

## ITEM: PUBLIC BIKE SHARE SCHEMES

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## **1. Purpose of the Report**

**1.1 This report looks at options for public bike share and considers the potential for this to be rolled out in the Royal Borough.**

## **2. Supporting Information**

### **Background**

- 2.1 At the meeting of 21 September 2017, the Highways, Transport and Environment Overview and Scrutiny Panel asked the Task and Finish Group established to review the Cycling Action Plan to also consider the potential for a public bike share scheme in the Royal Borough.
- 2.2 The Task and Finish Group received an introductory presentation on the different types of bike share schemes and a review of the performance of existing schemes in Reading and Slough. This was followed up by presentations from NextBike and Mobike, which are leading providers of docked and dockless bike share schemes.
- 2.3 This report summarises the work undertaken to date and considers the guidance provided by BikePlus, which is the representative body for UK bike share before making a recommendation on how to proceed.

## **3. The Effectiveness of Bike Share Schemes**

- 3.1 The Public Bike Share Users Survey<sup>1</sup> shows that bike share is an effective means of getting people to start cycling / cycle more often – 66% of those surveyed started to cycle or increased the amount they cycle as a result of a bike share scheme.
- 3.2 In terms of journey purpose, the three most popular responses are:
- Commuting (21.5%)
  - Pleasure / fitness (18%)
  - Shopping (12%).
- 3.3 The survey also shows that bike share schemes are effective at encouraging more women to cycle. Women are traditionally under-represented in cycling, accounting for 25% of all cycling trips, but rising to 41% of bike share trips.
- 3.4 In terms of motivating factors, the most popular responses amongst users are – convenience (79%); fresh air and exercise (68%); and time saving (56%).
- 3.5 Bike share is often used in conjunction with public transport – 40% of respondents use bike share with the train and 25% with the bus.

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<sup>1</sup> [https://www.carplusbikeplus.org.uk/project\\_page/pbs-users-survey-2017/](https://www.carplusbikeplus.org.uk/project_page/pbs-users-survey-2017/)

- 3.6 Bike share can help to reduce the number of short car trips in urban areas – 23% of users previously used a car / taxi for their most frequent trip.
- 3.7 However, there is also evidence of bike share taking trips from other sustainable modes of transport – 23% of surveyed users said they previously made their trip by bus and 44% said they previously walked.

#### 4. **Bike Share Operational Models**

- 4.1 There are four main operational models for bike share schemes:
1. Self-service (docking stations)
  2. Self-service (dockless)
  3. Rail station hubs
  4. Lockers
- 4.2 **Self-Service (Docking Stations)** - The Santander Cycle scheme in London is an example of this type of scheme – this is operated by Serco. Other providers include Hourbike and NextBike. Bikes are hired from / returned to fixed docking stations at key locations and convenient intermediate points. Bikes can be returned to any dock with spare capacity. Bikes need to be regularly redistributed to ensure availability across the network. Pricing encourages short trips (e.g. 30 minutes).
- 4.3 **Self-Service (Dockless)** - This model does not have fixed locations for bikes in the same way. Bikes are fitted with GPS trackers and customers use a smartphone app to find and lock / unlock a bike. Users are provided with guidance about where to leave bikes and are incentivised to comply. Virtual docks can be set up at key locations to provide some level of certainty regarding availability of bikes, but these use GPS ring-fencing rather than physical infrastructure. Examples of operators of this type of scheme include Mobike, Obike and Ofo. Pricing generally encourages short trips (e.g. 30 minutes).
- 4.4 **Rail Station Hubs** - These are designed to provide onward travel for rail travellers to enable them to reach their final destination. Bikes are hired from and returned to any station with a hire facility. Facilities are generally staffed. Prices are more geared to all-day or even multi-day trips. Providers include Bike and Go which operates in the UK and OV Fiets, which has a national network in the Netherlands.
- 4.5 **Lockers** - These are often located at railway stations / transport interchanges and are designed to facilitate onward travel. Lockers contain folding bikes, which are space efficient in terms of storage. Bikes are hired from and returned to any locker site. Again, prices are geared to day / multi-day trips. The main operator is Brompton.
- 4.6 The table below summarises the advantages and disadvantages of each scheme type.

**Table 1: Comparison of Bike Share Operating Models**

<b>Scheme Type</b>	<b>Advantages</b>	<b>Disadvantages</b>
<b>Docked</b>	<ul style="list-style-type: none"> <li>• Predictable bike locations</li> <li>• Supports one-way short trips</li> <li>• Docks act as marketing tool</li> <li>• Users don't need smart phones</li> </ul>	<ul style="list-style-type: none"> <li>• Capital cost of docks</li> <li>• Planning permission for docks</li> <li>• May need to move docks</li> <li>• Can't terminate hire if dock is full</li> <li>• Need to redistribute bikes</li> <li>• Difficult to get sponsorship</li> <li>• Schemes often operate at a loss</li> </ul>
<b>Dockless</b>	<ul style="list-style-type: none"> <li>• Low / zero setup cost for LA</li> <li>• No infrastructure needed</li> <li>• Greater flexibility for users</li> <li>• App used to drive behaviour</li> </ul>	<ul style="list-style-type: none"> <li>• Unpredictable bike locations</li> <li>• Bikes left in undesirable locations</li> <li>• Distribution challenges</li> <li>• Lacks street presence of docks</li> <li>• Users need smart phone &amp; app</li> </ul>
<b>Station Hubs</b>	<ul style="list-style-type: none"> <li>• Predictable bike locations</li> <li>• Integrated with rail</li> <li>• No problems with street clutter</li> <li>• Users don't need smart phone</li> </ul>	<ul style="list-style-type: none"> <li>• Capital cost of bikes</li> <li>• Caters for limited journey types</li> <li>• Requires space within rail station</li> <li>• Some require membership card</li> </ul>
<b>Locker</b>	<ul style="list-style-type: none"> <li>• Predictable bike locations</li> <li>• Can reserve bike in advance</li> <li>• Integrated with public transport</li> <li>• Can install in buildings / outside</li> <li>• Users don't need smart phone</li> </ul>	<ul style="list-style-type: none"> <li>• Capital cost of bikes and lockers</li> <li>• Bikes not visible in locker</li> <li>• Caters for limited journey types</li> <li>• Difficult to fold / unfold bikes</li> <li>• Bikes do not come with locks</li> </ul>

4.7 It should be noted that some providers are starting to move to a hybrid model with a mixture of docked and dockless operation. Also, some docked operations now allow bikes to be temporarily left in the vicinity of docking station if it is full.

4.8 Some local authorities have multiple bike share schemes (e.g. Oxford). However, BikePlus recommends that this should not be considered for towns / cities with populations of less than 150,000, although locker / rail station schemes can sometimes operate successfully alongside on-street schemes.

## **5. Bike Share Financial / Management Models**

5.1 There are three distinct management models for bike share schemes:

1. **100% public** - The local authority pays all capital and revenue costs, sets the tariffs and takes the income. The operator is paid a fixed fee to run the scheme. This is the model used for the Santander Bike scheme in London.
2. **100% private** - The operator pays all costs, sets the tariffs and takes the income. This is the model adopted by most of the dockless scheme providers.

3. **Partnership** - The local authority pays a subsidy to support the scheme, while the operator is responsible for generating commercial income through hires, advertising and sponsorship. This was the model adopted in Reading.

5.2 The table below summarises the advantages and disadvantages of each model.

**Table 2: Comparison of Bike Share Financial / Management Models**

Model	Advantages	Disadvantages
<b>100% public</b>	<ul style="list-style-type: none"> <li>Local authority retains control over all aspects of the scheme</li> <li>Can be responsive to user feedback</li> <li>Can ensure that it is integrated with other transport elements</li> <li>Easy to retender the operation contract</li> </ul>	<ul style="list-style-type: none"> <li>Local authority takes 100% of financial risk</li> <li>Local authority staff resource is needed to manage the scheme</li> <li>Public operations tend to be more inefficient / higher cost</li> <li>It is difficult for the equipment supplier and operator to share intellectual property</li> </ul>
<b>100% private</b>	<ul style="list-style-type: none"> <li>There is no initial capital cost for local authority</li> <li>There is no on-going public subsidy required</li> </ul>	<ul style="list-style-type: none"> <li>Limited local authority control and no opportunity for income</li> <li>Relies on the operator's skills to secure income</li> <li>Low feasibility in areas without good sponsorship / advertising potential</li> </ul>
<b>Partnership</b>	<ul style="list-style-type: none"> <li>The local authority can specify the service</li> <li>The tender process results in competitive quotes</li> <li>There is limited financial risk for the local authority</li> <li>Possible profit share if the scheme hits its usage targets</li> </ul>	<ul style="list-style-type: none"> <li>Local authority staff resource is needed to manage the contract</li> <li>May need on-going revenue support if sponsorship / advertising is not secured</li> </ul>

## 6. Assessing Potential

- 6.1 BikePlus highlights industry research that has identified various factors as contributing to the success of bike share schemes around the world. These include **exogenous factors** that relate to the area in which the scheme operates, and **endogenous factors** that relate to the design and operation of the scheme and local transport policies and funding commitment. These are summarised in the table below. It should be noted that not all need to be present in order to have a successful scheme.

**Table 2: Success Factors for Bike Share Schemes**

<b>Exogenous Factors</b>	
<p><i>Diverse Markets:</i></p> <ul style="list-style-type: none"> <li>Residents, commuters, visitors, students</li> </ul>	<p><i>Population:</i></p> <p>Minimum of 50,000 - 100,000</p>
<p><i>Employment:</i></p> <ul style="list-style-type: none"> <li>High employment</li> <li>Large employers with split sites / sites located away from rail stations</li> </ul>	<p><i>Tourism:</i></p> <ul style="list-style-type: none"> <li>Attractive destinations connected to the cycle route network</li> </ul>
<p><i>Students:</i></p> <ul style="list-style-type: none"> <li>A university or college campus</li> </ul>	<p><i>Topography:</i></p> <ul style="list-style-type: none"> <li>Flat areas are more attractive for cycling</li> </ul>
<p><i>Cycling Infrastructure:</i></p> <ul style="list-style-type: none"> <li>New users want good quality, continuous, and visible cycle route network</li> </ul>	<p><i>Car Parking:</i></p> <ul style="list-style-type: none"> <li>A lack of convenient or cheap car parking makes bike share more attractive</li> </ul>
<b>Endogenous Factors</b>	
<p><i>Policy Support:</i></p> <ul style="list-style-type: none"> <li>Long-term funding support</li> <li>Cycling infrastructure development</li> </ul>	<p><i>Integration with Other Transport Modes:</i></p> <ul style="list-style-type: none"> <li>Base bikes near bus / train stations</li> <li>Promote on buses / trains</li> <li>Include bike share on city smart cards</li> </ul>
<p><i>Diverse Funding Streams:</i></p> <ul style="list-style-type: none"> <li>Sponsorship / advertising / membership / hire fees / local authority support</li> </ul>	<p><i>Pricing:</i></p> <ul style="list-style-type: none"> <li>Set to encourage short trips (e.g. £1 for a day pass and first 30 mins. free)</li> </ul>
<p><i>Density and Scale:</i></p> <ul style="list-style-type: none"> <li>300-400m between stations in a minimum area of 10km<sup>2</sup> with high footfall</li> <li>10-30 bikes per 1,000 population</li> </ul>	<p><i>Partnership Working:</i></p> <ul style="list-style-type: none"> <li>User groups - businesses / universities / visitor attractions</li> <li>Maintenance – community bike hub / local bike shop</li> </ul>
<p><i>Quality Bikes:</i></p> <ul style="list-style-type: none"> <li>Must be durable and practical</li> <li>Must be easily adjustable</li> <li>Must be able to carry bags / shopping</li> <li>Must have lights and mudguards</li> <li>Bespoke parts discourage theft</li> </ul>	<p><i>User Interface:</i></p> <ul style="list-style-type: none"> <li>The process of locating, paying for and releasing a bike should be simple and fast</li> <li>Pre-registration is a barrier to usage – allow instant access where possible</li> <li>Smart phone / apps precludes some users</li> </ul>
<p><i>Marketing:</i></p> <ul style="list-style-type: none"> <li>Need a targeted marketing strategy to raise awareness and encourage take-up.</li> </ul>	

6.2 The following table shows how well the Royal Borough meets each of these factors.

**Table 3: Assessment of RBWM against Success Factors**

Criteria Met	Criteria Not Met
<ul style="list-style-type: none"> <li>Maidenhead's population is within the recommended minimum range.</li> </ul>	<ul style="list-style-type: none"> <li>Windsor's population is significantly below the minimum recommended threshold.</li> </ul>
<ul style="list-style-type: none"> <li>There is a diverse set of potential users, including residents, commuters, visitors and students.</li> </ul>	<ul style="list-style-type: none"> <li>With the exception of Centrica and LEGOLAND, Windsor does not have any major employers outside the town centre.</li> </ul>
<ul style="list-style-type: none"> <li>Maidenhead has a number of business parks on the outskirts of town.</li> </ul>	<ul style="list-style-type: none"> <li>There are critical gaps in the cycle route network on approaches to Maidenhead and Windsor town centres and rail stations.</li> </ul>
<ul style="list-style-type: none"> <li>There are cycle routes to key visitor destinations such as LEGOLAND and Windsor Great Park (although these are not continuous).</li> </ul>	<ul style="list-style-type: none"> <li>Maidenhead has some hills to the north and west of the town centre, which may deter some people from cycling.</li> </ul>
<ul style="list-style-type: none"> <li>Windsor is relatively flat and therefore suited to cycling.</li> </ul>	<ul style="list-style-type: none"> <li>Car parking is relatively inexpensive for residents, so there is no incentive to travel by bike.</li> </ul>
<ul style="list-style-type: none"> <li>Maidenhead Community Cycle Hub would be well-placed to assist with maintenance.</li> </ul>	<ul style="list-style-type: none"> <li>Neither Maidenhead nor Windsor has a large enough high-footfall area</li> </ul>
<ul style="list-style-type: none"> <li>There are several potential key business partners.</li> </ul>	

6.3 The lack of safe cycle routes to Maidenhead and Windsor town centres and railway stations is significant, particularly in Maidenhead where the A4 and A308 represent significant barriers to cycling.

6.4 However, work is progressing to deliver the Maidenhead Station Access scheme, which includes improved connections across the A308 between the rail station and the town centre and a new cycle hub at Maidenhead Station. There may even be potential to deliver a bike share scheme as part of this project.

6.5 Also, a feasibility study and business case are being prepared for the Maidenhead Missing Links project. This aims to provide a number of critical walking and cycling routes to and through Maidenhead town centre, including a new route across the A4.

6.6 If these projects are delivered then conditions would be more favourable for a bike share scheme in Maidenhead.

6.7 Although Windsor's population is below the minimum recommended threshold, it is possible that the large number of visitors may be sufficient to sustain a scheme.

6.8 In addition to the generic factors listed in Table 3, there are several local factors that also need to be taken into account:

- The historic street layout in Maidenhead and Windsor where narrow roads and pavements make it difficult to find locations to leave bikes without obstructing pedestrian or vehicle flows.
- Security issues in Windsor, which restricts locations where bikes can be left.
- Major events that lead to large increases in visitor numbers on key routes for short periods (e.g. royal weddings / events, Windsor Royal Horse Show, state visits, etc).
- Existing problems with illegal cycling activity in pedestrianised areas that could be exacerbated by a bike share scheme.

6.9 Conversations with bike Nextbike and Mobike suggests that they could accommodate most of these additional requirements by:

- Designing docks / parking areas away from congested areas
- Having docks with minimal fixings that can be quickly removed for major events
- Geo-fencing critical areas where users are unable to terminate their bike hire
- Having a rapid response team to remove bikes left in high risk locations
- Providing advice via smart phone apps about areas where cycling is prohibited

6.10 An additional factor that needs to be considered is how to cater for cross-boundary trips, particularly to Slough and Heathrow. Slough already has its own bike share scheme which is a self-service model with docking stations. However, this does not cater for cross-boundary trips, since there are no docking stations in the Royal Borough.

6.11 Also, Heathrow Airport is currently investigating options for a dockless bike share scheme, which could cater for cross-boundary trips to and from the airport. The Royal Borough should engage with the airport and any operator that is appointed to ensure that they are aware of the security issues in Windsor and to ensure that procedures are in place to remove bikes left in inappropriate locations. There may also be opportunities to formally extend the scheme to the Royal Borough.

6.12 It is worth highlighting that docked bike share schemes have struggled to be profitable. In London, despite securing a lucrative sponsorship deal and having a large user base, the Santander Cycles scheme still requires considerable public subsidy. Much of the cost relates to the need to continually redistribute bikes across the network.

6.13 More locally, Reading and Slough have both experienced difficulties with their cycle hire schemes. Revenue and growth have been well below target, while advertising / sponsorship have proved difficult to secure. Reading's scheme required significant subsidy in the first couple of years, but is now operating at no cost to the council. However, Slough's scheme still requires on-going revenue support. It should be noted that both towns are significantly larger than either Maidenhead or Windsor and have a larger potential user base. This serves to highlight the challenges associated with delivering a successful cycle share scheme.

- 6.14 Docked bike share schemes have traditionally required public subsidy with capital and / or revenue costs. However, increased competition from dockless schemes has forced them to be more competitive and seek to deliver schemes at zero cost. However, this is often dependent on securing sponsorship / advertising deals.
- 6.15 Dockless bike share schemes have been described as a 'game changer' with most operators choosing to assume 100% of the financial risk. However, these schemes are still in their infancy and there are concerns about their long-term financial sustainability and the potential for local authorities to have to deal with bikes being left in inappropriate locations.
- 6.16 Locker and station schemes have also enjoyed mixed fortunes, with only a handful of sites breaking even or operating at a profit.

## **7. Recommendations**

### **7.1 It is recommended that the following recommendations be made to the Highways Transport and Environment Overview and Scrutiny Panel:**

- **That the decision to introduce a public bike share scheme should be deferred until such time as critical links in the cycle network can be completed to improve access to Maidenhead and Windsor town centres and rail stations.**
- **That a feasibility study and financial assessment be carried out including research with potential partners, such as major employers / business parks, visitor attractions and train operating companies to gauge likely levels of interest for a local scheme.**
- **That the Council should liaise with Heathrow Airport and Slough Borough Council to explore the potential and possible options for a scheme that is able to accommodate cross-boundary cycling trips.**
- **In the event that a public bike share scheme is introduced:**
  - **That the Council should seek to avoid / minimise any financial liability for on-going revenue costs and officer time associated with managing the contract.**
  - **That any operator must be BikePlus accredited.**
  - **That clear operating guidelines be developed and agreed with the operator in advance to ensure that local requirements are met in addition to those covered by the BikePlus accreditation.**
  - **That any scheme be introduced for a trial period to evaluate its impacts.**

- **That the Council should seek to secure anonymised usage data from operators to help inform cycle network development.**