



Cycling England

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**Professional Support**

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**Cycle Parking Options  
Study for Somerset  
County Council**

**Final Report**





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**Cycle Parking Options  
Study for Somerset  
County Council**

September 2006

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## 1 Introduction

This report was prepared on behalf of Cycling England by Alex Sully of Transport Initiatives, with help from Dave Holladay of CTC, and checked by Adrian Lord of Arup. It follows a request from Somerset County Council (SCC) for the preparation of an options report to consider how best to deliver safe, secure and easily usable cycle parking facilities at a range of locations across Somerset.

### 1.1 Background (the Brief provided by SCC)

The 'Secure Cycle Parking Project' will aim to deliver safe, secure and easily usable cycle parking facilities at a range of locations across Somerset. The locations will include the likes of Park and Ride sites, train stations, hospitals and town centres. Basically, in locations where there is a significant number of trips generated with a good potential for cycling. The product of this aim will be hopefully to increase the levels of cycling across Somerset.

#### **Requirements**

Develop an options report which covers suitable facilities to meet the provisions as set out below. It is requested that the report contains recommendations as to the suitability of each option in the planned environments (P&R, train stations, etc). It is also requested that the report contains cost estimates and manufacturer information.

- secure cycle parking systems;
- electronic management system - potentially off-site as well as on site;
- extremely easy to use system by the user - minimise the obstacles presented to potential users;
- updatable management systems;
- future proof systems; and
- a system to allow the use of pool bikes - taking out and returning of bikes which are not owned by the users.

#### **Details**

The initial part of the project would use the Silk Mills park and ride site in the North West of Taunton as a pilot. The options developed by the Cycling England advice will be used to identify the most appropriate system for the Silk Mills Park and Ride site and support its purchase and implementation. Funds for the purchasing of a suitable product have been identified and a process has been agreed to allow the facility to be delivered in-line with the planned expansion of the Park and Ride site.

## 2 Methodology

The study process comprised a desktop review of available information including websites. Manufacturers of cycle parking lockers (BikeAway, CycleWorks and SecuraByk) were telephoned to discuss availability of electronic controlled access systems for lockers and the operation of sophisticated hire systems. Also contacted in this way were high-tech hire operators (Budgie Bikes and OYBike) to see whether their systems could provide much the requirements set out in the brief.

Site visits were undertaken in Taunton and Bridgwater to examine existing parking and potential for expansion at various locations including a park and ride site (Taunton) rail stations (Taunton and Bridgwater) bus station (Bridgwater) and a town centre (Taunton).

Notes:

1. Different types of cycle parking stand have not been considered since Sheffield stands are the recommended solution for general public parking whether within the highway or on private land. It is however, recommended that the stands used match the standards set by the Bicycle Parking and Security Association (for membership and contact details see Section 8).
2. No consideration has been given to which organisation would best be the leader of any joint pool bike project, what it would cost or whether it could be integrated into the existing 'Repair and Ride' service delivering on-site bike repair and maintenance at the premises of major employers. The latter approach could, however, prove to be a useful opportunity to deliver maintenance of pool/hire bikes and compounds/lockers, especially if remote operation is involved.

### 3 Available Options

#### 3.1 General

In order to examine which solutions might suit Somerset County Council’s needs a number of different types of operation were considered. In view of the limited time available, only one of each type was investigated. In some instances those examined proved to be the only ones of their kind (Velo Yellow and OYBike hire packages). Smart-card operation of gated compounds proved to be a generic approach because of the range of manufacturers supplying this kind of locking system.

It is taken as read that space to site the various solutions would be available where needed within SCC’s future aspirations i.e. as close as possible to the target cyclists’ likely destinations.

No indicative prices have been given since, with the exception of those supplying items such as lockers, manufacturers/operators have stated that they are unable to provide unit prices without more information. It is also worth noting that the use of advertising revenue to support the operation of hire systems features in both of the hire operations as a means of generating income.

#### 3.2 Cycle stand plus lock and key

Comprising a simple stand, usually of the Sheffield variety, and use of the owner’s or pool bike operator’s own lock, this system is undoubtedly the cheapest to implement in its simplest form. However for pool bike operation it will require management and maintenance activity.

Advantages	Disadvantages
<b>General</b> Relative costs: low capital - moderate revenue	
Cheap to install, user friendly and low maintenance (public use)	Expense increases if covered (desirable) or CCTV provided (desirable)  Secure compounds increase expense and need space to erect
Easy to site in small numbers at many locations across an area to maximise use	Security a known issue with bikes regularly stolen from public stands - expensive to extend CCTV to all installations
Can be integrated into other street furniture layouts and easily placed at an angle to the kerb to minimise interruption of footway/control or replace pedestrian barriers (discourage pedestrians from stepping onto the carriageway)	Like all street furniture, poorly sited stands can become an obstacle for other pedestrians especially those whose mobility is impaired.
Since stands are not assigned to any single user, where there is a high turn-over of users this can provide a much greater capacity than lockers	

<b>Pool bikes</b>	
Certain models of operation can be made available at wide range of locations	Unless single-site operation for issue and return needs remote management system to: <ul style="list-style-type: none"> <li>• know where bikes are</li> <li>• move bikes when necessary to where needed</li> <li>• issue bikes, clothing, locks and other equipment</li> <li>• provide reporting system for damaged bikes</li> <li>• provide maintenance</li> </ul>
Turn-key operations available and costs may be shared across partner organisations	Unique locking points for specialist systems will increase cost.  Unless self-funding, e.g. through parking charges or advertising, projects will need revenue funding
	Bikes need to be weather resistant unless covered at stands (recommended)
<b>Future Proof</b>	
Stands and covers are proven techniques	Management systems that employ modified Sheffield stands are likely to be upgradeable but basic systems probably good for foreseeable future (see OYBike below)

### 3.3 Lockers

Lockers have been used with success in a number of ways. These have included provision at bus and rail stations for hire to the public and at business sites for use by employees.

There are a number of manufacturers/importers providing a range of single/multiple and upright/horizontal configurations. Only one of those approached (SecuraByk) could provide electronically controlled locking mechanisms for their lockers.

Advantages	Disadvantages
<b>General</b> Relative costs: moderate capital - moderate revenue	
Straightforward installation and use	More costly than Sheffield stands and not always as space efficient  Need level bases (can prove costly) and space to load must be kept clear  Can be difficult to keep clean  Visually intrusive in town centre use - CCTV surveillance preferred to avoid vandalism in less prominent sites

Provides secure protection from the weather	Can be the subject of misuse (drugs and prostitution)
Variety of locking systems available	<p>Keys best issued to only one user which renders locker unusable by others thus limiting capacity*</p> <p>Use of coin-operated locks attracts would-be thieves (coin operated locks can also prove unreliable)</p> <p>Use of bike owners' own bicycle locks advertises presence of bike and/or removes opportunities for others to use if empty lockers 're served' by user's lock</p> <p>Mechanical locks do not permit remote operation/management</p>
'Override' keys available for some systems to permit monitoring of use/maintenance	<p>Unless lockers permit the contents to be seen from outside monitoring of use impossible</p> <p>Management regime needed to record users, monitor use, issue keys, deal with lost keys etc – also process of making lockers available needs to be transparent and user-friendly</p> <p>Checking lockers to determine nature of use can be unreliable as bikes left for days at a time without use will appear to be no different to those brought every day and lockers only used at night will seem unused when inspected.</p>
Opportunities for income generation by selling advertising space on lockers (in addition to hire charges)	Unless self-funding, e.g. through parking charges or advertising, projects will need revenue funding
<b>Pool bikes</b>	
Can be available at wide range of locations	<p>Bike has to be returned to individual locker or others kept in reserve to ensure space at other sites.</p> <p>Offers little/no advantage over secure compound/storage except for use remote from office base (folding bike could meet this need)</p> <p>Needs remote management system to:</p> <ul style="list-style-type: none"> <li>• issue keys and other equipment</li> <li>• provide reporting system for damaged bikes</li> <li>• provide maintenance</li> </ul>



<b>Future Proof</b>	
Proven – no need to upgrade (unless electronic control of locks pursued)	Limited opportunities for monitoring and remote operation unless electronically operated and monitored

Discussions with BikeAway, the manufacturer of the lockers installed, but not yet in use at the Taunton park and ride site, suggest that users prefer to know that the locker they use is ‘theirs’ for the contracted period of hire. This is interpreted as demonstrating that they are encouraged to cycle since they can be confident that their expensive bike will be secure and not have to be parked on a public stand, at increased risk of theft, if the cyclist were to turn up to find all of the lockers were in use.

However, it is known that the 2-lock BikeAway system has allowed GMPTE to increase utilisation with a bicycle locker users club (access to lockers anywhere on the system is possible with this regime). Lockers therefore do not need to be offered on an exclusive basis, but open access is definitely NOT recommended, as it leaves the locker vulnerable for abuse.



BikeAway lockers at Taunton park and ride site

### 3.4 Locked compounds

Compounds can provide extra security for public use and also be used to store pool bikes; sub-divided to create additional security for the pool bikes if necessary. They can be purpose-built, created by gating existing spaces or by placing two covered shelters so that they face each other and then gating the entrance(s). Employing smart-card or proximity devices to control entry provides enhanced security and the opportunity to monitor entry and exits by users. Where smart cards are used for other activities, such as office door entry, these could be employed to permit entry to compounds operating the same type of card reader.

If there is a known audience i.e. users details are comprehensively record then the system is very secure, and can be run as a stand-alone unit, using programmable processors loaded from portable device with details of authorised users (card i/d, PIN etc). This regime is used by Southampton University - users sign up for locations and are switched in. The option of running this with solar/wind power is within realistic expectations. Whilst the up-front cost is higher the simpler management of PIN activation is cheaper than replacement of locks and *all* of the keys if the locks are compromised by key loss or theft.

Advantages	Disadvantages
<b>General</b> Relative costs: moderate to high capital depending on site preparation - moderate revenue	
Compounds provide significant capacity benefits over lockers as anything up to 150% capacity can be achieved	
Parked bicycles protected from the weather when covered (recommended)	Where compounds are not covered the experience of the Taunton Bike Park shows that thieves will remove bikes by passing them over railings once they have gained entry
Capital costs can be low if all that is required is gating of existing space and the installation of Sheffield racks	Sites need to be hard-wired for electricity for entry control and telephone/modem connection for remote monitoring (may be less if services and room for parking already available - including Ethernet capacity - within organisations own building)
Restricts entry to permitted users	The issuing of keys/entry devices needs to be well managed as experience has shown that improper use has resulted in stolen bikes/equipment
Can be located in a variety of locations where space and service availability permit	To be effective, compounds need a 'critical mass' of at least 20 – bikes. This clearly needs space and this may not be available at cyclists' destinations.  May also be considered to be visually intrusive in town centres etc unless of sensitive design. Space not be available where best sited and use not maximised as a result (c.f. Taunton Bike Park)
	Management regime needed to record users, issue keys, deal with lost keys etc – also process of making lockers available needs to be transparent and user-friendly  Unless self-funding, e.g. through parking charges or advertising, projects will need revenue funding
<b>Pool bikes</b>	
Can be made available at wide range of locations where space and services permits and operate across an authority's area	Unless single-site operation for issue and return needs remote management system to: <ul style="list-style-type: none"> <li>• know where bikes are</li> <li>• issue bikes, locks and other equipment</li> <li>• move bikes when necessary to where needed</li> <li>• provide reporting system for damaged bikes</li> <li>• provide maintenance</li> </ul>

Advantages	Disadvantages
Turn-key operations available when combined with cycle-hire and costs may be shared across partner organisations	Unique bike-locking points for specialist systems will increase cost.  Unless self-funding, e.g. through advertising, projects will need revenue funding  Unique bikes preferred to minimise wear and tear (hub brakes/gears etc) and make less attractive to thieves
<b>Future Proof</b>	
Stands and covers proven techniques	Management systems likely to be upgradeable but basic systems probably good for foreseeable future (see below)



Gated compounds created under railway arches at Manchester University

(Picture © Alex Sully, Transport Initiatives)

Close-up of swipe card lock Manchester University

(Picture © Alex Sully, Transport Initiatives)



Since contactless key fobs or cards used to gain entry have the potential to release any electromechanical lock these could also be employed to release bikes from stands within compounds (or lockers). However, at present there is no known commercially available system that delivers this feature.

The only known and available product that comes close is the PLS system provided by SecuraByk which combines a contactless card for entry

purposes with a chip card that stores information such as the owner's details. Of equal importance is information about which stand has been used to lock the bike on arrival so that it can be released on departure. This delivers greater flexibility/capacity in the use of the stands and potentially the release of pool/hire bikes. It also provides a reporting mechanism that can be used to notify faults in bikes hired or used for pool purposes.

It should be noted that there would have to be sensitive design of any compounds to be located in town centres in order that they should respect the local environment. As an example, any compounds sited within Taunton town centre but in order to match the existing street furniture, such as the bus shelters, it is assumed that they would have to be clear-walled and roofed with stainless steel structural elements.

### **3.5 Tag systems**

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This comprises a simple stick-on chip which identifies the bike & user and can provide relatively simple operation; the Portsmouth Bikeabout project had such a system which is on the brink of being workable for the general population. A bike with a tag can roll-in to the compound and be recognised, but if it is removed without the identifying code or user card the door will not open or an alarm sounds. One company, Envigour Systems, has been working with various cycle groups on this. Registration (i.e. issue of tags) is cheap, so potentially every bike in a town could be identified with an owner.

The Envigour tagging system is currently being considered as a low inertia option to register as many regular local cycle users as possible, and in so doing generate a polling list for surveying the demand for additional enhanced facilities - for example recruiting regulars at Taunton Station will deliver a profile of the near market - people who fit the same profile and can be won over to also cycling to the station, the value of cycle customers to the train operator can also be assessed, and the type of cycle-rail customer who parks a bike will also emerge. Establishing the likely costs of such structures is beyond the scope of this project.

### **3.6 Turn-key operations**

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Two potential opportunities exist to combine bike hire with the parking and pool bike programme or to manage the pool bikes as a stand alone activity. Both are offered by companies with experience of managing bike hire operations: *OYBike* in London and *Velo Yellow* operated by Budgie Transport of Lancaster.

The costs of implementing these opportunities could be relatively high but these could be reduced by economies of scale and by securing other revenue streams such as advertising or partnerships in pool bike operation.

It is worth noting that both JC Decaux and Clear Channel offer the Das Beste Sykkel bike with solid (foam) tyres as a city bike. Like the free bus shelters, and public toilets offered by these companies the quid pro quo is in the 'price' of signing off exclusive media rights, and the systems often require high levels of bike movement to meet demand at hire stations. However the option of linking on-street media to cycle parking is one which has yet to be explored effectively in the UK. A covered cycle compound for 10-20 bikes is

practically the same as a large bus shelter and can carry the same amount of advertising, which if illuminated, will provide lighting for security and user convenience.

The BikeAway vertical locker is half the of the on-street advertising industry standard 6-sheet panel - so 2 lockers (cost approx £500 each installed) can carry 1 media panel, which can generate up to £1000 per year for the site owner at a high value site like a major railway station. Thus a pay-back period on the capital cost of an installation of lockers or compounds in the region of 2-3 years could be possible.

## **OYBike**

For pool bike operation and general hire opportunities the business ‘OYBike’ could provide a potential solution by replicating the mobile phone enabled system currently in use in London. The following description is taken from its website (<http://www.oybike.com/OYBIKE/obhome.nsf/oybike.html>).

### **“What is OYBike?**

The OYBike System is a street-based rental station network that allows you to hire and return a bicycle via your mobile phone. The OYBike system is based on the availability of rental bicycles at key locations:

- Tube stations
- Public buildings
- Key transport interchanges
- Car Parks

These bicycles are secured to their bike stands using cables that are attached to the bicycle and which double as security locking cables when the bicycles are on hire. Each bike stand is equipped with a specially developed electronic lock operated through a keyboard and LCD display. This lock holds the cable secure until that bicycle is rented out. An OYBike registered user select an available bicycle and the locks display a code, the user then calls the OYBike call centre and gives them that code.

A unique pin code is then read out to the user and sent back by text messaging. This pin code is entered into the lock to release the bicycle. After use the bicycle is locked into any empty port on an available OYBike station. A unique pin will appear on the lock display that must be sent back to OYBike to end the hire period.

To use the OYBike system you will need to pre-register with an initial usage credit of £10. Optional theft insurance is available at additional cost. Hire rates begin at 30p for 15 minutes.

OYBike docking stations will consist of specially developed electronic locks and stands to which OYBike cycles can be secured. The OYBike docking station is a self-contained locking device with built in keypad and display. The device will use an algorithm to generate ID numbers, which identifies the cycle and port, then, from this enables the system to generate a release code.

### *How to use it*

OYBike docking stations will consist of specially developed electronic locks and stands to which OYBike cycles can be secured. The OYBike docking station is a self-contained locking device with built in keypad and display. The device will use an algorithm to generate

ID numbers, which identifies the cycle and port, then, from this enables the system to generate a release code.

To start the hire:

1. Subscriber selects bike they wish to hire
2. Subscriber calls OYBike control centre, an operator will answer their call.
3. They will be prompted to read the number which is displayed on the OYBike docking station.
4. This number will be decoded and a simple authorisation check will be made.
5. A release code will then be given back to the user allowing them to enter it into the OYBike docking station to release the bicycle.
6. Hire commences.

**To end the hire:**

1. Subscriber will find an empty port at any OYBike rental station and plug the bike into the port.
2. The Subscriber will call the OYBike control centre and provide end of hire confirmation code displayed on OYBike docking station.
3. Hire ends.”

OYBike has been operating successfully with a system that requires no mains power supply (it uses batteries with a feed from a charging source). Initially the system required large strings of number codes to release and return bikes, but the operation of a pilot system in West London has seen progressive simplification of the hire and return procedures, and the eventual operation via the infra-red link and data sent directly via the user's mobile phone is envisaged.

The individual locking stations are clamped to Sheffield stands and hire points are thus quick to install (operator suggests under one hour to set up a hire point in an area where they are already operating). Alternatively, the hire point can be located anywhere that the hire pod can be bolted and provide a secure point to fasten it and 3 bikes

The bikes used are unique to this system and have weather resistant features such as hub brakes and gears and shaft drive. They are also fitted with fitted dynamos and baskets for briefcases and other small items which customers are likely to have with them. It has been established that it is important to have a hire system which has a variety of users - the current system requires less than 1% of the fleet to be moved around to meet demand because of this diversity of users - a group with a strong flow will produce a similar problem to bus and train use at peak hours - a need to have dead journeys (bikes shipped on trailers/in vans to meet demand) the biggest imbalance on the test system occurring at weekends.

In conversation, Mr Bernie Hanning of OYBike explained that a number of authorities and organisations are considering the possibility of this system being adopted outside of London (the sole site at present). He also expressed the view that since the OYBike system allowed the flexibility for employees to use its bicycles, as well as the public, the need for a separate pool bike fleet was rendered redundant. This already occurs in one London borough. In place of the capital costs of bikes and an in-house management and maintenance regime, all that would be required would be a corporate subscription. Note: This does not, however, address the issues of helmets or other protective clothing being made available by employers.

OYBike has advertising and branding options already in use, much as the Kopenhagen City Bikes. Like this long established bike scheme the OYBikes are not replaced after a maximum of 18 months/2years (the model for leisure bike hire, similar to that for hired cars) but rebuilt and kept in use. The Kopenhagen model uses the revenue from branding to cover running costs but their experience is that it cannot meet the capital cost of new equipment in the current operating model.

It was established that the minimum number of bikes to make this operation worthwhile (assuming regular use) would be ten. Since the system relies on mobile phone contact with the management company and no hard-wiring of stands is required, flexibility of destination could be provided by siting a number of 'rental stations' across an area.

The data collected by this system allows monitoring of:

- Who hires a bike
- Where from
- How long used
- Where returned

No bikes have been stolen up to the time of the conversation with Mr Hanning.

OYBike could provide a suitable system for use in Somerset, managed from its London base but this would require sub-contract for maintenance of bikes. Cost would depend on advertising revenue available to support the project.

The OYBike management process has the future potential to use its patented mobile phone operating system to offer the ability to track the use of its bikes once the capability is available to track users' mobile phones by means of global positioning satellite technology as well as transmit the release code from the phone to the stand by means of infra-red technology.



## Velo Yellow

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Velo Yellow has been developed to provide additional security for the existing bike hire operation already being delivered by Budgie Transport (<http://www.budgietransport.co.uk>) in London and the north of England. To achieve this it has developed what it describes as “Britain's first automatic tracking cycling hire scheme”. This is achieved by combining cycle hire with the electronically controlled cycle parking system manufactured and operated by Sekura-Byk for Transport for London at Finsbury Park station. Once a card has been issued there is no need for further contact between user and the management operation except, of course, for the payment of the hire fees based on the time the bikes are used.

In common with the OYBike system, users are required to provide a range of personal information, including credit card details. This ensures that they have ‘ownership’ of the bike they hire and with it a greater sense of responsibility towards its security.

If taken up by a local authority as a means of providing high security storage for public use, the level of information available provides an opportunity to undertake sophisticated monitoring of the use made of the parking, both by individuals and as measurements of overall occupation etc. This can range from time of use and duration to assessments of catchment areas and user profiles.

The Velo Yellow system relies on smart card technology to release the bikes from unique secure stands and record their return. The stands can either be open-access in secure areas, e.g. staffed train station concourses, or housed within secure compounds. Monitoring of use and even the release of locked bikes can be undertaken remotely without any need to travel to the site. Damage to hire/pool bikes can also be reported electronically. The basic hardware has been in operation for some years and has been well proven in mainland Europe.

The operation is similar for public use with the smart card being used first as a contactless card to gain entry to the compound and then as a chip-card inserted into a reader which then selects an empty stand for the customer's use. On their return the cyclist simply inserts the card back into the reader, the lock is released, the card debited with an appropriate amount of funds and then the stand becomes immediately available for use by others. The software controlling this system as employed at Finsbury park for public cycle parking has been the subject of development by Sekura-Byk for TfL and offers powerful monitoring capability. It is also capable of being developed further to meet any organisation's particular needs.

A minimum of 5 compounds and 100 bikes would be needed to make a Velo Yellow project viable. Each compound open-access site would need to be hard-wired for power and telephone line for computer controlled operation.

It is worth noting that Budgie Bike's current operating model has a high use by the leisure market - the £1.50 hour rate is a popular option for those at Youth Hostels to go out for meals and visits to local attractions which would not work using a timetabled bus or train service.





Electronically controlled bicycle parking at TfL site Finsbury Park

(Picture © Alex Sully, Transport Initiatives)

## 4 Management

The systems outlines above have highlighted the need for management systems to be put in place to cover the following key activities (cost depending on scale and scope of operation):

- Issuing (and re-issuing) of keys/smart cards
- Maintaining user records
- Maintenance and repair of facilities
- Knowing where bikes are
- Issuing bikes, locks and other equipment
- Moving bikes when necessary to where needed
- Providing reporting system for damaged bikes
- Maintenance and repair of pool/hire bikes
- Monitoring use
- Removing bikes that become abandoned\*
- Providing additional facilities to meet demand
- Maximising income generation from use and revenue from advertising/sponsorship etc
- Liaising with partners engaged in the project
- Publicising facilities

\* Removal of abandoned and damaged bikes is an important feature of a well managed scheme, it keeps space available for bona fide users, and makes the site look safe and secure. The parcels label system used on Bristol Temple Meads station delivers a simple and effective measure to monitor the use of a bike which is suspected to be abandoned (parcels label around the tyre - remains unmarked and on tyre if bike is not used). The practice (common in Cambridge but not widely seen elsewhere) of permanently parking a stooge bike to reserve a place is something which is picked up by this.

## 5 Signing

Unlike car parking, it is very rare to see conditions of use displayed at formal cycle parking. The ‘no bikes here notices’ have a failing in not stating the basis for the claim, or the sanction that the site owner can legally take, and the time after which these will be taken, plus information on places where bikes can be parked legally as an alternative. Signage is thus an important factor in both indicating that cycle parking is available and welcomed and showing that it is taken seriously as part of an authority or organisations commitment to sustainable transport.



The sign may be small but it shows intent

Terms and conditions clearly apply

(Picture © Alex Sully, Transport Initiatives)



It may not be welcome but this sign makes the landowner's intentions clear

## 6 Results of site visits

### 6.1 General

The purpose of the site visits was to get a feel for levels of existing use and the potential to site either compounds or additional stands to accommodate an OYBike or Velo Yellow style of operation.

### 6.2 Bridgwater

#### Bridgwater railway station

Despite the town enjoying cycling to work levels four times the national average, there rarely seems to be much evidence of demand for cycle parking at the railway station in Bridgwater. This may well be as the result of it having the air of a ‘no-go’ area once the staff have left. A recent response to this situation has been the introduction by the rail operator, First Great Western, of security guards who operate between 14.00 and 04.30 hrs. It is understood that the contract for this security is reviewed/renewed on a six monthly basis.

Five bikes were observed at the station: three parked undercover (good practice) on poorly laid out (bad practice) ‘toast rack’ Sheffield stands to the side of the station building; two other bikes were parked on the platforms one chained to the railings on the ‘up’ platform and the other to the fence on the ‘down’.



Bicycles parked outside  
Bridgwater railway station

Bridgwater station - bicycle parked on the ‘down’ platform: is the owner trying to send a message to would-be thieves?





It is evident that space is available for further parking on the platforms without detriment to passenger or station operations. This could be in the form of either covered Sheffield stands or secure compounds.



Bridgwater station showing platform space

### **Bridgwater bus station**

In common with the railway station, the bus station appears to have lower levels of parking than might be expected, with only one bicycle parked at the time of inspection. This could be due to a genuinely low level of demand or simply because cyclists are reluctant to make it obvious to would-be thieves that their bikes will be there unattended for the whole of the day.



Bicycle parking at Bridgwater bus station

The space available next to the bus station building looks to be large enough to accommodate a covered compound that could house both bikes owned by the public and pool/hire bikes

### 6.3 Taunton

#### Taunton railway station

The railway station has a number of Sheffield stands on the ‘down’ platform and these appear to be well used (not counted) for much of the year. It is evident that the parking that is sheltered by the station building as well as the canopy over the platform is preferred to that which is just covered by the canopy. This may well be to do with the fact that when it rains the prevailing wind blows rain onto parked bicycles. This situation would be much improved by attaching clear panels to the railings to give as much protection as possible. Alternatively, a compound could be created that combined the existing shelter from the canopy. If there were to be sufficient support for a larger operation then potentially some of the car parking space beyond the railings could be given over to cycle parking/hire/pool bikes.



Taunton Railway station:  
Parking sheltered from vertical rain by the canopy but open to driving rain from the south west (prevailing conditions). Stands sheltered by wall and canopy further along are favoured by regular users.

Use tends to be busier outside school holidays (visited 4<sup>th</sup> August 2006)

There are four Sheffield stands outside the ticket office entrance (on the ‘up’ platform side). These are regularly used and often full with the overflow being chained to nearby railings and a roof water down-pipe. This is despite the presence the covered parking on the ‘down’ platform.



Cycle parking at the booking office entrance to Taunton Station

## Taunton town centre

The town centre around the 'Parade' is well served by Sheffield stands which are effectively full all year round and surrounded by ample evidence of the need for more (numerous bikes chained to other street furniture). The stands are of a unique design and were introduced as part of the town centre enhancement project of some years ago. It is entirely possible that this on-street parking was the reason for the failure of the Taunton Bike Park which was located just a short, but nevertheless significant, distance from the centre. With little evidence of a commuter-lead demand for secure, day-long parking this facility is now closed, along with the use of the building for bicycle sales and repairs. Even if a hire/pool bike operation were to be introduced, it is felt that any suggestion of re-opening of the Bike Park should be very carefully examined lest it fall foul of the same problem, i.e. it is not where cyclists want to begin/end their trips. It is also a long walk – compared to a short bike ride – from County Hall, Taunton Deane offices (TDBC), the station etc. if used to store pool bike purposes).



Well used cycle parking, Taunton town centre

(Picture © Alex Sully, Transport Initiatives)

The nature of the enhancement scheme and the regular use of the wider paved areas for market stalls means that space to site compounds is limited. However, if sensitively designed, it is possible that suitable structures could be created to either side of the 'Parade building'. Alternatively, additional stands could be provided to both meet evident public demand and, potentially, to deliver an OYBike style hire/pool bike operation.



Full stands, a bicycle chained to a street lighting column, with the Parade building beyond the roundabout.



### Taunton park and ride site

The visit to the park and ride site revealed that the ten existing upright BikeAway lockers have yet to be brought into operation. Discussions with the operational staff on site also revealed that there was interest from the public which demonstrates that there is already demand for their hire. The lockers are subject to 24 hour CCTV surveillance and the presence of the bus crews and other operating staff should make this a secure site from which hire/pool bike use could radiate. Ample space exists to site additional lockers and create compounds or sheltered parking.



Lockers and CCTV at the Taunton park and ride site



Destinations such as Musgrove Park Hospital, the Nuffield Hospital and county Hall are a comfortable cycle ride distance from here but the time taken to walk in the opposite direction means that pool bikes based here would not be an attractive option if staff have to get to the site on foot.



## 7 Conclusions and recommendations

### 7.1 Conclusions

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#### **Cycle Stands plus lock and key systems**

The use of simple Sheffield stands, to house pool bikes, whether covered or not, is not considered worthwhile pursuing unless it is achieved in conjunction with OYBike or a similar system that shares their use with the public. This view is taken because, unless it can be demonstrated that there would be a high level of use, there is a danger that if pool bikes supplied and jointly managed by SCC and partners lie unused they will bring the programme into disrepute.

When combined with cycle hire, it is felt that this arrangement has the potential to be a useful additional feature for a number of organisations, as well as the general public, in the larger Somerset towns. This approach would also have the benefit of being able to use existing/new Sheffield stands (covered and within sight of CCTV where possible) around the town centres and likely key destinations such as the railway station. Any such proposal should be accompanied by a general programme of additional public cycle parking so that the OBYike parking stations are not taken up by existing latent demand for parking with the result that their use is prevented.

Before embarking on such a project it is considered essential to establish the likely level of take-up by potential partner organisations for pool bikes and as a hire option likely to be taken up by the public. This could also be examined by surveys conducted of and by those organisations with travel plans to see whether there would be a demand to cycle, for example from the station to the hospital or Blackbrook park, and whether there would be interest in using the same bicycles to get from those destinations into the town centre at lunchtime. Use by the public at large would presumably have to be established by interview surveys or such avenues as residents' panels etc.

#### **Lockers**

The use of lockers probably represents the most easily achieved solution for public use at locations such as the park and ride (already in place but not yet functioning) and public transport interchanges etc. This use would, however, be limited to the individuals hiring one and offers none of the capacity benefits available from Sheffield stands or the kind of parking operated at Finsbury Park.

Given the cooperation of the rail and bus operators, lockers could be sited at a number of interchanges but their use in the town centres is likely to be constrained by the effects of visual impact. Siting them in public car parks might overcome this to a small degree. However, unless they are placed immediately adjacent to 'attractors' such as employment sites, this approach negates the flexibility of bicycle use and as a result take-up is likely to be only limited. This was amply demonstrated both by the past example of the Taunton Bike Park and the siting of Sheffield stands in public car parks within the town that went unused from the time they were installed to the time they were removed.

Lockers could also be used to store pool bikes if space cannot be found on the premises of those organisations wishing to use them. This would most likely limit use to one organisation or, at most two or three if their premises are close by. Again it would be helpful to first establish whether levels of likely use are sufficient to make this investment worthwhile.

### **Compounds**

Locked compounds when properly managed, (i.e. the process of issuing/use of access key or key fobs/cards includes information that allows users to be identified along with the time of use) represents the most secure form of cycle parking.

Based on the site visits undertaken for this report there appears to be space available for compounds to be created at some principle public destinations. However, since the premises of potential pool bike partners (hospitals, TDBC etc) were not visited, no comment can be made about the availability of space to create compounds within existing structures or space to erect new ones on their premises. Smart-card operation of compounds is, however, considered to represent a future-proof tool as their use is so widespread any improvements should be easily applied to any installation.

### **Turn-key operations**

Adopting a system like that operated by OYBike or Velo Yellow appears to represent the best option if the goal of introducing pool bikes shared by a number of organisations is to be achieved. The management systems already exist and are proven: OYBike is already in use in London and whilst the Sekura-Byk parking system has yet to be used for pool bike/bike hire the parking mechanisms have been in operation for a number of years and Budgie Transport has a proven track record in bike hire operations. These also allow the potential use of the pool bikes by the public as normal hire bikes. Both products, when combined with secure compounds, have the opportunity to offer very high levels of security to members of the public when parking their bikes

Such an approach would remove the need for any organisation to provide and manage their own pool bikes or for organisations to work together in partnership to deliver a shared pool bike programme. All that an employer would need to do is make their staff aware of the availability of the bikes and pay a corporate subscription to cover their use.

It is known that both OYBike and Velo Yellow are in discussions with other local authorities about the introduction of similar facilities and if these prove fruitful the expansion and development of their products are likely to create systems that will be readily upgradeable in the future.

Both systems offer different advantages in terms of operation, including security, income generation and monitoring but represent a risk to SCC and partners if underused. For this reason, it is suggested that the providers are invited to provide detailed proposals once further work has been done to identify the scale and scope of any potential project.

### Tagged bikes

Tagged bikes could be employed in a similar manner to the two turn-key options and requires its own infrastructure, most likely compounds to be effective but since it exists at present as an achievable concept its use is not yet proven.

### Summary

In terms of the 'provisions of the brief the conclusions are as follows:

<b>'Provision'</b>	<b>Conclusions</b>
Secure cycle parking systems;	<p>The most secure cyde parking for both public and pool bike use would be provided by a gated and covered compound with access controlled by key fob or smart-card (preferably contactless cards to reduce vandalism).</p> <p>Additional security would be provided by the use of electronically controlled locking mechanisms for individual bikes controlled by the same key fob/smart card used for entry. This could also be used to release pool bikes.</p> <p>As an alternative for hire/pool bike release, this could be achieved by employing purpose-made locking stations attached to Sheffield stands with the bikes released by the use of a PIN number obtained by mobile phone.</p>
Electronic management system – potentially off-site as well as on site;	<p>The use of smart cards to gain access to the compound and release of stored bikes would permit the remote monitoring of a wide range of data including:</p> <ul style="list-style-type: none"> <li>• Who enters the compound</li> <li>• Who chooses to store a bike</li> <li>• When it is parked and released and hence, how long the bike is stored</li> <li>• Level of use of the compound</li> <li>• Parking patterns</li> <li>• Catchment areas of those using the parking</li> <li>• Which organisation makes use of pool bikes</li> <li>• How much use is made (i.e. as above)</li> <li>• Where bikes are returned to</li> </ul> <p>In the case of public parking the use of electronic controlled stands can also permit the remote release of bikes by the managing organisation.</p>
Extremely easy to use system by the user – minimise the obstacles presented to potential users;	All systems reliant on keys or smart cards are reliant on a management system for the issuing of keys/cards. This necessitates contact either in person, over the internet or by post.

<p>Updatable management systems;</p>	<p>The need for personal contact e.g. when someone turns up at a station and wished to park their bike or hire one, is constrained by staff being available to do this.</p> <p>Examples of good practice hire agreements for lockers have already been provided to SCC with the added comment that agreements with hirers of lockers must allow for inspection of the contents for security and monitoring purposes (contd).</p> <p>Pool and hire bike systems that rely on contact by mobile phone for the release of the bike (plus credit card details in the case of hire) require no other contact.</p>
<p>Future proof parking systems;</p>	<p>Lockers opened by issued keys require no further ability to update but electronically controlled locks could be delivered, and remotely managed, using existing technology.</p> <p>The technology already exists to provide pool/hire bikes released by PIN, key fob or smart card, as well as public parking released by the latter, and is unlikely to advance much in the future except possibly through miniaturisation. The life of such projects is, therefore, only likely to be constrained by the life of the release mechanisms.</p> <p>Improvements to service delivery may be possible in the future through software upgrades or mobile phone GPS tracking systems being introduced (in principle this could also be used to track the bicycles rather than the phones once the necessary hardware becomes available).</p>
<p>A system to allow the use of pool bikes – taking out and returning of bikes which are not owned by the users.</p>	<p>As above</p>
<p>Cost estimates</p>	<p>It is not possible within the scale and scope of this report to establish likely costs. This applies to both capital and revenue costs.</p> <p>Whilst indicative capital costs can be drawn up for the supply of such individual capital items as stands, lockers and canopies the same cannot be said for installation (including hard wiring of power and computer links) in a variety of surfaces and locations, the creation of compounds that are visually acceptable or the provision of turn-key operations. These could only be established as the result of further work to establish the size, nature and location of the parking and its integration with pool bikes.</p> <p>Finally, SCC needs also to be aware of the financial risks involved, i.e. the level of revenue support it will have to give to any project that fails to attract sufficient hire or pool bike use if such projects are embarked upon. As above, to establish this risk further work needs to be done to</p>

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	determine likely use by partner organisations (and with that the likely locations that make use attractive) and public demand. Once these variables are known, only then would it be worthwhile inviting suppliers of turn-key operations to provide cost estimates for the introduction of their products.
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## 7.2 Recommendations

The brief asks: “It is requested that the report contains recommendations as to the suitability of each option in the planned environments (P&R, train stations, etc)”.

It is clear that there is a range of options available from the relatively modest to an innovative project that could, if successful, serve as an example of best practice for the rest of the country given sufficient demand. All of these options require considerable additional infrastructure together with management and maintenance programmes that necessitate the allocation of capital expenditure and potentially long-term revenue funding. However, the latter has the potential to be reduced by pool bike partnership working and through advertising revenue.

### **Recommendations:**

1. The existing lockers at the Taunton park and ride site be brought into operation for use by the public as soon as possible. The hiring of the lockers to be managed by the staff at the site and using a hire agreement based on information already supplied. The agreement to include the manager’s ability to open the lockers for inspection purposes;
2. Use of the lockers at the Taunton park and ride site be monitored with a view to providing similar facilities at key destinations /trip generators, implementation to depend on the outcome of 3 below.
3. SCC invite OYBike and Velo Yellow to submit costed proposals for a pilot operation in Taunton *following* a further more detailed study commissioned by SCC to determine:
  - I. level of likely demand for pool bikes and hire bikes (e.g. use during lunch hour etc) to be used by the staff of:
    - a) SCC
    - b) Partner organisations
  - II. Locations most favoured for locating combined general parking and hire/pool bikes at key destinations: railway stations, park and ride hospitals, major employment sites etc
  - III. The space available at II. above to site either covered Sheffield stands (to accommodate OYBIKE operation and public parking) or secure compounds (to accommodate OYBike/Velo Yellow operation and public parking) at key destinations including park and ride, train stations etc. and significant employment sites etc
4. If there proves to be insufficient demand for a hire/pool bike operation then consideration be given to providing lockers at key destinations in partnership with bodies such as rail operators etc.
5. Whatever the outcome of the recommendations above, a programme of parking measures based on Sheffield stands, covered where possible, be introduced throughout the county starting with sites identified during the detailed study in 3 above.

## 8 Contact details

	Website	Email	phone
<b>Cycle parking equipment manufacturers/suppliers (there are others)</b>			
Bicycle Parking and Security Association (* below indicates members of the association)	<a href="http://www.bpsa.info">www.bpsa.info</a>	<a href="mailto:peter.gazey@bikesec.co.uk">peter.gazey@bikesec.co.uk</a>	0208 6714483
Autopa Ltd*	<a href="http://www.autopa.com">www.autopa.com</a>	<a href="mailto:info@autopa.co.uk">info@autopa.co.uk</a>	01788 550556
BikeAway Ltd*	<a href="http://www.bikeaway.com">www.bikeaway.com</a>	<a href="mailto:info@bikeaway.com">info@bikeaway.com</a>	01752 202116
Broxap Ltd*	<a href="http://www.broxap.com">www.broxap.com</a>	<a href="mailto:sales@broxap.com">sales@broxap.com</a>	01782 564411
Cycle-Works Ltd*	<a href="http://www.cycle-works.com">www.cycle-works.com</a>	<a href="mailto:info@cycle-works.com">info@cycle-works.com</a>	01962 855212
Dixon Bate Ltd*	<a href="http://www.dixonbate.co.uk">www.dixonbate.co.uk</a>	<a href="mailto:info@dixonbate.co.uk">info@dixonbate.co.uk</a>	01244 288925
Falco*	<a href="http://www.falco.nl/uk">www.falco.nl/uk</a>	<a href="mailto:sales@falco.co.uk">sales@falco.co.uk</a>	01538 380080
Freedom City Ltd	<a href="http://www.freedomcity.com">www.freedomcity.com</a>	E: see website	0207 7299664
Furnitubes International Ltd	<a href="http://www.furnitubes.com">www.furnitubes.com</a>	<a href="mailto:sales@furnitubes.com">sales@furnitubes.com</a>	0208 3783200
Gear Change	<a href="http://www.gear-change.co.uk">www.gear-change.co.uk</a>	<a href="mailto:enquiries@rollalong.co.uk">enquiries@rollalong.co.uk</a>	01202 824541
Lock It Safe Ltd	<a href="http://www.lockit-safe.co.uk">www.lockit-safe.co.uk</a>	<a href="mailto:info@lockit-safe.co.uk">info@lockit-safe.co.uk</a>	01472 346382
Theme Bins International Ltd*	<a href="http://www.themebins.co.uk">www.themebins.co.uk</a>	<a href="mailto:themebins@btconnect.com">themebins@btconnect.com</a>	01924 217717
Sekura -Byk	<a href="http://www.sekura-byk.co.uk">www.sekura-byk.co.uk</a>	<a href="mailto:sales@sekurabyk.com">sales@sekurabyk.com</a>	01603 620720
Urban Engineering	<a href="http://www.urbanengineering.co.uk">www.urbanengineering.co.uk</a>	<a href="mailto:sales@urbanengineering.co.uk">sales@urbanengineering.co.uk</a>	01704 540405
Vekso Street Design Ltd	<a href="http://www.veksoe.com">www.veksoe.com</a>	<a href="mailto:info@veskoe.com">info@veskoe.com</a>	01622 609000
<b>Turn-key bike hire operators</b>			
OYBike	<a href="http://www.oybike.com">www.oybike.com</a>	<a href="mailto:info@oybike.com">info@oybike.com</a>	0845 226 5751
Velo Yellow	<a href="http://www.budgietransport.co.uk">www.budgietransport.co.uk</a>	<a href="mailto:budgietransport@wyrenet.co.uk">budgietransport@wyrenet.co.uk</a>	01524 389 410