



DELIVERABLE 4.3

OPERATOR-MUNICIPALITY COOPERATION CASE STUDY

WP 4: Monitoring &
assessment of effectiveness

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Running a Bike Sharing System (BSS) reveals to be a complex mix of expertise and activities that requires operational organization, financial planning ability and cooperative attitude. All of the above must be shared by the key BSS players, which classically are the Municipality, the BSS operator, possibly a sponsor. The first two play a pivotal role in most BSSs, and the VeloCittà project had the opportunity to closely observe the collaboration of two project partners, the Municipality of Padua and Bicincittà, the operator of the GoodBike Padua BSS. Having them on board allowed VeloCittà to study first hand a BSS case, eliciting practical insights on the faced organisational, communication and financial issues. The observation of the relationships between the other partner Municipalities (Burgos, Krakow, London, Szeged) and their operators, also provided a useful perspective.

1 The Municipality and the Operator

1.1 Padua

Padua has around 210.000 inhabitants, 40.000 of which aged between 15 and 34. The University of Padova enrolls about 62,000 students, one of the main target group of the local BSS. Almost all faculties of the university are located in the city centre. The industrial area of Padova is one of the largest ones in Europe, with an area extending over 11 million sqm, hosting some 1,300 industries and employing over 50,000 people.



Figure 1 - Padua city: Piazza die Signori

The industrial zone houses two railway stations, one fluvial port and three truck terminals. Of the city's inhabitants, 93.000 can be called employees. Padua is an important tourist destination in northern Italy, profiting from the massive numbers of tourists visiting its neighbouring city Venice. Padua welcomes around 607.00 tourists per year. Many visitors arrive in Padua by train. The historical city centre is a car-free zone and most of the bicycle docking stations are situated in this area. The number of commuters in and out of Padua is estimated at 48.000 daily. The cycling modal share is 16%, one of the highest in Italy, even if the private car modal share is also high with 48%.



1.2 Bicincittà

Bicincittà is a bike sharing company initiated by Comunicare (Turin), a company specialised in urban communication, product and service development. Bicincittà targets public administrations and aims at popularising ‘shared bicycles’ across Italy (primarily). Firstly introduced in 2004, the Bicincittà BSSs have now been installed in 95% of Italian BSSs¹ with a turnover of €13 million. Most BSSs are small-scale if compared to well know systems introduced in other parts of Europe (Paris, Barcelona, London, Milan, etc.). The website, www.Bicincittà.com indicates that it serves some 51,000 registered users and slightly more than 7.200 individual bike sharing stands across all locations. It is a well-developed ‘smart’ network service whose operation is not dissimilar to those offered by Clear Channel, JC Decaux and other competing operators. Depending on the type of contract, Bicincittà delivers two main services: infrastructure and software provision, management of the whole system (maintenance, customer service, bike redistribution etc.).

2 Model of organisation and contract

2.1 Organisational model

The organisational model, i.e. the allocation of tasks between the municipality and the contractor, is a crucial decision before implementing a BSS. Each model comes with strengths and weaknesses in terms of costs, organisational constraints and transparency.

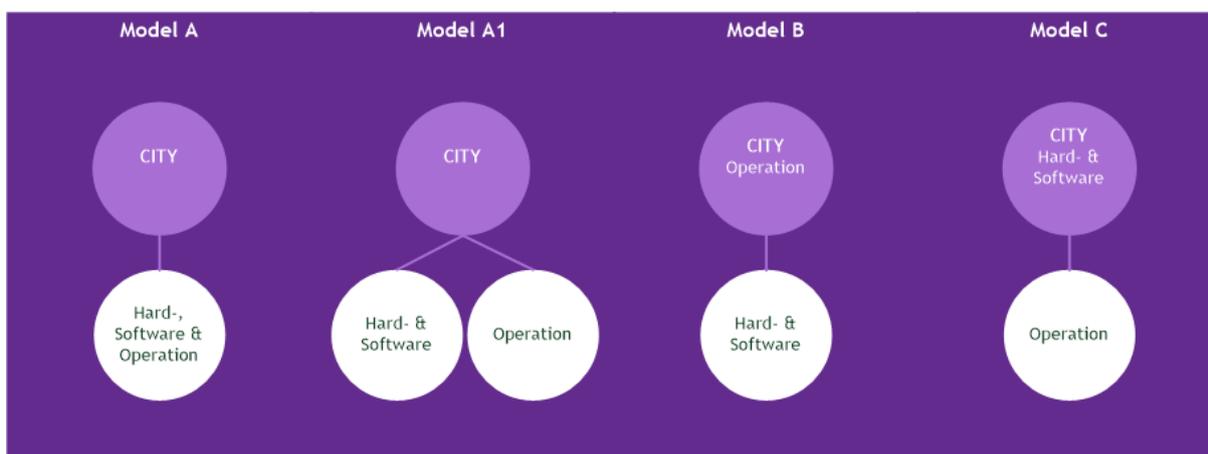


Figure 2: Models of bike sharing organisation - Source: VeloCittà D2.5_Fact Sheet_Financing

In Padua the system is publicly owned and operated by a contractor, Bicincittà. This model (Model A) is well described in the Velocittà *Factsheet on Financing*. With a public tender, the municipality awards a contract the winning operator, including the provision of all

¹ Bicincittà website source



scheme hardware (bikes, stations, workshop, etc.), software (backend-system, customer frontends), as well as the operation and maintenance of the scheme.

An advantage of this model for the municipality is that the contractor bears the risks of operation and is liable according to the contract's service level agreements. A main downside is the lack of cost transparency and the long contract duration that makes it difficult for the municipality to find alternatives if the service does not turn out to function as expected.

2.2 Contract duration

The contract duration depends on the allocation of tasks between the municipality and the contractor. According to the findings of a precursor to VeloCittà (www.OBIS.eu), if the contractor is responsible for the installation, operation and maintenance of the infrastructure, the contract duration should match the lifespan of the infrastructure.

Contracts including operational tasks only can be shorter. The shorter the contract, the more flexibility the municipality has. If the expectations concerning the BSS are not met, adjustments can be made. On the other hand, short contracts require frequent tenders, which have cost implications and may cause service disruptions. Options for termination of the contract should be included in the contract. The reasons for termination must be serious to ensure contract certainty for both parties.

Contracts should also include agreements concerning their prolongation if the goals set by the municipality are met with the scheme and the scheme is evaluated positively.

The contract duration is usually between 5 and 8 years, which is considered the asset depreciation range (i.e. useful life expectancy) of the scheme hardware.

The system in Padua started in 2013 and Padua opted for a longer contract (10 years) that includes the installation of the infrastructures and the management of the system. The contract amounted to €456.000, with Bicincittà granted full ownership of scheme revenues as well as the concession of advertising space.

2.3 Contract definition

As shown by the London experience (Agreement between TfL and Santander for the provision of the infrastructure and the bikes), the definition of a contract is a key BSS component.

The bike sharing system in Padua has been one of the youngest in Italy; at that time, it was not possible to have a basis for comparison in order to write a contract that could take into account and foresee all the critical aspects. For these reasons the Padua contract is an example of a simplified approach, which appeared sensible at the time of issuing, but that later on led to the emergence of a number of barriers that are currently still hampering the Padua BSS.

The contract definition remains one of the critical aspects for all the cities. Also in London, after the experience with Barclays sponsor, the second agreement was written in a more accurate way.



More detailed and unequivocal the contract provisions, the more likely possible incidents can be handled smoothly and with no harms for the BSS service level. The London Agreement covers issues such as:

- Duration and service provision.
- Design matters.
- Document approval, testing, achievement of milestones and delay.
- Co-operation.
- Operational phase: assets and service systems.
- Financial matters.
- Service provider personnel and sub-contractors.
- Changes and change management.
- Contract management, monitoring and audit.
- Contract risk management.
- Termination.

The main critical aspect that has been faced is the **monitoring and contract management**. The objective of this part is to ensure that a successful working relationship is maintained between the Parties during both the Implementation Phase and Operational Phase. This part may contain aspects on the audits and inspections, on review meetings that need to be organized, on the roles and responsibilities and frequency of the tasks during the implementation and operational phases. It is possible to introduce in this chapter also the definition of a performance indicator reporting and, additionally, a financial reporting.

These aspects, for a Municipality with a limited BSS experience may not appear as a priority at the beginning of the process, while they fully show their relevance once operational issues become to appear.

3 The story of the Padua system

3.1 The first year

The Bicincittà bid for the Padua system consisted of 28 docking stations (including 3 with photovoltaic panels), 265 bikes, of which 65 pedelecs, 1 mechanic workshop opened for bike repair and ordinary interventions in the system.

Bicincittà also offered a guaranteed front office and a call center from 09:00 to 19:00 (7 days a week). An SMS service, an app and a web portal are also available for users.

The service became operational on July 11, 2013 and it was such a success, above the expectations, that on December 31th 2013 the number of registered users was 2.022. The



appreciation of the system was so high that at the end of the first year the system had amassed 3.130 registered users and 214.049 rentals.



Figure 3 - GoodBike Padova bike sharing

3.2 The saturation phase

The rapid increase of registered users and rentals put a strain to the capacity limit of the system. Soon the redistribution and maintenance of the bicycles started to struggle, with decreasing levels of quality and service perceived by the municipality and confirmed by declining user satisfaction.

One of the most critical aspects was the number of available bicycles that according to the monitoring carried out by the municipality was consistently lower than 185 (which is considered the minimum requirement considering the 371 total number of bicycle locks and the standard fill out rate).

In the subsequent months, the lack of bikes was worsened by the scarcity of available free spaces in the docking stations and the not sufficient and efficient redistribution process, which made returning the bicycles complicated and altogether discouraged users. By July 2015 these substantial issues pushed a noticeable number of users to not renew their subscription, bringing the total number of registered users down to 2.566.

In all fairness it should be noted that many BSSs show a physiological decline the second or third year of operation; the launch of a BSS is normally met by curiosity, and the novelty of public bicycles tends to appeal to curious users. After one or two years the effect tends to wear off and registrations accordingly decline.

Also, it is important to point out that despite the mentioned decrease in users, the number of hires in Padua stayed strong with 219,527 in 2015; this means that a substantial part of the users have been won over and that the fidelity level is satisfactory.



Another element contributing to the decline was the closure of one of the most used docking stations, ordered by the Municipality, which was shut down for road infrastructure works, and unfortunately, due to bureaucratic delays, the station has not been already re-installed.

All in all, the combined effect of the above caused the BSS to register only 1.990 users at the end of 2015.

3.3 Efforts to revamp the system with promotional campaigns

In 2016, thanks to the promotional campaigns part of VeloCittà, the municipality, with the operators support, held a series of communication events that concentrated during the spring and the summer. The campaigns allowed the BSS to target new groups, mainly residents and commuters, not aware of the previous communication actions.



Figure 4 - Poster from the marketing campaign

The results were positive and allowed for a contrast and offset of the negative factors highlighted above. The number of registered users rose to 2.413 (of which 1.157 renewals and 1.256 new subscriptions) with 191,199 hires.



Figure 5 - Promotional campaign events

During the autumn of 2016, a VeloCittà-driven questionnaire submitted to all users (including those who were no longer registered) and two focus groups with students and residents allowed the municipality to better understand the reasons of satisfaction and dissatisfaction.



The scarce availability of bicycles and their declining quality were singled out as the most common reason of disappointment by those who are no longer subscribed. An urgent request voiced out by the responding users concerned the overall upgrade of the system, with an increase in the number of docking stations and a wider coverage of the city, including areas located outside of the centre.



4 What we learned and what could be improved?

In late 2016 VeloCittà allowed for a discussion venue to be established, in which the municipality and Bicincittà openly addressed the issues hampering the BSS. This was a success in itself, for the two parties were unable to transparently discuss problems despite repeated meetings in the previous years. By making available an unbiased platform, VeloCittà gathered instances, exposed individual perspectives and fostered a climate of renewed cooperation.

The following is a brief account of the findings that the two parties agreed upon and that could hold the keys for a future renaissance of the system.

Financing aspects: paying the operator appropriately for service operation and maintenance is an intuitive conclusion, and yet one of the most challenging tasks for a municipality. Many cities hope that a BSS can be introduced at little or no costs. In reality the VeloCittà analysis confirms that every BSS requires some public funding, more or less substantial depending on the local context. Larger cities can count on more appealing markets for rich sponsors, but at the same time they need extensive and costly systems. Smaller cities are unable to attract sponsorships and oftentimes the advertisement space offered in concession is not fully exploited by the operator.

This said, to foster adequate BSS usage, prices must be kept relatively low compared to other means of transport. Thus most schemes offer a fixed registration fee and an initial period of time free of charge for each ride (usually the first 20-30 minutes). Operational income is thus generated mainly by the registration fees, while usage revenues tend to disappear or become minimal. Unfortunately, registration fees alone usually fail to cover the costs of a BSS, and unless the operator is successful in leveraging the available advertisement space, or able to attract sponsorships, the BSS is bound to encounter an unsustainable operation. That is also why many municipalities have come to see BSS as a component of public transport, which normally runs at a financial loss, but affords social and environmental gains.

The above is also the situation in Padua, where Bicincittà is currently struggling to fully leverage the marketing potential of the city. However, according to their operational model, a new BSS requires 3-4 years to gain the necessary visibility and the traction power to attract advertisement revenues, so in that sense 2017 should represent a turning point. Nevertheless, the Padua experience demonstrates that a careful cost-benefit assessment is necessary not only by the operator (which will accordingly present a bid) but also by the municipality, which is both interested in minimising costs but also in guaranteeing the economic sustainability of the system and that the value of the contract is able to maintain a satisfactory service quality. Savings in the short run are not necessarily savings in the long run in terms of BSS image and usage. Thus a good understanding of BSS costs and revenues is crucial for both the municipality and the operator.



- # **Quality of the system:** the quality of the system was one of the causes of the decline in Padua, with particular reference to the bicycles. Bicincittà expected a five years lifespan, but after the first two years some of the bikes were already out of order, causing the system to falter, the image to decline, and Bicincittà to suffer from unpredicted economic unrest. Citizens and tourists complained about the conditions, both mechanical and aesthetic, of the bicycles and of the docking stations.

While an operator is entitled to adopt its own operational BSS model, based on the assumptions it deems most appropriate, the municipality and the users should not pay the price for unpredicted occurrences. The costs of these should be internalised by the operator as part of the business risks. The Padua case is exemplary, once again: the bicycles lifespan assumptions proved wrong and the system inevitably paid the price. On this aspect it is preferable to plan timely bicycle substitution instead of losing resources and time to contrast it, for years, through the maintenance.





- # **BSS scaling and docking stations sizing:** the identification of the right scheme scale is a central aspect of the agreement between the municipality and the operator. It comprises the number of docking stations, their location and separation, the number of docking points and specifications per docking station, the number of total and circulating bicycles, number of redistribution vehicles. This is often a contentious topic, and one in which Padua provides an interesting story. While the initial sizing did not pose particular issues, as the BSS ran into the years Bicincittà started to ask for a system expansion. The request was to provide renewed dynamism to BSS that was meeting capacity issues, and was in line with the queries of users, which demanded additional docking stations. On the other hand, the municipality became wary of investing more in light of the declining level of service. The combination of these factors produced a stall, which is currently being assessed by both the municipality and Bicincittà in view of finding a way out.

The increased level of transparent communication between the two parties, as well as the improved understanding of the system's weaknesses, seem to bode well for the future.



5 Recommendations for cities

- # **Pay maximum attention to the contract:** this is also the 7th Velocittà Golden Rule (see also Deliverable 3.7 on the Ten Golden Rules on www.velocitta.eu), which reads 'Include maintenance and performance plans in the contract'. A simply written contract leads to misunderstandings and inevitably to service shortcomings, which in turn prompts users' dissatisfaction and eventually leads to system failure. Bicycles, docking stations, payment system, targeted communication, and system management, maintenance and minimum quality levels are vital elements in the delivery of the service, and a good contract must address all these points.
- # **Motivate the operator:** in GoodBike Padua, as in many other BSSs, the operator was paid in full at contract signature. This can reduce the level of motivation, while lump sum instalments and possible performance-based incentives, or on the contrary penalties, are best suited to keep the momentum and the level of attention alive. However, experience shows that these sort of contracts have another face of the coin, unless the incentive component is well designed: the operator ends up failing



to ensure the agreed service levels because redistribution and maintenance is more expensive than losing portions of the payment.

- # **Lure sponsors:** sponsoring is an attractive way to gain considerable and predictable sources of funding. However, as contracts last relatively long, both sides should balance reasons for and against a sponsorship. Low scheme performance might reduce the marketing success for the sponsor while a bad development of the sponsor image might spillover to the scheme. Currently in Padua, the system doesn't lean on a sponsorship, but the city and the operator are open to this possible opportunity.

6 Further reading

References	Link
VeloCittà_WP2_D2.5_Fact Sheet_Financing	https://tfl.gov.uk/corporate/publications-and-reports/cycle-hire-performance
Bikeshare Funding White Paper	https://www.academia.edu/7934411/Bikeshare_Funding_White_Paper_A_Guide_to_the_Different_Bikeshare_Business_Models_and_Funding_Process
Bicincittà website	www.Bicincittà.com
GoodBike Padova	http://www.goodbikepadova.it/default.aspx