niches

New Seamless Mobility Services

# Public Bicycles

Policy notes

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SIXTH FRAMEWORK PROGRAMME

# What is it about?

## Characteristics

Public Bicycles:

- are innovative schemes of rental or free bicycles in urban areas;
- can be used for daily mobility as one-way-use is possible and they can be seen as part of the public transport system;
- differ from traditional, mostly leisure-oriented bicycle rental services as they provide fast and easy access;
- have diversified in organisational layout, the business models and the applied technology towards “smart bikes” (rental process via smart card or mobile phone).

The transferability of Public Bicycle schemes to cities with appropriate framework conditions for cycling has been proven in many cases (e.g. in France, Germany, Scandinavia and Spain).

## Key benefits

The implementation of a Public Bicycle scheme...

- provides a fast, convenient and flexible inner urban transport option;
- can be a “door opener” to increase the acceptance of cycling as urban transport mode in cities which still lack a good level of bicycle use;
- also makes sense in cities that have a good level of cycling as it adds a valuable element to existing mobility services;
- increases sustainable mobility choices at low cost when compared to other public transport measures;
- encourages intermodal travelling.

### Example: Vélo’v in Lyon

How did the French City of Lyon encourage thousands of people to use the bicycle as urban transport mode within a few months?
A big part of this success story is due to the introduction of the Public Bicycle scheme vélo’v.
Each of the 2,000 bicycles available at racks throughout the city centre is used on average 16 times on a typical summer day. Within the first six months after its introduction, 2 Million trips were made with the Public Bicycles, replacing around 150,000 car trips. In combination with the increased use of private bicycles, the scheme helped to increase the bicycle share in the modal split. The use of bicycles increased by 44% within a year. The service is a public private partnership between Grand Lyon and the billboard company JCDecaux.

*Vélo’v scheme in Lyon, France*
Photos: Rupprecht Consult

*Call a Bike in Cologne, Germany*
Photo: Rupprecht Consult

*European countries with Public Bicycle schemes*

## Is this something for us?

In the last years a portfolio of different Public Bicycle schemes has been developed (see last page "Further information"), which enables cities interested in their take-up to choose the right scheme for their needs and targets.

Key conditions for implementation are:

- A strong commitment to sustainable urban transport planning and to the promotion of cycling as a serious transport mode;
- A minimum standard of bicycle infrastructure for safe and convenient cycling;
- Sufficient resources for a large scale scheme to achieve a real impact;
- Sufficient space for racks/parking to guarantee the accessibility of bicycles.

> "Very quickly, we've moved from being a curiosity to a genuine new urban transport mode. We invented the public-individual transport."
>
> *Gilles Vesco*
> *Vice-président du Grand Lyon, France, on the vélo'v scheme*

## Check list

| | |
|---|---|
| **City size** | Most suitable for medium to large cities (> 200,000 inhabitants). |
| **Costs** | Compared to traditional public transport: relatively cost-efficient solution, but (depending on the type of scheme) low to considerable start-up and running cost.<br>In most cases, financial back up needed to compensate lack of profitability. |
| **Implementation time** | *Short term (<2 years).* |
| **Stakeholders involved** | • For service implementation and operation: Rail or public transport operators; street furniture companies; advertising companies; in some cases local authorities;<br>• For political and financial support: local authorities;<br>• User associations. |
| **Challenges** | Mutual respect between cyclists and pedestrians as well as car drivers needs to be strengthened (especially in cities with little bicycle use). |

# Benefits & Costs

## Benefits

Public Bicycles offer a range of potential benefits:

- **Promoting urban cycling and increasing its modal share**. A Public Bicycle scheme can be an effective measure to promote urban cycling as a "normal" daily transport mode when introduced in an integrated strategy and combined with other measures that make cycling safe and convenient. In cities without an existing "bicycle culture", Public Bicycles have a potential to act as "door opener". In cities where cycling is already well accepted, the idea can add a further valuable element to the promotion and use of the bicycle.
- **Fast, convenient and flexible** inner urban transport option that meets the needs of many users and increases mobility choices.
- **Encouraging intermodality** through the integration of Public Bicycle schemes in the public transport system.
- **Wise use of inner urban space**, as Public Bicycles are space-efficient. In Lyon, for example, 5 Public Bicycle racks (average: 15 users/day) can substitute 1 car parking lot (average: 6 users/day).
- **Proven positive health effects of cycling**.
- **Increase of sustainable non-polluting mobility choices** for inner urban transport.
- **Increase of traffic safety** for cyclists through critical mass of users on the roads.
- **Strengthened local identity**, as Public Bicycle schemes may become a well accepted part of the local cityscape and provide a sense of identity.

### Cost of Public Bicycle schemes

At the start of the vélo'v scheme the cost was announced to be around 1,000€ per bike and year, equalling 4 m € per year for the whole scheme. Meanwhile it has been stated that costs are higher due to unexpected vandalism and maintenance.
Also, the Vélo à la Carte scheme is estimated to cost around 1,000€ per year and bicycle. It can be assumed that simpler schemes are cheaper to realise.

## Costs

The cost for setting up and running a Public Bicycle service depends very much on the **scheme chosen and the size of the service**.

The majority of solutions available are not financially self-supporting at the moment. These schemes **need to be financially backed up** by a large transport operator (e.g. German rail in the case of Call a Bike) or by public resources (direct funding or indirectly through PPPs). In many cases a PPP between a billboard company and a local authority is established. The billboard company receives the right to use specific public spaces for advertisements and in return implements and operates a Public Bicycle scheme (e.g. Clear Channel, JCDecaux), which means foregone revenues for the local authority.

Cities can also buy a Public Bicycle scheme "off-shelf" from providers that offer schemes, which **aim at being self-financing through advertisements** on the bicycles (e.g. OYbike).

**Principal cost factors** to consider when implementing a Public Bicycle scheme are:

- **Staff** for operation, service and maintenance (e.g. more than 30 in Lyon).
- **Bicycles, racks, service terminals** (e.g. cost for bicycles ranges from 250€ to more than 1,200€ depending on smart bike technology).

# Users & Stakeholders

## Users and target groups

Existing Public Bicycle schemes are targeted at specific target groups.

**Young, active and urban users** are the main target group of Pubic Bicycle schemes. Most of them live in dense areas of large urban agglomerations, are between 18 and 34 years old and maintain an active and flexible lifestyle. Many of them do not dispose of a private car and are frequent public transport users, but maintain a high level of mobility.

The OV-fiets scheme in the Netherlands particularly targets **rail commuters** that need a Public Bicycle for the egress trip from the rail station to their workplace.

During week-days, **trip purposes** are to a large extent work- or study-related, in some cities tourists are also a relevant user group. The focus during evenings and week-ends shifts to shopping and leisure-oriented activities, often with a peak during night hours, when public transport services have lower frequencies.

All large Public Bicycle schemes show **high user satisfaction rates**.

*Oslo Bysykkel Public Bicycle service*
Photo: Clear Channel Norway AS

## Key stakeholders for implementation

Depending on the kind of Public Bicycle scheme, the following stakeholder groups may be involved:

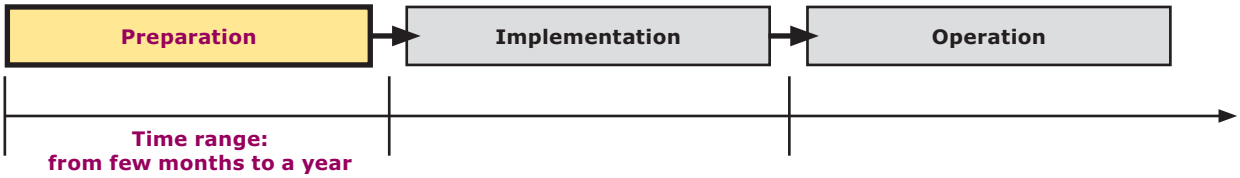
- **Local authorities** need to be committed to improve cycling conditions and increase mobility options through Public Bicycles. They should be willing to earmark some resources for this (amount depending on scheme) and may need to authorise the use of public space. In some cases local authorities have developed their own Public Bicycle schemes (e.g. Burgos, Spain).
- **Local decision makers** are needed to support the implementation.
- **Rail or public transport operators** may implement Public Bicycle schemes to widen their mobility portfolio (e.g. Deutsche Bahn, Transdev).
- **Outdoor advertising companies** may offer to implement and operate a Public Bicycle scheme as extra to local authorities when negotiating their contracts for the use of public space for advertisements (e.g. Clear Channel, JCDecaux).
- **Providers that offer Public Bicycle schemes "off shelf"** (e.g. Oybike) for sale to local authorities or big institutions.
- **User associations** may play a key role in activating support for Public Bicycle schemes.

### Transport modes replaced by vélo'v

In the case of the vélo'v scheme, 96% of the users did not use a bicycle in the city centre before. They are new users! The Public Bicycle trips are quite short and replace the following trips: 37% walking, 50% public transport, 7% private car and 4% private bicycle, while 2% would not have made the trip at all without vélo'v.
The loss of customers for public transport services is quite low as many users are still holder of a public transport pass or buy individual tickets for other trips. 10% of all vélo'v users take vélo'v in trip chains with public transport. Vélo'v shows a respectable impact on the reduction of private car use, shifting around 1,000 inner urban car trips each day to the bicycle.

# From concept to reality

## Preparation




The implementation of a Public Bicycle scheme is a feasible undertaking for many larger cities, as experience across Europe shows. It needs to be well prepared to be successful and should fit an overall transport planning strategy.

## Key aspects at this stage

**Size of city**: Depending on the Public Bicycle scheme, a certain size of the city is required to make it work. Most practitioners mention a range of at least 200,000 inhabitants as being most suitable to establish a successful service. OV-fiets, targeted at rail commuters, is also available in smaller towns, but finds its users concentrated at rail stations.

**Topography and climate**: A hilly topography in the whole city centre can be a barrier to the introduction, but may be addressed by using bicycles with an additional electric drive. The climate does not seem to play such a relevant role as successful schemes have been implemented under different climatic conditions.

**Create favourable framework conditions for urban cycling**: Public Bicycles can be a door opener to promote urban cycling. However, people only use the bicycle if it is a safe, convenient and fast way to get around. Therefore only cities with a minimum and safe cycling infrastructure and an integrated strategy to promote cycling provide good framework conditions for the implementation of a Public Bicycle scheme. This includes measures like traffic calming, the creation of a bicycle network and secure parking facilities, information, marketing and education. It is necessary to work on this before the introduction of Public Bicycle schemes to facilitate the acceptance of the concept.

**Match the right scheme with your target group**: It is necessary to identify the main target groups and to tailor a Public Bicycle scheme accordingly. The available range of Public Bicycle concepts offers different options. OV-fiets for example is targeted at rail commuters that use the bicycle for the egress part of the journey. Call a Bike is a highly flexible unbound system for city centres that can be used either for commuting or tourist trips, but it is not intuitively to use, applying the mobile phone as access medium. Other systems are bound to fixed bicycle parking terminals and very easy to use via smart cards. Analysing the cycling habits in a city and the target groups is also needed to determine the service area and whether the scheme should be free of charge to promote urban cycling, or if cycling is already well established and users would be willing to pay for such a service.

**Plan with resources and space that guarantee sufficient availability of bicycles**: It is crucial for the success of Public Bicycle schemes that users find them in convenient locations in sufficient numbers. This also means to plan a Public Bicycle scheme with a high number of bicycles and pick up points that are well visible in the city. Rack-bound systems need sufficient locations for bikes to be picked up and left, to increase the probability that users will find a bicycle when they need it and can drop it off close to their destination.

Call a Bike needs to provide a sufficiently high coverage with bicycles, which are left unbound in public space (need to check parking restrictions for bicycles) to make sure that users always find a bicycle close to where they are. OV-fiets can operate with less bicycles as they are picked up at rail stations and returned at the same spot.

**Evaluate business models and be aware of financial implications**: As mentioned above (see "Costs" section), Public Bicycle schemes are financially not self-sufficient in most cases. Public Bicycle schemes require substantial investments in their set-up and operation, especially in the start-up phase. There are different options of financing a Public Bicycle scheme, involving the public and private sector and backing up the lack of profitability. A local authority may consider to use a tendering process to compare costs and the service quality offered by different providers. Additionally, local authorities need to keep in mind the need for complementary activities, such as the improvement of cycling conditions and marketing activities. A long term financing strategy also needs to be developed.

**Form alliance of stakeholders that support implementation**: Depending on the chosen type of Public Bicycle scheme, a range of stakeholders needs to work together to enable a successful implementation. Local authorities, user associations, and possible private partners should be involved in the preparatory phase to ensure a cooperative arena. A "local champion", e.g. a politician, can have a decisive role in pushing the realisation of a Public Bicycle scheme.

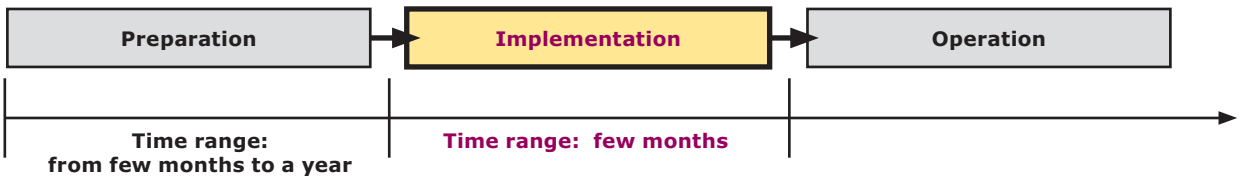
| Ready for implementation? | ✓ |
|---|---|
| **Suitable city size and topography** | |
| **Commitment and resources to provide favourable framework conditions for urban cycling** | |
| **Analysis of target groups, cycling habits and available Public Bicycle schemes performed** | |
| **Sufficient resources and public space available** | |
| **Evaluation of business models/ tendering process** | |
| **Relevant stakeholders on board/ local champion involved** | |

## Vélo à la Carte: A public private partnership in Rennes, France

Vélo à la Carte, which operates 200 bicycles at 25 stations, was started in 1998 as a partnership between the City of Rennes and the commercial billboard company Clear Channel Adshell.
Clear Channel offers the smart bike system to local authorities that are also using other services of the company, as information kiosks or bus shelters. The company is responsible for the implementation and operation of Vélo à la Carte in Rennes. The services are paid for through advertisements which appear on outdoor furniture, funding also the smart bike programme. For Clear Channel Adshel, the service is beneficiary as it adds value to the range of street furniture as additional amenity that is provided to local authorities. The City of Rennes benefits from the increased mobility choices for its citizens.

*Vélo à la Carte station and smart card use*
Photos: Ronan Mulet, Clear Channel France.

## Implementation




The implementation phase of a Public Bicycle scheme is a key element to secure its long term success.

## Key aspects at this stage

**Choose the right moment for implementation**: It is recommendable to start a Public Bicycle scheme in spring or early summer, when people enjoy the nice weather and are most likely to cycle. Also, it is favourable to join the start of a Public Bicycle scheme with another event, e.g. a cycling festival that draws additional attention.

**Acceptable distance for the user and easy localisation**: The locations where Public Bicycles can be found in the city centre should be easy to be located by the user. Fixed terminals should not be located more than 300-500 metres from important sources and destinations of traffic. Mobile phone-based services that are not rack-bound should include a service that enables the location of a bicycle via mobile phone. Modern technologies can help to indicate the user where to find a free bicycle.

**Guarantee availability of bicycles**: The location of Public Bicycles should be well planned according to the expected demand. Existing examples show that pick-up and drop-off by users over the day often lead to an unequal distribution of bicycles throughout the city. In this case, a re-distribution of bicycles is needed to guarantee the availability of bicycles and avoid frustration for users that do not find any bicycle or cannot drop it off at full racks.

**Integration with public transport**: Public Bicycles should be made available at important public transport stations. This allows for a combined intermodal use of bicycles and public transport services and increases the attractiveness of the system. Some examples exist for the use of a public transport pass as access medium (e.g. rail pass or local transport pass). This can be an important success factor, as a potential users already dispose of the access medium (e.g. rail commuters that use the Dutch OV-fiets service).

**Keep it simple for the user**: In order to reach good acceptance of a public bicycle scheme, it is of key importance to make its use as simple as possible. The registration procedure and access technology should be well thought through. Smart cards are usually more convenient to use than systems that are based on mobile phones, which also may require the user to pay for phone calls. Modern Public Bicycle systems all require the user to register for the service, some also ask for a user fee. These procedures should be quick and easy for the user and offer multiple options, e.g. the use of the credit card at a terminal, at shops, by phone. In general, the registration procedure and the rental process should be intuitive and be clearly communicated by the service provider.

**Free service or user fee?** For cities that want to use a Public Bicycle scheme with the primary aim to promote urban cycling, the use of the bicycles should be free of charge at least for the first half an hour.

*OV-fiets bike in its Dutch habitat*
Photo: Rupprecht Consult

This provides an incentive to try the Public Bicycle service and to see that cycling in the city is a convenient transport option. For places with an already established bicycle culture, a moderate user charge is usually accepted. It may be a good option to start with a free service and to introduce a moderate user charge when the service has been well established.

**Marketing and communication**:
It is most important for the acceptance of a new Public Bicycle scheme to promote it in the media, on billboards and through the involvement of "local champions" (e.g. politicians, celebrities). The Public Bicycles and terminals themselves should be well visible in public space and provide a unique branding. An attractive design of the bicycles and the image as high-tech smart bikes can also help to raise awareness and make their use fashionable.

**Traffic education**: Especially in cities where urban cycling is not well established, it is recommended to run educational campaigns that encourage mutual respect between cyclists, pedestrians and car drivers. In the introductory phase of a Public Bicycle scheme, problems between pedestrians and cyclists have often been reported, but also with car drivers that are not used to cyclists on the road. For people that rarely use bikes, bicycle trainings should be made available to improve cycling skills.

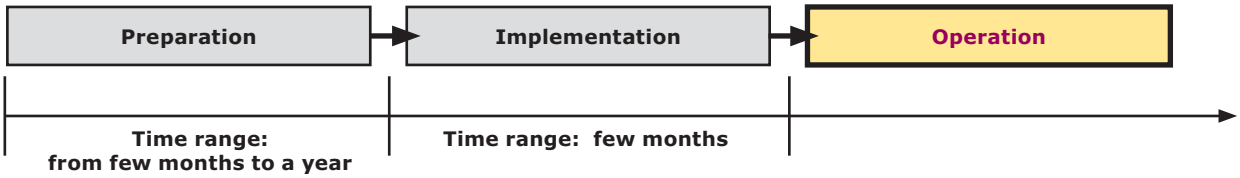
**Vandalism** is often above average when introducing a Public Bicycle scheme.
This also depends very much on the location. While there is no way to avoid that some bicycles are damaged, the vandalism rate usually declined over time when the Public Bicycle became part of the urban landscape.

**Accompanying monitoring** of use and acceptance is particularly important in the implementation phase to amend collection/drop-off points and the number of bicycles in time if needed.

## OV-fiets: Public Bicycles for rail users

OV-fiets (OV= Public transport, fiets=Bicycle) started in 2002 as a publicly subsidised pilot project in The Netherlands, aiming at making the bicycle a part of the public transport system. Meanwhile it is established as a permanent service and is available at 100 rail stations. OV-fiets rental facilities provide fast and easy access to rental bikes, which can be used as extension of the rail trip. The service covers most larger stations in the Randstad (the largest agglomeration in The Netherlands) and several stations in other regions.
Users have to register with OV-fiets before they can access the service. They receive an OV-fiets card, which enables them to check out the bicycles from a computerised system at the stations. Alternatively users can register for an existing yearly Railpass that also fits the system. The bicycles can be used one way, e.g. to the workplace, where they can be parked and locked for a certain period of time, until the user needs them for the return trip to the rail station. The user fee for OV-fiets is 2.75 € per 20 hours, with a maximum rental period of 60 hours. The user pays monthly by standing order, which requires a bank account in The Netherlands.
In 2006, more than 23,000 people were registered as users of the system. In 2007, the OV-fiets foundation will be taken over by the National Dutch rail company NS. OV-fiets is one of the few Public Bicycle schemes that is expected to be profitable in the near future as it can reach economies of scale.

## Operation




Public Bicycle schemes that are well accepted have the potential to become part of the urban landscape and the identity of a city. However, they need to be constantly monitored and developed in line with market and context conditions.

## Key aspects at this stage

**Monitoring and maintaining quality of system**: It is crucial to monitor the use, acceptance and quality of a public bicycle system on a permanent basis. Usage data and critical feedback help to optimize the distribution of bicycles and to ensure a good availability and quality to the users. A high acceptance, also among the general public, and usage provide good arguments for keeping a scheme running in the long term.

**Ongoing marketing**: After the well promoted introduction of a Public Bicycle scheme, the interest among potential users may decrease. Therefore it is crucial to remind people of the benefits of the system and encourage its use to achieve a stable or growing number of users. Marketing should also aim at encouraging people that discovered urban cycling via a Public Bicycle scheme, to get their own bicycle and use it on a daily basis or for leisure activities. This can help to increase the modal share of urban cycling in general.

**Long term financing strategy**: A key element for the successful operation in the long run is to develop a well planned financing strategy. In many cases, start-up funding from the public side may be available, but there is little thought on what will happen after this phase. For each type of scheme, individual strategies need to be found. The OV-fiets service for example can reach economies of scale that help to break even. Other schemes will always require external co-funding. For many schemes it seems that the use of advertising revenues can be a key element of financing.
Also, when a Public Bicycle scheme has been well established and a certain “bicycle culture” is in place, it seems realistic to introduce or raise moderate user fees. These should however remain on a relatively cheap level to avoid a decrease of user numbers. There is still the need to develop more business models to increase the options for local authorities to introduce a Public Bicycle scheme and keep it running. In the future, revenues from local road pricing schemes might also partially be earmarked to finance Public Bicycle schemes (cf. NICHES brochure on “Road Pricing Schemes”).

**Enhanced integration with overall urban transport planning**: To enhance the impact of a Public Bicycle scheme it is recommended to strengthen its integration with the overall urban transport planning and systems. The connection with the public transport system for example should be well visible and easy to use. Local authorities may also think about measures that discourage car use and make the urban landscape more pedestrian- and cyclist-friendly. Urban road pricing has the potential to increase the use of the bicycle. In London, the congestion charging scheme led to a surprising side effect, a 28 percent surge in cycling in the first year.

# Further information & contacts

## Further information

Selection of existing Public Bicycle schemes in Europe:

**Call a bike, Germany:**
*www.callabike.de (German)*

**Vélo´v, Lyon, France:**
*www.velov.grandlyon.com (French)*

**Vélo à la Carte, Rennes, France:**
*http://veloalacarte.free.fr/rennes.html (French and English)*

**OV-fiets, The Netherlands:**
*www.ov-fiets.nl (Dutch and English)*

**Citybike Wien (Vienna), Austria:**
*www.citybikewien.at (German and English)*

**Cyclocity, Brussels, Belgium:**
*www.cyclocity.be (French and Dutch)*

**Oslo Bysykkel, Norway:**
*www.oslobysykkel.no (Norwegian and English)*

**Stockholm City bikes, Sweden:**
*www.stockholmcitybikes.se (Swedish)*

**Bycyklen, Copenhagen, Denmark:**
*www.bycyklen.dk (Danish and English)*

**Bici in Città, Italy:**
*www.bicincitta.com (Italian)*

**OYBike, London, UK:**
*www.oybike.com (English)*

**Next Bikes, Germany:**
*www.nextbike.de (German and English)*

**BiciBur, Burgos, Spain:**
*www.bicibur.es (Spanish)*

**Bikey VRR, Germany:**
*www.bikey.com (German)*

**Züri rollt, Zurich, Switzerland:**
*www.zuerirollt.ch/html/home/frameset.html (German)*

**NICHES - further documents with more details**

Reports on the state of the art, analysis of success factors and barriers for implementation, transferability potential and integrated strategies are available on the NICHES websites (English):
*www.niches-transport.org*
*www.osmose-os.org*

## Contacts


**Benoît Beroud**, Research and master's thesis on street based rent-a-bike systems in Europe at the University Lumière Lyon II, in close cooperation with the Transport Research Laboratory, France.
E-Mail: b-beroud@mail.univ-lyon2.fr

**Henk Pauwels**, Research on OV-fiets scheme, Ministry of Transport, Public Works and Water Management, AVV Transport Research Centre.
E-Mail: H.A.M.Pauwels@avv.rws.minvenw.nl

**Christian Maertins**, Research on Call a Bike scheme (user groups, potential etc.), Social science research centre Berlin (WZB), Germany.
E-Mail: maertins@wz-berlin.de

**Ronan Mulet**, Vélo à la Carte scheme (operated by Clear Channel), Rennes, France.
E-Mail: rmulet@clearchannel.fr

**Anthonin Darbon**, Vélo'v scheme (operated by JCDecaux), Lyon, France.
E-Mail: anthonin.darbon@jcdecaux.fr

**Cor Bergen-Henegouwen**, OV-fiets scheme, The Netherlands.
E-Mail: cor@ov-fiets.nl

**Philipp Reth**, Call a Bike scheme (operated by DB Rent GmbH, Intermodal services), Germany.
E-Mail: philipp.reth@dbrent.de

**Sebastian Bührmann**, Research on Public Bicycle schemes, author of this brochure, Rupprecht Consult GmbH, Cologne, Germany.
E-Mail: s.buehrmann@rupprecht-consult.eu

For **more information** on the NICHES project, contact the NICHES Coordination at:
POLIS
Leire Iriarte
E-Mail: liriarte@polis-online.org
Phone: +32 2 500 56 74



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