as a result (Essex, 2017).

The case of London suggests that the costs to operate a BSS are not fixed. The overall subsidy has decreased by two-thirds between 2014/15 and 2017/18 (Figure 1). This has been the result of slower expansion and therefore reduced costs of planning and installing new stations. Funding sources have also slightly increased: TfL’s contract with Santander Bikes includes, on top of £6.25m a year for the scheme’s naming rights, a £1m a year ‘activation fund’ including offers, activities and other programmes (TfL, 2015). More than 10m journeys were made in 2018, with five out of 11 months setting yearly records (TfL, 2018a).

Table 1 and the examples provided above demonstrate how there are multiple ways for cities to construct a financially sustainable business model for their BSS. The reliance on one or another of the various revenue sources should be based around a technical and operational analysis of several options. This decision should also ensure that the model is built upon a clear understanding of what a BSS can do for the city and upon a realistic assessment of whether the city is ready to implement a BSS.
These examples provide a snapshot of the financing and funding considerations that need to inform the establishment of a BSS in any city. There is already a wealth of experience in Latin America about how to create a financially sustainable and successful scheme, whether publicly or privately owned, or publicly or privately operated. Despite some setbacks, the sector has seen significant growth, particularly in the last few years.

However, the sector has also seen dramatic changes in the last few years and it is not clear that any of these examples or experiences will be relevant for much longer. It is also not clear how the existing planning guides for cities and the examples listed above apply to smaller cities who may also be considering a BSS. Given the fast pace of change and the expectation that most of the growth in the number of BSSs will likely happen in small and medium-sized cities in Latin America, cities need to carefully consider the basic questions underpinning any BSS, namely:

1. **WHAT CAN A BSS DO FOR THE CITY?**
2. **IS THE CITY READY TO IMPLEMENT A BSS?**
3. **IS A BSS THE RIGHT OPTION FOR THE CITY?**

Only after the answers to these questions are determined, should cities develop a business model that can maximise the benefits of a BSS. The planning process needed to establish a successful BSS should keep all relevant financing and funding options available, rather than, for example, preclude public subsidies or rule out a permitting system for private dockless companies.

Even when these answers are determined and a decision to proceed with a BSS is made, the questions that BSS planners have successfully addressed since the early 2000s may not be relevant anymore. The emergence of a fourth generation of BSSs, characterised by dockless bikes, different bike types (e.g. e-bikes) and rapid deployment is increasingly making certain elements, such as stations and mixed asset ownership, obsolete. Only a few cities so far have embraced this model – Seattle, Singapore (Miklaucic et al., 2018). In some cases, it has had disastrous results. Manchester, for example, went from being the first European city to allow Mobike to operate to suffering a series of negative headlines after the company pulled out under the guise of vandalism (Pidd, 2018).

**BOX 2**

**E-scooters and disruptive technologies**

E-scooters have recently become another competitor to traditional bike-sharing systems. They occupy less space, are cheaper to maintain and have proven more profitable to the extent that some providers are switching to them from e-bikes (e.g. Field, 2019). On the other hand, they have no health benefits and are less safe than bikes. It remains to be seen whether local governments should promote them, let alone invest in them, given that there may be better public policies available.

Hybrid models have also emerged. NextBike has operated dockless bikes since 2005 in Leipzig, without public subsidies. Surcharges are applied if users leave bikes away from main roads, with flexible stations located near public transport nodes (Schlebusch, 2017). NiceRide, which operates in Minneapolis and St. Paul, follows a similar hybrid model (Small, 2018).

Finally, cities in Latin America may be able to leverage national programmes to develop BSSs. The Paris Agreement has spurred innovations in how different countries plan to implement their climate change commitments.

For example, Colombia has pioneered a so-called National Appropriate Mitigation Action on Active Transport and Demand Management (NAMA TAnDem). This programme includes nine measures, one of which promotes the establishment of public bicycle schemes according to cities’ sustainable mobility urban plans and based on careful design (Capone & Calderón, 2017). The C40 Cities Finance Facility (CFF) will be supporting the Colombian cities of Bogotá, Cali, Montería and Bucaramanga in establishing public bicycle schemes (CFF, 2018). The pooling of these projects within the NAMA and Colombia’s commitment to the Paris Agreement is designed to create opportunities for further technical assistance and financing.
Cities in Latin America aiming to promote sustainable mobility, and cycling in particular, should consider establishing a bicycle-sharing system. BSSs can be an important element of a city’s transport infrastructure and are relatively cheap to implement. There are a multitude of financing and funding options available. It is not necessary to resort to public investment or subsidies, as private sector companies can cover both the capital and operating costs of a BSS.

Electric scooters have recently become another competitor to traditional bike-sharing systems, in cities across Latin America.

Business models need to, however, be based upon a careful consideration of what a BSS can do for a city and on whether the city has the capacity to plan and manage such a system. The bike-sharing sector has seen dramatic changes in the last few years and it is not clear that past examples and experiences will be relevant for much longer. It is also not clear how they apply to small and medium-sized cities. The trialling of permitting systems for dockless companies and the emergence of new, hybrid models, together with national efforts to promote the establishment of BSS, promise to drive growth in the sector and innovation around financing and funding going forward.


Acknowledgements

This report was written by Aris Moro of the C40 Cities Finance Facility.


Design by www.blushcreate.com