



Public bicycle hire scheme feasibility study

Brighton & Hove City Council

Report



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1 Introduction

- 1.1 As one of the first tranche of English Cycling Demonstration Towns (CDTs) Brighton & Hove has seen a 27% increase in cycling activity amongst its population¹, identical to the average increase across the six CDTs. In general, Brighton & Hove is now achieving levels of cycling which are only found in a handful of other towns in the UK outside London.
- 1.2 This increase has been achieved in conjunction with a number of initiatives which include the offer of cycle training, the installation of high quality cycle parking; cultural events aimed at cycle promotions and infrastructure improvements including the Grand Avenue cycle tracks and an extension of the east-west seafront cycle route.
- 1.3 Complementing these measures is a Personal Travel Planning programme (PTP) focused on the western half of the city which provides information and incentives to promote and incentivise cycling in this community.
- 1.4 Achieving high levels of behaviour change like those demonstrated in Brighton & Hove requires commitment and an acceptance that no single measure is likely to succeed on its own. Like London (to which Brighton & Hove has a large commuting community), cycling is now at a level where the sheer numbers of people who cycle act as an incentivising factor in itself. Cycling in Brighton & Hove is now commonplace and even fashionable, contributing to a healthier, more active and sustainable city culture.
- 1.5 Advocates of cycling generally acknowledge that this degree of behaviour change needs to occur before other more costly, and arguable more risky projects can be developed. With such a large increase in cycling in the city in place, it is hoped that a cycle hire scheme can capitalise on this cultural shift, adding further impetus to this positive change in transport mode choice.
- 1.6 This report outlines the feasibility of introducing a **public bike hire scheme**² in Brighton & Hove by examining the business models of operational schemes both in the UK and the rest of Europe, and identifying potential locations where a scheme could be introduced.

¹ *Cycling Demonstration Towns Monitoring Project Report 2006-09, by Sustrans et al for Cycling England, Nov 2009*

² *A public bike hire scheme is typically used for a wide range of trip purposes and is designed to encourage 'short' trips through pricing mechanisms which deter users from daily hire. Public bike hire schemes are mainly installed in municipal areas, and have multiple locations from which bikes can be hired from unattended 'stations'. Private bike hire by contrast is almost exclusively used for recreational purposes where hire is available from a more limited number of locations from private operators. Prices are normally available on a daily or half daily basis rather than by hour.*

2 Scheme Review

2.1 This section provides a review of a number of current schemes with a view to determining their suitability for Brighton & Hove. This review has been informed by a desktop study and also from direct interviews and conversations with some operators. Officers involved in three of the schemes reviewed (Blackpool, Southport and London) also gave presentations at the 'Cycle Hire Seminar' held in Glasgow on 2nd September 2009.

Hire-A-Bike with Cycle Blackpool

Blackpool Council

- 2.2 Blackpool council is a Unitary Authority with a population of 142,000. It is one of Cycling England's second tranche of Cycling Towns, having been awarded Cycling Town status in 2008.
- 2.3 Blackpool has become one of the pioneering cities in the UK regarding cycle hire; Hire-a-Bike with Cycle Blackpool was launched in Blackpool in July 2009, after a tender process and consultation which began in April of the same year.
- 2.4 The system is operated by Hourbike, an automated rental network owned by Vipre (the transport consultancy). Blackpool chose Hourbike due to the value for money their scheme offered, and the willingness of the supplier to be flexible regarding development and implementation of the project.
- 2.5 The scheme began with a trial phase of 50 bicycles located in nine separate bicycle stations or 'hubs' located along the South Promenade (near the pleasure beach) and Stanley Park. This gave Blackpool the opportunity to gather early feedback from users and put in place modifications before the summer 2010 season and the roll-out of the rest of the project. Modifications to the equipment, membership process and backroom procedure are being put into place before summer 2010.
- 2.6 More hubs are in place at Blackpool Zoo and the Solaris Centre, a former 1930s sea front building renovated and now used as an environmental and community centre. By summer of 2010 it is expected that the size of the scheme will be increased to 500 bicycles located at 100 hubs around the city.
- 2.7 From the outset the scheme was aimed at attracting users from among the 10 million annual visitors that go to Blackpool as well as from within the local community, which currently has some of the lowest levels of exercise in the UK. The scheme formed part of a suite of measures to improve cycle use in the town including the provision of cycle training, infrastructure and marketing and promotional material.
- 2.8 In order to examine the scheme at first hand, JMP's sub consultants Transport Initiatives (TI) conducted a Mystery Shopper³ exercise to determine how the scheme works in practice. Appendix A provides TI's observations on the scheme.

³ Mystery shoppers pose as normal customers performing specific task such as purchasing a product, asking questions, registering complaints or behaving in a certain way – and then provide detailed reports or feedback about their experiences.

Figure 2.1 Blackpool's hire stations, keypad and instructions (left), detail of the racks (right).



www.blackpool.gov.uk

System characteristics

- 2.9 To hire a bike, users buy a day ticket from a local outlet, phone the customer service centre number provided on each bike or join online. They can purchase a day ticket or join the scheme as a full member. Full membership is also available online via the Hourbike website.
- 2.10 After joining users receive a pin number code which they take to one of the bike hubs and type the code into the keypad on the hub to unlock the bike from a bike hub.
- 2.11 The customer service centre is a necessary part of the scheme and is a shared operation with duties split between Hourbike and Blackpool Council's own call centre. In the first instance callers reach an interactive voice response system (IVR). From here calls regarding membership are handled by Hourbike and more general calls regarding the scheme, where to cycle and cycle training are handled by Blackpool Council officers.
- 2.12 Users can access the scheme in two ways:

Day ticket

- The user purchases a ticket for one day via a telephone call to Hourbike, or by buying a smartcard ticket from a local retail outlet or hotel. When buying locally a user buys a package similar in appearance to an 'iTunes' card, the retailer charges the users smartcard up with an agreed amount of credit and takes a refundable deposit of £50.00. This deposit is refunded to the cardholder when the 24 hour period is over, assuming any bicycle that is hired is returned within that 24 hour period.

Full membership

- This is available to residents and visitors giving access to the system for a cheaper rate than the day ticket. Membership for an individual requires a one-off fee payment and the user receives a smartcard through the post. Different membership rates are available for individuals or to a number of family group sizes. As an initial offer, Blackpool Council are waiving the membership registration fee for residents, and advise that after the initial launch in 2009 there were ten new subscribers joining the scheme each day.
- 2.13 The bicycles used in the initial 2009 trial cost approximately £250 each and were modified Dawes manufactured utility cycles as supplied by Hourbike. These were chosen due to their immediate availability for the Blackpool project, they are available from the hubs 24 hours a day. However some of these machines are now reported to be in poor condition because they are not specifically adapted to the coastal environment with the chain system being affected by sea salt.

- 2.14 As machines are removed from, or replaced into their hubs their use is recorded automatically so that bike availability is always up to date with this information available to the Hourbike system operator and recorded on the Hourbike website. Operating costs are funded from the ongoing revenue fees paid by Blackpool.
- 2.15 The public can access a live map on the Hourbike website showing locations of bike hubs, the number of bicycles available for hire at each hub, and the number of free racks for replacing bikes. There is minimal time delay between a machine being replaced into a hub and the site being updated, Blackpool likens this delay to that of a text message being sent and received.
- 2.16 The stands that form the hubs are available in a number of styles as freestanding units requiring no underground hardwiring and can be run via wind or solar power but currently the Blackpool scheme operates with batteries. Each hub can accommodate up to eight bikes, and hubs can be grouped together.

Maintenance

- 2.17 Bicycle and storage rack maintenance is carried out by appointed locally based staff employed by Recycling Lives on a sub contract basis from Hourbike.
- 2.18 In 2010 it is expected to use a local full time operations manager and 6-8 staff operating on 20 hour shifts. 'Future Jobs Fund' money was available and has contributed toward training and employment of some of the staff.
- 2.19 Each machine's approximate level of use can be monitored from the Hourbike central office so regular routine maintenance sessions can be predicted. Blackpool state that every bike is visited for a routine check once per week and every bike requires servicing twice a month.

Tariffs

- 2.20 Hourbike operate a two tariff system: Membership of the scheme and day tickets.
- Membership: A member purchases credits which are then used at the rate of 1 per hour (or part hour). £1 buys 1 credit (or slightly more if a higher number of credits are purchased in one go).

Table 2.1 Hourbike membership prices

Individual membership registration fee	£10.00
Family membership registration fees -	
Family of 2	£18
Family of 3	£27
Family of 4	£35
Family of 5	£40
Time increment	Fee
First 30 minutes	Free
Each hour thereafter	£1

- Day ticket: A day ticket provides unlimited use of a bike until midnight on the day of purchase for a fixed fee plus security deposit of £50. On their website Hourbike describes the deposit system thus:

“Each booking will require a security deposit of £50 which will be authorised but not taken from your credit card at time of booking”.

- 2.21 If a bike is not returned to a hub by midnight on the day of hire, a fine of £30 per bike is taken from the deposit. If a bike is not returned within 48 hours of the start of rental, the full deposit amount will be taken.

Table 2.2 Hourbike day ticket prices

No. bicycles hired	Fee
1 bike	£8
2 bikes	£14
3 bikes	£20
4 bikes	£26
5 bikes	£32

Funding

- 2.22 Blackpool Council has jointly funded the scheme with input from Cycling England, and Blackpool NHS Primary Care Trust, between them they have made a total of £1 million available over three years. Blackpool Council has purchased the entire product including on-street infrastructure from Hourbike, and pay Hourbike a fee to manage their part of the membership operation and promote the system. Blackpool keeps all revenue income and pays Hourbike a bonus if revenue exceeds an agreed figure.
- 2.23 Assumed three year lifetime costs for the bicycles, excluding the bike docking hubs and customer service centre support, are expected to be approximately £1,000 per machine over the three year period.

Complimentary measures and promotion

- 2.24 Blackpool Council Travel and Road Safety team offer cycle training for everyone aged nine upwards. Cycle training is offered to all year 5 and 6 children in Blackpool's primary schools through the Bikeability scheme. Adult cycle training sessions are also offered through the Cycle for Health programme. One to one or group sessions can be provided free of charge to anybody aged nine or over, (people under this age are trained via school schemes) bikes can also be provided for training if necessary.
- 2.25 A representative has been used to promote the bike hire project to the public and encourage people to use the machines, yet it has been noted that people are initially reluctant to try the bikes.
- 2.26 The regeneration of the south promenade to create cycle routes along some of Blackpool's famous visitor attractions and a number of other new routes have helped make the most of Blackpool's flat topography. Blackpool has also successfully attracted high profile public cycle events, for example a stage of the Tour of Britain and the Nocturne series of evening races.
- 2.27 Building on its Cycling Town status, the resort will now be used as a case study for cycle promotion. Blackpool will receive an additional £2.84million grant from Cycling England over the three years between 2008 and March 2011 to fund extra spend on cycle promotion measures. As this money has to be match funded by the Council, a total of £5.68 million will be spent on cycling over this period.

Lessons Learnt

- 2.28 The bicycles supplied by Hourbike are relatively standard utility models with exposed 5 speed derailleur chain drive and chrome plating. These machines were used in order to get the project in place at short notice and are the same machines Hourbike developed at their base in Bristol. The Blackpool climate has meant that these machines are corroding very quickly, the chains in particular are prone to rusting. However, new models for the 2010 season have been delivered which are better adapted to Blackpool's coastal climate.
- 2.29 Most vandalism damage has been to the wire baskets fitted to the bikes. They were a funding condition by NHS in order to make the bikes appealing as a practical transport option, however these baskets have been flattened by people sitting on them. Replacement models will have smaller baskets fitted to the front of the bicycles hopefully deterring vandals from sitting in them and also allowing users to see their belongings in the basket. This is in common with the Barcelona and forthcoming London models. It has been noted that damage has occurred at one hub which is located close to a rowdy casino and club.
- 2.30 There is a framework for rolling out the project across other sites in the city, and this is making use of the Mosaic consumer classification tool to inform the development of suitable locations. The scheme may be expanded to the railway station as Northern Rail have expressed an interest in having a hire project at Blackpool North station. Blackpool does not have a high level of inward peak time commuter traffic to the station so it is anticipated that problems with tidal flows away from the station (and consequently re-distribution of the bicycles) will be minimal.
- 2.31 Other future development will focus on large employment sites around the town with corporate memberships established for major local employers such as Blackpool Council, Blackpool NHS Trust and the National Savings and Investment Bank.
- 2.32 Originally all of the customer service centre business was handled by Hourbike, but as the scheme membership and use grew this proved impractical and uneconomical. Therefore customer service queries that were more suited to locally based officers are routed to a Blackpool call centre, with Hourbike handling only membership questions.
- 2.33 Catering for tourists is more straightforward than providing hire bikes for residents. Anticipating tourists' routes, origin and destination points and likely scheme usage is relatively easy for visitors to the city. However, anticipating residential patterns of use for the scheme has proved far more difficult.

Hourbike Bristol

- 2.34 Bristol City Council has a population of 421,300 and joined the Cycling Town City Programme in October 2008.
- 2.35 Hourbike operated a limited scale scheme in Bristol between January 2009 and mid 2010 but this was terminated because of poor demand for the scheme. The project was established between Bristol City Council, the University of the West of England and transport operator First Group and was conceived as a pilot for a larger scheme. The scheme pre-dated the Cycling City project launched in May 2009.
- 2.36 The project made use of similar infrastructure to that of Blackpool, although the Bristol project used a number of iterations of bike hub equipment.

- 2.37 There were seven Hourbike hubs in Bristol with 14 bicycles in total available in February 2010, out of the 18 which were in place at the launch of the scheme. Officers at Bristol City Council admitted that usage had been very low and put this down to the lack of bicycles and hub sites across the city.

Southport Cycle Hire

Sefton Council

- 2.38 Southport Cycle Hire was launched in May 2009, using funding made available from the Southport Cycling Town project. It is a manually operated cycle hire scheme run from the town 'Eco Centre' on the esplanade. The site has been recently rebuilt and combines park and ride facilities, an environmental educational centre as well as the cycle hire project. By December 2009, 500 people had made use of the scheme.

Figure 2.2 Southport cycle hire, Pashley bicycles.



Sefton Council

- 2.39 The bicycles are aimed in particular at visitors to the seaside resort, as a complimentary free cycle hire project for residents called 'Freewheel' already operates in the Sefton Council area.

System characteristics

- 2.40 Approximately 100 adult bicycles have been purchased from the UK manufacturer Pashley, these are specially branded bespoke machines and are similar to sturdy postman's bicycles costing approximately £350 each. In order to attract family groups a number of Tag-a-longs, (a children's trailer which hitches to an adult's bike), solo children's bikes and child seats are also available for hire. The main hirer must be 18 or over and photo ID with proof of address is required to hire the bikes. Bikes can only be hired per day and cannot be kept overnight.
- 2.41 The service operates from 9am – 6pm Monday to Saturday and 10am – 6pm on Sundays, all year round. As part of the scheme the Council operates a 3rd party insurance policy via Butterworth Spengler brokers.

Maintenance

- 2.42 Operation of the hire centre and maintenance of bicycles is carried out by two members of specially trained staff employed from the Shopmobility social enterprise.

Tariffs

- 2.43 Use of helmets, security locks, lights and other accessories are also included in the cost of hiring a bicycle. The cycles must be returned to the centre at the end of the day.

Table 2.3 Southport Cycle Hire Tariff

Time increment	Fee (per bicycle)
4 Hours	£3.00
1 day	£5.00

Funding

- 2.44 A total of £40,000 was used to develop a section of the Eco Centre for the cycle hire scheme and purchase equipment. Annual running costs for the project are £80,000 with the majority of the revenue costs being spent on staff; the principal funding for the scheme came from Cycling England.

Complimentary measures

- 2.45 Several of Southport's hotels are involved in the cycle hire scheme and guests staying at those hotels are able to hire bikes direct from the hotel.
- 2.46 In September 2009 it was announced that a Cyclepoint service centre will be established at Southport station with cycle storage, hire and maintenance facilities, made possible with funding from Cycling England in co-operation with the local rail operator Mersey Rail. This will offer visitors to the town the opportunity to hire a bike directly in the town centre and ride out to the esplanade. An 'on-road' route with traffic calming and other complimentary measures linking the two sites is currently being implemented.
- 2.47 Low-cost cycle training is available to anybody 16 and over, and costs £10 per session for 1.5 hours' tuition. Sessions are divided into two levels of competence.
- 2.48 There are two 'win a bike' competitions held at the Cycle Hire Centre and anyone hiring a bike has a chance to be entered into the free prize draw.
- 2.49 Southport has successfully attracted a stage of the televised 'tour' series of professional cycle racing which took place in June 2009 and have also had a stage of the 'Tour of Britain' race pass through the town.

Lessons Learnt

- 2.50 It is unlikely that the hire scheme or any of the complimentary measures would have taken place without Southport winning Cycling Town status and funding due to the high level of capital funding required to launch the scheme.
- 2.51 Purchasing robust 'Pashley' bicycles has meant that the machines are fit for purpose and stand up to the wear and tear of a variety of users.

Bicing Barcelona

City of Barcelona

- 2.52 Bicing was launched in Barcelona in May 2007 following a tender process and public consultation. The scheme has matured and developed over time but is only open to residents of the city of

Barcelona using a smartcard and therefore excludes tourists. Overall, 165,000 people had subscribed to the scheme by September 2008 – 11% of the city's population.

Figure 2.3 Bicing Barcelona



www.bicing.com

System characteristics

- 2.53 The scheme began with 1,500 bicycles and 100 stations and has now been increased to 6,000 bicycles and 400 stations.
- 2.54 The smartcard unlocks the bike at a bike 'station' and once the bikes are returned to the rack the central computer notes this, locates the bike and records the duration of use. The smartcard is compatible with the city's public transport smart ticketing system. Registration for the scheme is either online or alternatively Clear Channel, the system operator, offers the option of manual registration using a credit card at a manned office. The user and operator can check locations of available bicycles online at the Bicing website.
- 2.55 The Bicing system uses Clear Channel 'Smartbike' machines which are specifically made-for-rental models. Their design is intended to last for three years before being replaced. These bicycles are available in two different model types, one is a higher specification than the other, although the Bicing scheme makes use of the lower specification version.
- 2.56 The bikes are supported when not in use via a slot in the on-street racks into which they are locked. The racks are simple steel frames, each holding three machines, these frames can be stacked together to increase bike availability as needs require and need one power source to operate. Experience has meant they have been modified over time to be resistant to misuse.
- 2.57 Clear Channel estimates that 2-3 hours' installation time is required for each rack assuming a power source is available locally.
- 2.58 The system has been developed to complement the city's metro system and 'bike hubs' are located close to metro stations. Signage on other hubs indicates their distance from the nearest station. Each bicycle is used 14 times per day on average.

Maintenance

- 2.59 The scheme has a maintenance system operating as a franchise with teams of mechanics working in shifts. Machines are cleaned and checked every day with fitters working from a van based at the fitter's home, there is not expected to be a fixed operating base. The vans use trailers which convey the bikes around the city to redistribute machines where required. A suggested maintenance team to attend a 200 bicycle scheme operating 24 hours would be one van and six staff.

2.60 The Barcelona scheme is only open to residents and the majority of users do not pay any usage fee as most hires are under 30 minutes long.

Table 2.4 Tariff: Bicing Barcelona

Registration	€24
Time increment	Fee
First 30 minutes:	Free
Additional 30 minutes – two hours	€ 0.30
Two hours plus	€3.0 per hour

Funding

2.61 The scheme is operated and maintained by the City of Barcelona and Clear Channel. Approximately €4.5m is paid annually to Clear Channel to manage the Bicing scheme. The scheme is funded by subscription fees, usage charges and also by income generated through on-street parking controls in the inner city area.

2.62 The nature of Barcelona’s system of governance; one central authority with a number of local districts operating together gives the city a great deal of control in how the system is run, and from the outset the project has been intended to complement existing public transport modes. Therefore the scheme has been ‘adopted’ by the mayor of Barcelona and the city itself and is very much part of the Barcelona transport network.

Lessons learnt

2.63 Locating the bike stations adjacent to metro stations has helped create an integrated transport network, but also means a high tidal flow of machines away from a bike station each time a train arrives. The solution requires a van and trailer loaded with replacement bikes to be available to replenish bike stations located near metro points at peak times.

2.64 Occasionally users cannot locate a bike station with empty spaces into which to replace the bike once used. In this case the system software gives the user an additional 15 minute window in which to locate a station with available space.

2.65 Clear Channel offer a choice of business models. These options include part- or entirely funded by advertising and user subscription fees, or via a leasing system in which an annual charge is levied to the operating city and users pay their subscriptions directly to the host city.

2.66 Without the solid commitment of the city to the scheme other revenue sources might have to be sought – for example advertising on the machines.

Call a Bike Stuttgart

Stuttgart

2.67 Owned by Deutsche Bahn, the German state rail operator, this automatic system has 450 bicycles located in 52 docking stations around the city. The system operates with no cost to the local authority.

System characteristics

2.68 The Stuttgart system operates with relatively discreet docking stations. Call a Bike offers a number of hire systems in other German cities, notably Berlin, Cologne and Munich. These use freestanding

bicycles and no docking stations, whereas the Stuttgart system requires the machines to be locked to the docking stations after use.

- 2.69 Like the Blackpool system users need to telephone a call centre to receive a PIN number to unlock the bicycle. After use, users need to replace the bicycle into an empty docking station, note a receipt number which appears in the lock display window, and call a phone number shown on the lock and key in a receipt code and the four digit receipt code number.
- 2.70 In the freestanding schemes the machines are locked to themselves, and the user telephones the call centre to end that period of hire, leaving the machine standing in the street.
- 2.71 The bicycles are relatively heavy machines which are specifically made-for-rental models and are of a simple design that are expected to last for some time before being replaced. The bicycles have a rear carrier designed to hold a bag, briefcase or shopping using an elasticated cord.

Figure 2.4 Call a Bike Stuttgart, the bicycles lock to discreet street furniture.



www.deutschebahn.com

Maintenance

- 2.72 A social enterprise group operated by a church organisation and called 'New Work' maintains the bicycles. This group makes use of a skilled fitter with a vehicle and two adults on work re-training schemes to carry out all maintenance and any redistribution of machines as required.
- 2.73 The central call centre can locate empty or full docking stations and advise the maintenance team if cycles need re-distribution.

Table 2.5 Tariff: Stuttgart Call a Bike

Registration fee	€ 5
Time increment	Fee
First 30 minutes	Free
Each minute thereafter	8 cents up to a maximum charge of €9 for 24 hours
Bahn-Card holders	0.06 per minute of cycling time
Weekly rate	€36 for 7 days

Funding

- 2.74 Revenue is raised via user fees and the remaining funding comes from Deutsche Bahn. The system offers a low cost scheme to the council.

Lessons learnt

- 2.75 A politically popular aspect of the project has been the re-skilling of young adults from socially difficult backgrounds to maintain the cycles.
- 2.76 The scheme has similarities with the early phase of the Blackpool project in that it uses mobile phone technology rather than smartcards to access the machines. This may be viewed as a time consuming and cumbersome process, and a potential disincentive to use the scheme.
- 2.77 The use of a flexible cable locks rather than rigid lock to secure the bicycles in their docking stations means they may be vulnerable to being knocked or pushed over.

Call a Bike Berlin

Berlin

- 2.78 Berlin implemented the Call a Bike system in 2002 with 2,000 bicycles located at intersections around the city. As in the Stuttgart scheme the project is entirely funded by Deutsche Bahn with no financial commitment by the local authority.

Figure 2.5 Call a Bike Berlin, freestanding bicycles



System characteristics

- 2.79 This system shares operational similarities with the Stuttgart scheme; the principal difference is that there are no docking stations for the bicycles to be locked into after use. To access machines users must first register online, once registered they telephone the customer service centre number printed on the bicycles, these numbers are unique to each bicycle. The user then receives a four digit code which is typed into a keypad on the bike, this operates the lock fitted to the bike.
- 2.80 This system is not dissimilar to the Blackpool scheme which also operates a similar registration and bicycle access process. In Blackpool users can register online and wait to receive a PIN number through the post, or register via telephone and receive the PIN number immediately. Telephone calls to the Blackpool scheme are routed via the council's own customer service call centre.

2.81 Once finished, the user of the Berlin scheme must leave the bike at a road junction and lock it. The screen on the bike will ask the user if they wish to continue using the machine or end their use, if they wish to end their use the screen will give the user a receipt code which must be telephoned into the customer service centre along with the location of where the bike was left.

Maintenance

2.82 The Berlin scheme requires six full time staff, with a supplement of four part time staff during summer use. This team use two vans to redistribute and maintain the bicycles.

Table 2.6 Tariff: Berlin Call a bike

Registration fee	€5
Time increment	Fee
Price per minute	€0.08

Lessons learnt

2.83 As there are no docking stations in the Berlin scheme, locks are built into the bikes so that the bikes can be left anywhere, however this results in potential new customers having to find a bike when they want one rather than just heading for the nearest docking station. Because the bicycles are free standing there is the potential for them to be knocked over.

2.84 Level of use is considered to be low with 40,000 customers registered in Berlin from a population of 3.4m – only 1.2%.

2.85 The telephone based nature of the system may be considered slow and a disincentive to taking part in the scheme.

City Bike - Copenhagen

Copenhagen – City bike and proposed OPENbike system from 2013

2.86 The Copenhagen City Bike project began in 1995 as a public-private partnership aimed at offering free bicycle use to residents and tourists in the city. Operated by the local authority between April and September of each year, this free scheme requires only a small deposit (similar to UK supermarket trolleys) to operate.

Figure 2.6 Copenhagen City Bike, racks and locking system



Liveable Copenhagen: The design of a bicycle city, www.visitcopenhagen.com

System characteristics

- 2.87 A total of 2,000 bicycles are located across 110 city bike parks. Users access the scheme by paying a 20kr (approx €3) coin into one of the docking posts. Once the user has finished with the bike they replace the bike into another docking station and regain their deposit. Alternatively they leave the city bike anywhere and forfeit their deposit.
- 2.88 The bicycles must be used within a strictly defined user zone, essentially the built-up area of central Copenhagen. The scheme requires a great deal of trust on the part of users as there is no electronic 'tracking' of cycles. As well as their distinctive appearance the bicycles are heavy, single speed machines with solid tyres and as such are much less desirable to thieves. Copenhagen is not without a bicycle theft problem and the 'Copenhagenize' website states that 18,000 (private) bicycles are stolen each year in the city.

Maintenance

- 2.89 Staff who have been trained up as part of the municipal rehabilitation agency programme "Bcykelservice" maintain the city bikes. They operate from one bike repair workshop and four mobile City bike on-site workshops.

Funding

- 2.90 The City of Copenhagen part funds the scheme with co-operation from private companies, the city offers up the street space for the bicycle docking stations, sometimes by removing car parking bays. Private companies can 'buy'/'sponsor' a city bike using the space on the machine to advertise their company, often using very graphic and creative promotional solutions rather than just advertising their brand on the bikes. The unusual design of the machines facilitates this solution.

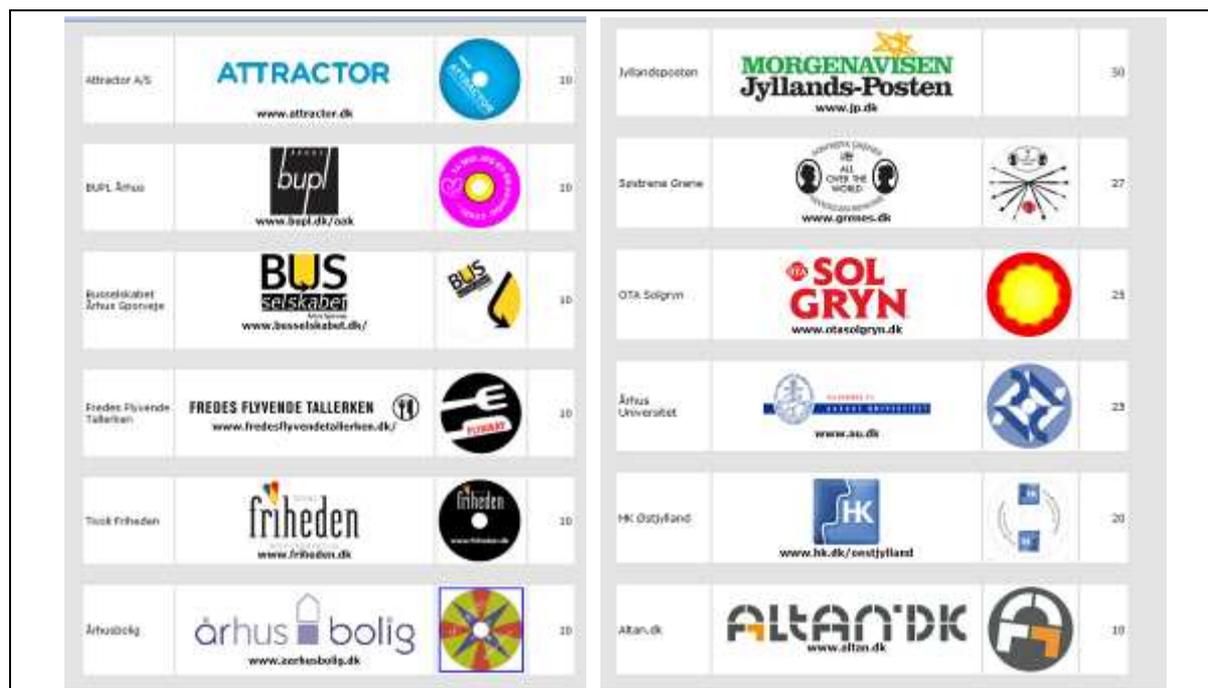
Tariffs

- 2.91 None - the system is free to users only requiring a deposit to operate.

Lessons learnt

- 2.92 The City Bike system is entirely free to use for the public, consequently the scheme relies to a great extent on public goodwill to make it successful. The unusually designed cycles have become an icon within the city and are colourfully painted making them (in particular their wheels) very distinctive. An example of this is shown in the example from the City of Aarhus, which has a City Bike scheme similar to Copenhagen's, but the accompanying website lists the 'owners' of the bikes and gives a visual example of their logos when applied to the bikes.

Figure 2.7 Sponsors of the Aarhus City Bike scheme, and their design for wheel panels.



<http://www.aarhusbycykel.dk/sites/sponsor.html>

- 2.93 The project was in part designed to be used by commuters arriving into the city by train. However this approach has not been entirely successful as there were never enough cycles for the numbers of potential commuter users who wanted to make both out and return trips. The bicycles have no lighting systems so cannot operate at night and have no luggage capacity, although this was a specification of the original design.
- 2.94 Although the bikes are iconic and successfully represent the Danish design culture, their docking system is little more than a UK supermarket coin operated trolley system and this gives the docking stations and bicycles stored in them a rather haphazard and scruffy appearance. The bikes are a target for vandalism, particularly graffiti and there are reported problems in finding working bikes at times. This is exacerbated by users who do not return bikes to stands but retain the bike for weeks at a time using it as their own.
- 2.95 The City Bike scheme is used as a promotional element in publicity material for Copenhagen, but it is argued that locally it generates mixed publicity, as an innovative idea which is also plagued with problems. One suggested solution has been for Copenhagen to adopt a more modern technical system which may overcome some of the problems besetting the current programme; the proposed OPENbike system may resolve this.
- 2.96 In determining the success of the City Bike scheme, it should be noted that Copenhagen has a very mature and embedded cycling culture, with continental liability laws, enforced car parking rules and low local speed limits. These, and others supporting factors contribute to the success of the scheme.

Copenhagen - OPENbike

- 2.97 Copenhagen claims to be the first city to operate a public hire bike scheme which has been operating since 1995. In order to develop further its successful cycling culture a competition was recently held to design a new shared bike system, the two winners include a scheme called a floating bike share system. In this system the bicycle is a hire system unto itself and the location technology is integrated

in the bicycle frame requiring no on-street furniture. However, no implementation of this system is planned before 2013.

Bixi London

London

- 2.98 On behalf of the Mayor of London, Transport for London (TfL) implemented a cycle hire scheme in London in July 2010. Membership is now available to those who have registered online but casual use with access via a credit card will not be available until later in 2010. The scheme is sponsored by financial services provider Barclays .

System characteristics

- 2.99 The scheme covers all or part of nine London boroughs and Royal Parks. There are 10,200 available docking spaces across 400 docking stations to service a scheme with 6,000 bicycles. Users are no more than 300m from a docking station while within the hire zone. The bicycles are available to anybody over 14 years old, for 24 hours per day.
- 2.100 The London Cycle Hire Scheme is operated on behalf of TfL by Serco, which is working with Montreal's Public Bike System Company – who operate the Canadian BIXI bike hire scheme which was launched in May 2009.

Figure 2.8 London bicycles (left) and an example of the docking stations (right)



CTC The National Cyclists Organisation/Flickr. www.tfl.gov.uk

- 2.101 As with the Blackpool scheme there are member and non-member options.

Non members

- People who are not members (from late 2010) will be able to hire a London Cycle Hire bicycle by turning up at a docking station and using the payment terminal to hire a bike. These non-members will have to agree to a pre-authorisation charge of £150 on their payment card in order to hire a bicycle. The pre authorisation charge acts as a deposit on the bicycle. The payment terminal accepts credit card only.

Members

- From July 2010, members of the public have been able to pre-register to use the scheme. Once registered they receive a chip enabled key for a one off payment of £3.00 per key that allows them to remove a bicycle from any docking point without having to use the terminal.

- 2.102 For all journeys an access charge applies. The access charge of £1 per day or £5 for 7 days is triggered when members put their key in the docking point or for casual users when they put their card into the bike hub terminal.

2.103 The usage cost is free for the first half-hour and low for short periods. However it rises steeply for longer hire periods as an incentive to use the system for short hires only. The maximum cost of £50 per day is much higher than the cost of hiring a bike from a shop or other retail based outlet.

Table 2.7 TfL proposed bicycle hire charges

Annual membership	£45.00
Weekly access fee	£5.00
Daily access fee	£1.00
Time increment	Fee
First 30 minutes:	Free
Additional 30 minutes – 1 hour	£1.00
Up to 90 minutes	£4.00
Up to 2 hours	£6.00
Up to 2½ hours	£10
Up to 3 hours	£15
Up to 6 hours	£35
Up to 24 hours (maximum usage fee)	£50

2.104 The penalties for late return or damage are significant:

Late return charge	£150
Damage charge	Up to £300
Non-return charge	£300

2.105 Payments to use the bikes are made by credit or MasterCard and Visa debit cards. It is possible to make payments online, by telephone or by using the on-street terminal, located at docking stations. Anyone hiring a bike is able to authorise up to three other additional users, aged 14 or older, to use the scheme.

2.106 TfL has carried out extensive survey work to assess demand for the scheme. It was found that by far the greatest demand was among ‘after-rail commuters’, i.e. people who have travelled to London by train and will need to continue their journey to their final destination, normally by foot, tube, bus or taxi.

2.107 TfL predicts that demand for the hire cycles around the mainline rail stations would be very large and docking stations are not located within station concourses or the immediate vicinity. Available space at mainline stations (and the cost of using valuable retail space) has been cited as one of the reasons for this. Another is the peak-time tidal flow of bicycles away from the stations each time a train arrives and the desire for the machines to redistribute themselves as naturally as possible.

2.108 Discussions with stakeholder groups in London from among London Cycling Campaign members suggest stakeholder consultation was not carried out regarding the initial type of scheme to be developed. However public presentations were made regarding the location of docking stations as these required planning permission. It should be noted that not all planning applications for docking stations were successful, particularly in sensitive locations such as conservation zones.

2.109 As the scheme is not yet fully operational, it is difficult to conclude whether the scheme will become a commercial success. However early press reaction has been generally positive.

3 Application of reviewed schemes to Brighton & Hove

Introduction

- 3.1 The UK is still in a pathfinding phase as far as cycle hire schemes are concerned. Many cities and towns have expressed interest but few projects of any scale are actually in place. Until the London project begins operation, Blackpool is the only project of any size. This scheme does share similarities in its likely user profile with Brighton & Hove, in that it is likely to have a large degree of tourist traffic as well as residential traffic.
- 3.2 From the information available it is possible to identify a number of key elements which help inform any future scheme application in Brighton & Hove.

Scheme operation

Infrastructure

- 3.3 There are a number of ways of identifying the suitability of particular infrastructure designs regarding cycle hire systems, including the appearance of the infrastructure, the robustness of the equipment or the ease and flexibility of operation.
- 3.4 The scale and density of any scheme is critical to its likely success. A pilot scheme with a limited coverage of the projected operational zone should not be used to estimate strategic demand due to the network effect of increasing returns, i.e. a small scale trial is unlikely to work. However, as identified within Blackpool, a controlled roll-out may be a way of gaining early feedback on types of equipment used as long as this phase is not used to assess final demand.
- 3.5 The target market of the cycle hire scheme needs to be decided early on in the development of the project. Larger schemes like the London project have avoided locating bike hubs at rail termini as this has proved problematic for cities like Barcelona and Copenhagen due to the large tidal flow of machines away from these locations at peak times. This necessitates the subsequent replenishment of the vacant docking stations.
- 3.6 However this is less likely to be an issue in non-metropolitan areas where levels of inward commuter travel are lower. Blackpool and Southport are both developing railway station hubs to capitalise on their 'after rail' passenger traffic. The feasibility study currently being carried out into a cycle parking centre at Brighton station offers the potential for an integrated approach.
- 3.7 Well-signed fixed-bike docking stations enable users to locate hubs easily, although a large amount of infrastructure may be considered as having a detrimental impact on the public realm. Schemes such as Stuttgart use very discreet docking stations and the location of hubs can be chosen to minimise footway clutter by allocating space on highway, as Brighton & Hove is currently doing for cycle parking. Blackpool has used standard stainless steel Sheffield racks for their scheme and these docking stations have a flagpole sign to make them more prominent.
- 3.8 Freestanding schemes which offer a great degree of flexibility (e.g. Berlin) also rely on the cultural status of cycling in those countries. There are also concerns about obstructions of the footway causing problems to pedestrians and also a risk of theft. The requirement to return machines to a docking base also enhances the level of security of a scheme and reduces the number of staff required to redistribute machines to more appropriate locations.

- 3.9 Officers in Bristol highlighted a number of barriers to the successful roll out of their scheme which included a lack of bike hubs at major transport locations and new developments despite the initial positive political and public response to the project.
- 3.10 Some business site developers refused to accept bike hubs on site and one transport operator who initially supported the scheme would not allow stands at a particular location due to the listed nature of the building. The Bristol view regarding the scale of the scheme is now similar to the conclusion of the TfL study; a very small scale trial of a cycle hire scheme will almost certainly fail.
- 3.11 Furthermore, in Bristol there were problems with interdepartmental working raised during early feasibility studies at the Council with departments as diverse as Urban Design and the Green Environment section all contributing to the project.
- 3.12 The Officer involved in the development of the project at Bristol advised getting all stakeholders and other likely contributors onboard and signing up to the project as early as possible. This is especially important when dealing with large transport groups or multinational businesses / private developers.

Access and technology

- 3.13 Access to the bicycles must be easy and fast. Smartcard technology particularly with the opportunity to purchase cards at local outlets offers very simple access to a hire project over other methods like telephones. It also offers the opportunity to tie in with other initiatives including car clubs and integrated travel ticketing. It might also allow the possibility of extending the scheme to users without credit cards.
- 3.14 As part of the phased roll out of the Blackpool scheme, they are introducing an 'iTunes' style pre-paid swipe card for summer 2010 which is being sold in hotels and retail outlets local to the hire stations. Users buy their swipe card in a local outlet or hotel and charge the card up on site before using it to access a bicycle. This system still requires the user to hold a credit card as deposit payment by credit card provides security and is a deterrent against theft, particularly for day or weekly users. Blackpool have suggested they would now recommend a credit card payment system at the docking stations to avoid the telephone or website pre-registration process if possible.
- 3.15 Options of a membership and non-member scheme should be considered. Several of the schemes have noted that membership or registration encourages a level of civic ownership of a project. There is also some revenue potential from registration fees.
- 3.16 It should be noted that in a city with a large amount of tourist traffic, such as Brighton & Hove, day users must be catered for and are less likely to join any long term membership scheme. Therefore day or weekly membership options need to be considered.
- 3.17 The Stuttgart and Berlin Call a Bike schemes do not require internet registration although this is an option. Instead they offer registration and access by telephone via a credit card deposit and mobile phone to access and return the bikes. Credit card details and mobile phones are used to identify individuals.
- 3.18 The Barcelona and Blackpool schemes utilise websites to assist users who want to register with the scheme. They also offer the advantage of the user being able to locate an available bike before they need it. This use of technology may be more applicable to a future Brighton & Hove model where the saturation of machines and docking stations is unlikely to be at a level to that of London where machines are expected to be only 300m apart.
- 3.19 This system's suitability to Brighton & Hove may result in the user not having total confidence in locating an available docking station nearby when they wish to leave the machine, especially if they

are not familiar with the city. Hence they will need access to local mapping attached to the bicycle, or to access an online location system. For this reasons, it is recommended that any future cycle hire scheme for Brighton & Hove be integrated with the existing Journey Planner. This will of course require the user to have a suitable 3G, HSPDA or Wi-Fi capable telephone or the system to offer a call-centre delivered location advice. It should also be noted that the use of technology needs to be in broad accordance with the size of the scheme (for cost reasons), and hence the level of technology developed for the London scheme for example might not necessarily be appropriate to the Brighton & Hove context.

- 3.20 The Copenhagen system, while being very low-tech with only a coin operated deposit system, gives easy access but little in the way of scheme security.
- 3.21 The different systems all have different levels of security, and theft will undoubtedly be a factor in any future decision to proceed with and select equipment for a hire project. As Brighton & Hove has an active and well-developed "Cycle Theft Steering Group" it would be advisable to seek advice from this body before proceeding.
- 3.22 Even the 'technology' based systems are not invulnerable to theft. Typing 'hack Call A Bike' into Google will reveal information with software coding for those so inclined who can then potentially access the Call A Bike network for free.
- 3.23 Extension of the scheme to users without credit cards, e.g. to address social inclusion goals, carries increased risk of losses due to theft or damage to bikes without a means of obtaining compensation. The London scheme has a range of penalty charges which is managed through deductions from a user's registered credit card. If credit cards are not used another form of security system would need to be established. One option would be for users to be required to present two forms of ID including a recent utility bill. However this would still mean that any penalties would need to be levied through a paper-based charging scheme and possible civil enforcement which would clearly be more time-consuming than charges to a credit card.
- 3.24 An alternative option might be to work through the well-established network of community groups in Brighton & Hove (through liaison with the Community & Voluntary Sector Forum) so that users without credit cards would have to be members of a recognised community group which would guarantee their membership and be responsible for any penalties incurred. Groups could also consider "non-individual" membership which they could allocate to members on a short-term basis. This might work in a similar manner to the "Shopmobility" scheme.

Maintenance

- 3.25 Blackpool's recent experience with their seafront bicycles which have rusted badly suggests that off-the-peg machines are not robust enough for use in that situation. These conditions are also likely to apply to Brighton & Hove and a dedicated maintenance system such as the provision of sealed chain guards should be considered. A bespoke machine will therefore be required for Brighton & Hove that can adapt to these conditions. This would also afford the opportunity for a bike design to be developed which enhances the character of the city and does not detract from the public realm. Anecdotal evidence suggests that such machines also engender a feeling of collective ownership and civic pride which acts a deterrent to would-be vandals.
- 3.26 Other continental schemes seem to endorse this view and use bespoke machines of one design or another. Some machines are specifically designed to limit the potential damage caused by vandals; Barcelona use flexible mudguards on their bikes which stop people using them as impromptu seats.

Blackpool noted that the wire baskets fitted to their machines as luggage carriers had become the targets of vandalism due to people sitting in them, Blackpool intend to fit new machines with front baskets.

- 3.27 Southport has used bespoke Pashley manufactured bicycles for their scheme. Pashley has historically supplied the Royal Mail with bicycles and these machines have proved very robust although the Royal Mail is phasing out post bikes for other reasons. Copenhagen's bicycles are a quirky, no-frills design which is very robust whilst being iconic.
- 3.28 Commonality of parts across machines also assists in reducing repair maintenance time and costs per machine. This commonality of parts is a key consideration for purpose built machines.
- 3.29 Ongoing maintenance costs of bicycles and equipment should not be underestimated. Blackpool has identified their three year lifetime costs of each machine as £1,000, excluding docking stations and support.
- 3.30 A common theme across a number of schemes is it that social enterprise projects and return-to-employment initiatives have been used as the maintenance deliverers for projects. This is the case in Blackpool, Southport, Copenhagen and Stuttgart who all use this type of system. This has proved practically and politically effective.
- 3.31 In Stuttgart it is felt that this has been one of the factors in a reduction in general bicycle theft in the city as offenders have been rehabilitated, and now work on the bicycle hire projects in a repair and servicing capacity.
- 3.32 While using a social enterprise group to carry out maintenance of the system, the nature of this task – repairing bicycles – will need professional management of employees. A high quality approach to repairs and dealing with the public will need to be maintained if the system is to operate safely and become accepted.

Charging policy and revenue opportunities

- 3.33 Charging policy will depend to some extent on other factors influencing the scheme, such as the saturation of machines across the project area for example. The charging policy for the reviewed schemes varies enormously, from the extremely high daily rate in London of £50, through to the relatively high daily rate in Blackpool of £8.00 to the £1 charge in London for the first hour and the free deposit system in Copenhagen.
- 3.34 For the schemes that do charge, a period of free use is common (as in London) and may be an attractive option but this will limit revenue potential as most journeys by a hire bike are likely to take place within the free time period. This is however assuming that the user of a bike will replace it in a docking station and later collect a different machine and continue on their onward journey using the replacement machine's new 30 minute free time period. This scenario is itself only an issue if a relatively sophisticated technological scheme is used.
- 3.35 For Brighton & Hove, it should be noted that annual subscription systems promote public ownership of schemes, and with that it may be hoped a public spirit and duty of care for the on street equipment. Registration also promotes familiarity with the system and makes the deposit taking and billing process straightforward. The opportunity for incentives for regular customers also increases such as corporate memberships for large employers.
- 3.36 Some form of deposit or registration system is considered to be essential in the UK as there is a real risk of theft, if only as a prank rather than for later use. This alone is likely to eliminate the Copenhagen trolley-style deposit system.

- 3.37 Blackpool is adopting a hybrid of online or telephone registration and this is the system used by Call a Bike in Stuttgart and Berlin, although all of these schemes do require the user to hold a credit card for registration purposes. For day users Blackpool have announced their swipe card purchase system which will be available from local outlets (shops and local hotels), but this again requires the end user to pay with a credit card, from which a deposit fee will be taken if the bike is not returned by the end of the day.
- 3.38 Depending on how the rest of the hire system evolves, a strategic pricing system will be an option, particularly as Brighton & Hove will want to include charging options for residents and visitors. Blackpool offered a free registration period for residents in order to encourage early registration onto the scheme and offers a multitude of day hire options targeted at families and groups. This model has been successfully applied to other 'pool' resources such as car clubs.
- 3.39 Officers in Blackpool have since suggested the creation of a 'super smart card' offering access to cycle hire, tram, bus and train would be an ideal ticketing solution for their system.
- 3.40 Barcelona's Bicing actively discourages continuous daily use of the system by a steep escalation in hire fees after two hours of continuous use. This is similar to this aspect of the London scheme. Tourists are not given the option of joining the Barcelona scheme due to pressure from local commercial bike hire operators fearing a loss of revenue.
- 3.41 The Deutsche-Bahn operated systems include a potentially useful option that may be appealing to a Brighton & Hove system, whereby the user can lock the bike temporarily during the hire period (for example to visit a restaurant). They can return and unlock the bike and resume use later the same day, during this period the bikes display a red light which warns any new potential user that they are still in use by somebody else.
- 3.42 It is unlikely that a bicycle hire scheme could be revenue-neutral and operate without some subsistence funding either from advertising, sponsorship or Local Authority revenue support. Blackpool and Southport have had Cycling Town and City funding to kick-start their projects. As these schemes are both in their early days of operation ongoing revenue implications are as yet something of an unknown.
- 3.43 In the context of Brighton & Hove, discreet local sponsorship or adoption of bicycles may be an option as is the case in Copenhagen. Brighton & Hove has in common with Copenhagen a large creative community among its residents, this route may represent a genuine opportunity to engage and gain support from community stakeholders particularly regarding the visual appearance of the machines and other hardware.
- 3.44 This should, however, be set against the strong conservation approach in Brighton & Hove which might affect the use of over-elaborate colour schemes and appearance. As can be seen in the examples from the Aarhus project, a major local business may be persuaded to adopt the project and endorse it with their branding. The Council should lead the branding exercise so that it presents a uniform appearance whilst incorporating discreet sponsor details.

Complimentary and supporting measures

- 3.45 Complementary measures can be introduced to mitigate some risks to new cyclists including; ongoing safety campaigns, 20mph zones, free cycle training for residents, local cycle maps, and engineering measures particularly designed to reduce motor traffic speed. Many of these are already being rolled out in Brighton & Hove.

- 3.46 Other more ambitious elements to increase network permeability may include for example conversion of one-way streets to two-way for cyclists. Southport, Blackpool and London are all building infrastructure measures into their scheme implementation strategies.
- 3.47 Tourist demand and use patterns are much easier to predict than residential requirements. Blackpool have identified a number of locations for their future roll-out of bike hubs, but have stated that predicting usage by the residential population and consequently the suitable sites for locations of bike hubs likely to be used by residents has proved difficult – this is of particular relevance to Brighton & Hove, especially given the topography of some of the outer areas of the city.
- 3.48 In order to overcome initial public unfamiliarity and wariness of their project, Blackpool placed an ambassador on the promenade near the bike docking stations after the initial phase had already begun. This person encouraged the public to try the scheme and offered advice on how to use the bikes and especially the docking station sites. Blackpool have suggested since that having an ambassador team on-site with the bicycles from the outset would have been more helpful.
- 3.49 Despite having only a manually operated scheme Southport have attempted to entice day users and tourists by locating hire points at some hotels. Participating hotels are listed on the Southport Cycle Hire website, and these bikes are only available to hotel residents.
- 3.50 Regarding personal risk, existing schemes require users will take a reasonable level of responsibility for themselves, and this is built into the conditions of hire (which of course may not be read by many users). This is the pattern across the continental schemes and is the case in London where equipment like helmets are not offered as part of the bike hire scheme. However the London scheme does include basic safety messages placed prominently on the bikes themselves. Southport does offer the hire of ancillary equipment, which is possible from a site based project but this is unlikely to be practicable in a self-service scheme.
- 3.51 Cycle hire in other cities has raised the public profile of cycling, helped to increase bicycle modal share and encouraged more people to cycle on private bicycles. In their presentation Clear Channel specifically stated that the concerns from local bike traders in Barcelona regarding a potential loss of trade proved unfounded and private cycle use increased after the Bicing scheme was launched.
- 3.52 Research by TfL also supports the growth in cycling. A tangential opportunity, based on observations of the ‘Copenhagenize’ and ‘Amsterdamize’ movements is that the cycle hire project may offer a valuable one-off opportunity to ‘Brighton& Hoveize’ the city and embed further and develop the nascent cycle culture that exists in the city.

Bicycle type and model review

- 3.53 Making a genuine comparison between the bicycles used in public bike hire schemes is very difficult. All the machines differ in themselves (apart from the two Call a Bike operations) but the way the systems operate, the scale and funding process will all reflect on the type of equipment eventually chosen. The type of equipment eventually used will be influenced by the system supplier operating the scheme.
- 3.54 No single model of machine is likely to be the best in every respect, but the advantages and disadvantages of each must be weighed against each other. The more robust machines for example are likely to be heavier and less attractive to potential users than for example the lighter less sophisticated machines.

3.55 As has been highlighted throughout this document, what must not be overlooked is the requirement to support ongoing maintenance of any equipment installed, and the cost of this should not be underestimated when considering the type of equipment used to supply the scheme.

Hire-A-Bike with Cycle Blackpool - Hourbike

3.56 When promoting their scheme Hourbike have made much of the Dawes branding of the bicycles, and the familiarity of their machines to potential users. By using adapted off the shelf machines it is hoped that newcomers to the scheme will not be deterred by unfamiliar equipment. To a UK resident the design may appear to be what is recognised as a 'ladies' style of frame.

3.57 Following their initial season of use, lessons learned will be incorporated into the next phase of machines include moving luggage baskets from the rear of the machines to the front. The original baskets over the rear wheels resulted in them being used as impromptu spare seats by vandals and child carrying seats by parents, they also became litter bins while in their docking stations on the seafront. The bicycles are equipped with a full dynamo lighting system.

Figure 3.1 Blackpool Hourbike machines



Hourbike

3.58 In Blackpool the weather damage has been a bigger problem than expected resulting in corrosion over much of the bikes. This will need to be taken into account in any scheme in Brighton & Hove which will see the bicycles subjected to similar wear and tear especially adjacent to the seafront.

3.59 Hourbike claim the flexibility of their system gives clients the opportunity to specify modifications to the bikes, in 2010 the new bikes in Blackpool will feature an alloy rather than steel frame, a fully enclosed chain guard, and the basket will be moved to the front of the machine. The original machines weighed approximately 14kg and the new machines are expected to be slightly lighter.

Southport Cycle Hire – Pashley Pronto

3.60 The bicycles used in the Southport project are not specifically designed as public hire bikes. These machines are built by Pashley of Stratford upon Avon using the 'Pronto' work bike design

3.61 The machines use a solid 'step-thru' frame design with 3 speed gearing, the gears, along with the brakes are built into the hubs. The front and back wheels are 24" and 26" sizes respectively, which would require maintenance and repair team to carry two sizes of tyre for these machines, the tyres themselves are heavy duty. The machines are fully equipped for public use with chain guards, mudguards although no racks or luggage carriers are fitted.

Figure 3.2 Pashley bicycles used in the Southport hire scheme



Sefton Council

Bicing - SmartBike

- 3.62 The Bicing system uses Clear Channel 'Smartbike' machines which are specifically made-for-rental models. These bicycles are proprietary designs using parts which are generally unavailable and incompatible with commercially made models. Therefore a degree of theft deterrence is built in, as a stolen bike is of limited value. Although the biggest deterrence to theft in Barcelona's case is the unavailability of the scheme to tourists and occasional users.

Figure 3.3 Bicing



Bicing.com

- 3.63 The Bicing machines are of a very simple design and it is argued this adds to the system recognition and attractiveness. The design of machine makes them flexible for a range of user sizes and they are appealing to both genders not being a distinctly 'men's' or 'ladies' models. The bicycles feature different sized front and rear wheels necessitating maintenance teams to carry two sizes of tyre.
- 3.64 The equipment includes flexible built in plastic mudguards, a deliberate device to deter vandals from using the mudguard as a seat and the racks are front mounted, these racks will not double as litter bins or seats. Gearing is via a simple three speed shifter and seat adjustment is quick and easy. The

built in lighting system is switches itself on automatically at dusk. A popular point with these machines is their weight which is light for a public hire system at only 16k.

Call a Bike

- 3.65 The Call a Bike machines are aesthetically less attractive in appearance than many other hire scheme models, resembling a moped more than a bicycle. These machines are also relatively heavy at 23.4kg and are specifically made-for-rental models of a robust design that is expected to last for some time before being replaced.
- 3.66 Call a Bike machines have an aluminium frame and a 'step-thru' open design. They are very well equipped with kickstand, lighting system and adjustable seat. The bicycles have a rear carrier designed to hold a bag, briefcase or shopping using an elasticated cord. Gearing on these machines is relatively sophisticated with a 7 speed transmission system.

Figure 3.4 Call a Bike



www.deutschebahn.com

- 3.67 While they do stand out as rental machines and are easily identified as such, the relative sophistication of these machines may make them more prone to damage from vandals than less well appointed bicycles.

Copenhagen City bike

- 3.68 The City bikes in Copenhagen are purpose built bespoke machines made to endure heavy usage. The tyres are of solid non-pneumatic construction which cancels out the chance of punctures and reduces maintenance, but also leads to a tiring and less comfortable ride. The seats are easily adjustable and the transmission system is a chain driven single speed low maintenance system.

Figure 3.5 Copenhagen City bike and rack



Liveable Copenhagen: The design of a bicycle city, www.visitcopenhagen.com

- 3.69 The wheels are created as large solid discs with no visible spokes, as previously described these also act as advertising panels and claims have been made that suggest the advertisements on these do work, and the adverts themselves are legible when the bicycles are being ridden at up to fourteen kilometres per hour. However there may be implications in using them in windy coastal environments.
- 3.70 The bicycles are equipped with a kickstand, and this should help support the machine when it is replaced into the racks around the city, in practice this stand either fails or is not used and the bikes lie in an untidy mess. Part of this problem is caused by the coin deposit locking system which does not offer any support to the bikes when it is in the rack.
- 3.71 The simplicity of this machine's design is in part a result of the broader City bike programme which makes use of people taking part in the city rehabilitation programme.

London

- 3.72 London's new cycle hire scheme, known as Barclays Cycle Hire was launched on 30 July 2010. At the time of writing use of the scheme is restricted to members only, although the Barclays Cycle Hire website states a casual user system is 'coming soon'. At the time of the launch 11,048 people had joined the scheme via the pre-launch membership process.
- 3.73 The system has been generally well received with the bicycles described as being 'incredibly robust' although some comments have suggested they are very low geared, However weighing at around 20k this might be considered a deliberate aspect of the design. The bicycles have no independent locking system so must be replaced in a docking station to end the use period.
- 3.74 The bicycle frame is a one-piece aluminium design and is the open step-thru type. Cables are concealed within the handlebars and frame in an effort to deter vandalism and resist the weather. The tyres are designed to be puncture-resistant and the bikes come equipped with a built in lighting system. A rack, not dissimilar to the type used on the Bicing machines is fitted to the front of the bike.

Figure 3.6 London Bicycle Hire scheme bikes.



- 3.75 The docking stations make use of a 'traffic light' information system to indicate the availability of the individual cycle; a red light indicates the bike is not available for hire, (it possibly has a mechanical problem) amber lights show that a person's account details are being checked and green means the bike is unlocked.
- 3.76 An early well reported issue has been that of users who have purchased more than one access key via the membership system. Under this scenario a person has bought four keys, (possibly for use by their partner and two friends) but as soon as one of the keys is used it automatically starts a 24 hour access period for ALL 4 of the purchased keys... costing £1 for each one.
- 3.77

Scheme Comparison & Recommendation

Scheme Comparison

- 3.78 The following tables summarise the points made previously and form the basis of determining the best-fit solution for Brighton & Hove.

Table 3.1 Cycle hire - Comparison of Schemes

	Hire A Bike Blackpool	Southport Cycle Hire	Bicing Barcelona	Call a Bike Stuttgart	Call a Bike Berlin	City Bike Copenhagen	London Cycle Hire
Operator	Hourbike	Sefton Metropolitan Borough council	Clear Channel	Deutsch Bahn	Deutsch Bahn	City of Copenhagen	Bixi
Funders: Public / private	Cycling England/ NHS/ Blackpool Council	Cycling England	Barcelona (via on street car parking fees)	Deutsch Bahn rent	Deutsch Bahn rent	City of Copenhagen	Transport for London
Population	142,000	91,000	1.5m	591,000	3.4m	1.7m	7.6m
Members	Not known	No membership system	165,000	Not known	40,000	No membership system	Not available
Usage to date	Estimated 4,500 miles of travel (Jul 2009 - Jan 2010)	500 hires (May 2009 – Jan 2010)	30 daily trips per bike ⁴	Not known	Not known	Not known	Not known
Funding							
Advertising revenue	No	No	Yes	No	No	Sponsorship	No
Subsidy	Yes	Yes	Yes (via car parking income)	Yes	Yes	Yes	Yes
Approximate implementation and operation cost per machine (p.a.)	£1,256 implementation £2000 operation excluding revenue	£400 implementation £800 operation excluding revenue	£1,350 implementation £1,500 operation excluding revenue	Not known	Not known	Not known	£3800 implementation and operation excluding revenue ⁵
System characteristics							
Number of bicycles	50	100	6000	450	2000	2000	6000
Numbers of bicycle hubs	9	1	400	52	None (bicycles freestanding)	110	400
Numbers of docking points	72	Not available	Not available	Not available	None	Not available	10,000
Local power requirements	No power required	N/A	Power source for hubs	No power required	No power required	No power required	Power source for hubs
Seasonal availability	All year - 24/7	All year 09:00 - 18:00	05:00 - 00:00 weekdays 24/7 Fri- Sat	24/7	24/7	24/7	24/7
Target market	Residents, visitors	Residents, visitors	Residents only	Residents, visitors	Residents, visitors	Residents, visitors	Residents, visitors
Operational characteristics							
Hub identification	Visual, online, telephone	Single location	Visual, online	Visual, online	None	Visual	Not available
Access to system	Telephone / online	Manual	Smartcard	Telephone	Telephone	Coin-operation	Smartcard

⁴ Public bikes, are they developing as true public transport in Spain?

<http://www.velo-city2009.com/assets/files/VC09-subplenary-5.2.pdf>

⁵ Serco wins race to run London hire bikes

http://business.timesonline.co.uk/tol/business/industry_sectors/support_services/article6793998.ece

	Hire A Bike Blackpool	Southport Cycle Hire	Bicing Barcelona	Call a Bike Stuttgart	Call a Bike Berlin	City Bike Copenhagen	London Cycle Hire
Membership fee?	Registration fee	No	Yes	Registration fee	Registration fee	Deposit	Access fee
Credit Card required	Yes	No	Yes	Yes	Yes	No	Yes
Free period	30 minutes free for members only	Not applicable	First 30 minutes	First 30 minutes	None	Not applicable	Not available
Technology /security							
Technology	PIN/ smartcard and telephone and online	Manual deskbound operation	Smartcard or Credit Card and online	Telephone/ online	Telephone /online	Coin deposit	Smartcard
Security	Registration or Credit card deposit Lock on bikes	Hirer must be over 18, proof of ID Locks on bikes	Only open to residents Credit card details required to join	Registration onto scheme Locks fitted to bikes	Registration onto scheme Locks fitted to bikes	None, other than forfeit of deposit	Not available
SWOT							
Strengths	Cheap and fast to implement. Supplier flexible Flat local geography	No other commercial scheme in area. Flat local geography. Very robust bicycles	High distribution of docking stations. Very popular with residents	Low cost to local authority	Low cost to local authority	Easy to access	Extensive coverage Cost low for short journeys and competitive with other modes in terms of journey time
Weaknesses	Current cycles not robust	Only available during shop hours.	Bicycles require frequent re-distribution by vans. Not available to occasional visitors and tourists	Telephone call required at start and finish of hire period	Telephone call required at start and finish of hire period Bikes only locked to street furniture or freestanding	Requires trust on the part of user and operator. Machines are cumbersome.	There are no bike locks attached to the bike Ease of docking bikes at end of hire period has been criticised Cost of scheme

	Hire A Bike Blackpool	Southport Cycle Hire	Bicing Barcelona	Call a Bike Stuttgart	Call a Bike Berlin	City Bike Copenhagen	London Cycle Hire
Opportunities	Contributing to change of Blackpool's 'Stag party' image.	Development of other hire outlets in different parts of town, including co-operation with local hoteliers	City of Barcelona has central authority regarding governance and controls planning, transport and taxes making implementation more straightforward.	Ten bicycles and docking points can fit into a space 14.6m ^{2,6} Good links with Public transport operator via Bahn card.	Good links with Public transport operator via Bahn card.	The scheme contributes toward the city's cosmopolitan image.	To link in with the Oyster card at some stage to provide a seamless ticketing experience
Threats	Ongoing revenue	Ongoing revenue	Re-distribution of cycles requires ongoing manual support	Ongoing support from Rail operator required	Ongoing support from Rail operator required	Bikes have reached approximate end of working life and are due replacement	Theft of bikes Difficulties in obtaining planning permission

Table 3.2 Compatibility of selected schemes with B & H policy and other objectives

	Hire A Bike Blackpool	Southport Cycle Hire	Bicing Barcelona	Call a Bike Stuttgart	Call a Bike Berlin	City Bike Copenhagen	London Cycle Hire
B & H Policy objectives							
B & H LTP Objectives: 1, 3, 4, 7,	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓
WHO European Healthy Cities Network – Phase 5 Goals, Core themes 1, 2, 3.	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓
B & H Joint strategic needs assessment	✓	✓	✓	✓	✓	✓	✓
B & H Community Strategy Transport section	✓✓✓	✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓	✓✓✓
Scheme specific objectives							
Practicality in use	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓	-

⁶ Deutsche Bahn AG - Mobility Concept

Call a Bike, the smart answer to traffic jams and city stress http://www.gmfus.org/doc/Call%20a%20Bike_Presentation_2008-05-29.pdf

	Hire A Bike Blackpool	Southport Cycle Hire	Bicing Barcelona	Call a Bike Stuttgart	Call a Bike Berlin	City Bike Copenhagen	London Cycle Hire
Durability	x	✓✓✓	✓✓	✓✓	✓✓	✓✓✓	-
Flexibility of docking station sites	✓✓✓	x	✓	✓✓✓	✓✓✓	✓✓	x
Consistency with streetscape - bikes	x	✓✓	✓✓	✓✓	✓✓	✓	✓✓✓
Consistency with streetscape - furniture	x	○	✓	✓✓	○	x	✓
Online registration system	✓✓✓	○	✓✓✓	✓✓✓	✓✓✓	○	✓✓✓
Online availability of bicycle locations	✓✓✓	○	✓✓✓	xxx	xxx	xxx	✓✓
Mobile telephone registration	✓✓✓	○	✓✓✓	✓✓✓	✓✓✓	○	
Manual registration system	✓✓	✓✓✓	✓✓✓	xxx	xxx	○	xxx
Day (tourist) membership option	✓✓✓	✓✓✓	xxx	✓✓	✓✓	✓✓✓	✓✓✓
Weekly (or more) membership option	○	○	○	✓✓	✓✓	○	✓✓✓
Multiple or family options	✓✓✓	○	○	○	○	○	○
Access (registration) fee in place	✓✓✓	○	○	✓✓	✓✓	○	✓✓✓
Usage fee in place	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	xxx	✓✓✓
Integrated ticketing potential	✓	○	✓✓✓	✓✓✓	✓✓✓	○	○
Journey flexibility (multiple trip options)	✓✓✓	✓✓✓	x	✓✓	✓✓	✓	xxx
Sponsorship possibilities	✓	✓	✓✓	✓	✓	✓✓✓	✓
Local re-skilling and employment opportunities	✓✓✓	✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓	✓✓✓

Key:	✓✓✓	Strong contribution	x	Weak conflict
	✓✓	Moderate contribution	xx	Moderate conflict
	✓	Weak contribution	xxx	Strong conflict
	○	No, or negligible, impact		

Recommendations

- 3.79 Following the roll out of the Blackpool Hire a Bike project and the forthcoming London scheme it may be assumed that cycle sharing projects are going to be a reality in the UK after several years of false starts and unsuccessful pilot projects.
- 3.80 As UK pioneers of this type of transport system, these schemes offer the opportunity for other towns and cities to become more informed of the strengths, weaknesses and threats of this type of project. They also offer an opportunity to gauge public reaction and demand for such schemes without making the financial and political commitment required to see a project of this scale through to completion.
- 3.81 The above review of existing operational schemes on the Continent and in the UK has considered fully automated schemes using the latest smartcard technology through to manual schemes with operating on a simple counter-service system. Our analysis suggests that the Blackpool Hour Bike has the most synergies with a potential Brighton & Hove scheme but there are aspects of other schemes that have also have merits.
- 3.82 A primary consideration is the type of business model to be used with schemes offering different levels of risk and cost to the Local Authority delivering them. In all cases, it is recommended that the development of a scheme does not involve a small scale pilot. In order to give the best possible chance of later success it is recommended that a scheme is developed that has a critical mass of destinations which will be attractive to potential users.

Infrastructure

- 3.83 The Council position on the public realm is that a bike hire scheme should consider the street design guidance ensuring that all relevant departments are consulted. Whilst planning permission is not always considered necessary there is a risk of legal challenge if this course of action is not followed. Under such circumstances planning departments should be consulted This implies that a scheme requiring 'docking' of bicycles after use with no opportunity for equipment to be left undocked without some sort of financial penalty to the user is necessary. This prevents bicycles being left in haphazard locations which could detract from pedestrian and cycle amenity. It should be noted that sensitive conservation areas may require planning permission to be obtained before a particular docking station site can be approved and constructed.
- 3.84 The use of docking stations is also necessary to improve security, enable potential users to identify locations where bikes would be available and would reduce some of the costs associated with using staff to redistribute bikes. The opportunity to provide portable docking stations that could be moved to take account of the seasonal nature of some destinations should be considered.
- 3.85 The bikes themselves would need to be high quality and able to operate in the coastal weather conditions experienced in Brighton & Hove.. A bespoke bike would offer the opportunity for the council to adopt a style and branding that would be sympathetic to and enhance the urban realm in Brighton & Hove as set out in the "Public Space, Public Life document"
- 3.86 Extension of the scheme to include electric bikes might be feasible especially given Brighton & Hove's innovative work on on-street charging points for cars and vans. However this will need more investigation into how such bikes might be located and managed.

Access and technology

- 3.87 Like Blackpool, Brighton & Hove will need to accommodate occasional users and at peak holiday/conference periods these users may be the principal market for a cycle hire project.

Therefore a membership scheme requiring a registration process for residential or likely regular users and a day ticket system for visitors would need to be accommodated. For security and crime prevention purposes both of these types of ticketing are likely to require credit card access on the part of the user (although there may be other means of confirming user details for regular users).. For occasional users, the ability to speak to a person in order to locate a machine or even enquire about the project would need to be offered, along with Wi-Fi and web access. Customer care centre costs could be considerable relative to the overall cost of a scheme and the costs and benefits of this element of the scheme will need to be considered particularly carefully.

Maintenance

- 3.88 A number of the reviewed projects highlight the use of social enterprises and rehabilitation schemes to deliver the maintenance obligation for these systems. However, a project in which the potential for serious injury or even death is possible due to equipment failure would suggest that professional services would need to be used to deliver this aspect of the project and would need to be considered when developing a tender for any scheme.
- 3.89 The ongoing maintenance demand should not be underestimated and needs to be a factor when selecting equipment. Maintenance should be carried out in-situ where possible requiring (possibly bicycle based) mobile vehicles. Schemes in Europe and the UK indicate that a purpose built service centre is not necessarily required. However options to incorporate such a facility as part of the proposed cycle centre facility at Brighton Station would merit further investigation.

Charging policy and revenue opportunities

- 3.90 It is difficult to envisage a bicycle sharing system operating in the UK without some sort of security deposit via a credit card. Most of the reviewed systems require this and this would be the recommendation of this study. It is understood that Brighton & Hove would like to offer the system to people who may not have credit cards. This would require some other form of deposit and user identification to minimise potential losses in case of theft or damage by users.
- 3.91 Many schemes also offer a 30 minute free period, but this will impact on revenue income. It is recommended that this free period is adopted, but for occasional users that all day use of a machine is discouraged by an escalating charging system designed to discourage day users holding onto machines. This will also reduce the commercial impact on existing providers offering long-term hire.
- 3.92 Regarding other potential revenue streams it is noted that Brighton & Hove wish to avoid an increase in on-street advertising and therefore sponsorship and branding of the bicycles themselves is suggested as an alternative income source.

Complimentary and supporting measures

- 3.93 Other cities with successful cycle hire projects have experienced an increase in cycling generally and it is recommended that goodwill is sought early on by engaging with private bicycle businesses throughout the development of any scheme including hire providers as well as bike shops.
- 3.94 Along with infrastructure improvements already taking place throughout Brighton & Hove an increased programme of free or very low cost Bikeability cycle training from personnel qualified to National Standards level should be considered.
- 3.95 Brighton & Hove's commuter relationship to London may be used as a lever to generate further interest and London should be exploited in any marketing or promotional literature.

- 3.96 As identified in the discussions with officers in Bristol it is important to 'get everybody around a table' for a project to progress successfully, public and private stakeholders need to be committed to the project and signed up to take part regardless of any future personnel changes.
- 3.97 The following sections discuss the outcomes of a stakeholder consultation exercise and identify potential locations for a bike hire scheme in Brighton & Hove.

4 Stakeholder Consultation

Brighton & Hove bike hire feasibility study stakeholder questionnaire

- 4.1 In order to gauge the likely interest in and support for a hire scheme amongst stakeholder groups a series of ten questions were circulated to identified stakeholder group representatives using the online survey tool 'Survey Monkey' on 19th February 2010. The questions were also devised to test some of the core scheme elements that have been recommended in the preceding section.
- 4.2 A reminder email was sent out on 4th March 2010 and the survey closed to respondents on 5th March 2010. The total number of stakeholder groups contacted was fifteen and the total number of responses received was seven. A list of all the stakeholder groups contacted is shown in Table 4.4.

Table 4.1 Stakeholder groups consulted

Stakeholder representative	Stakeholder group
Tony Green	Brighton & Hove Cycle Forum chair
Ryan Edwards	Active for Life
Chris Boocock	Sustrans
Corinna Edwards-Colledge	HealthWalks
Stuart Christie	Albion in the Community
Vic Else	Brighton & Hove food Partnership
Andy Marchants	School Sports Partnership
Dave Brookshaw	Brighton & Hove Local Access Forum
Adam Pride	Bricycles Secretary
Rob Davidson	CTC – Brighton & Hove secretary
Ian Bullock	Clarion
Nick Marks	Bike for Life
Chris Wadey	Brighton University
Shaun Innes	NHS Brighton & Hove

- 4.3 A summary of the survey responses is described in the subsequent paragraphs.

Question 1: Brighton & Hove City Council are investigating the feasibility of an on-street bicycle hire scheme, would you support such a project in principle, and do you believe there is demand for such a scheme?

4.4 Of the seven responses received six were supportive of the concept, three of these respondents suggested there is demand for such a scheme, one respondent felt they had insufficient information to comment on such a scheme.

Question 2: If you do support such a scheme, what do you believe would be the main benefits?

4.5 All seven responses to this question were positive, benefits identified include:

- Health
- Access to bicycles for those unable to purchase or store one
- Tourism, including access to the South Downs National Park
- A reduction in congestion and improvement in the environment and urban realm
- Increase in awareness of cyclists and cycling as a mode of sustainable transport

Question 3: What issues or disadvantages do you envisage there might be?

4.6 Six respondents replied to this question, responses included:

- Providing enough and suitable and parking areas for the bikes around the city (five responses)
- Vandalism and theft
- Poor existing cycle infrastructure and motor traffic volumes
- Anti-cycling lobby and political opposition
- Brighton & Hove are hilly
- Competition with existing or future hire operators

Question 4: Other cycle hire schemes operating in the UK and abroad have made use of social enterprise groups to operate the schemes, particularly those groups involved in training people, possibly including former offenders with a view to re-skilling those people. Would your organisation be interested in contributing skills training (either paid or voluntary) to such a project?

4.7 All respondents answered this question, but only two of these responses suggested help might be available, one other respondent offered assistance but suggested sourcing volunteer help would be difficult at present.

Question 5: Are there any other ways you think your group could contribute directly to the scheme?

4.8 Seven respondents replied to this question. Three suggested they could help raise awareness of the project. One respondent was prepared to offer advice on 'access issues'. One offered support as part of other infrastructure projects and one respondent could not comment on the amount of information available about the scheme.

Question 6: Other cycle hire schemes in operation have led to an uptake in cycling generally. Could your group contribute indirectly to such a scheme? For example by leading organised social rides for example, or by delivering cycle training.

4.9 Four of the seven respondents felt they could contribute in some way, particularly with organised rides. One of these respondents identified liability as an increasing issue. Two respondents answered no or N/A.

Question 7: Do you have an opinion on where hire stations should be located and in what areas?

4.10 Six respondents offered answers to this question, locations include:

- Brighton Pier, seafront and marina
- Brighton Station (Train and Bus), Hove Station
- Hove Park, Preston Park, St Anne's Well Gardens
- In each key ward, areas where there are parking problems
- Near organisations working in the community

Question 8: To install the infrastructure required to support such a scheme sometimes requires the loss of car parking spaces which is a very contentious issue, would you support this?

4.11 Seven respondents answered this question, of the seven only one disagreed in principle to the suggestion of losing car parking space in order to support the scheme.

Question 9: Can you suggest any other complimentary measures your organisation would be interested in delivering?

4.12 Only one group responded to this question who answered that via TAKEPART they would be able to support such a scheme.

Question 10: Do you have any other comments about such a scheme?

4.13 Seven replies were received to this question. Four answered very positively citing health benefits, the potential for inclusion of electrically assisted machines into the scheme and one of these respondents suggested locations for hubs should be secured as quickly as possible. One of these respondents made a reference to the large amount of theft reported to be a problem in the Parisian cycle hire scheme, one other mentioned a Sussex University bike hire scheme having had all their machines stolen. Although the respondent suggested this project was more of a 'white bicycle' type scheme, in which ordinary bicycles are simply left around on a site and almost inevitably are stolen. One respondent felt they were unsure as to what capacity they were expected to respond.

Summary

4.14 The survey results indicate that stakeholders who responded are likely to be involved or could contribute to the development of a bike hire scheme in Brighton & Hove were overwhelmingly receptive to the concept. Much of the concerns relate to the perceived problems of overcoming some of the practical challenges of introducing a scheme such as the provision of adequate cycle infrastructure and measures to reduce the theft of bicycles. The Sussex University and Paris Velib scheme were cited as examples where cycle theft had been high.

4.15 The use of social enterprise groups to operate the bike hire scheme was supported but potential contributions from stakeholders were viewed more cautiously which is to be expected with a scheme such as this where very little detail is provided. Other potential contributions from stakeholders

included awareness raising and using local knowledge to firm up on some of the parameters of the scheme.

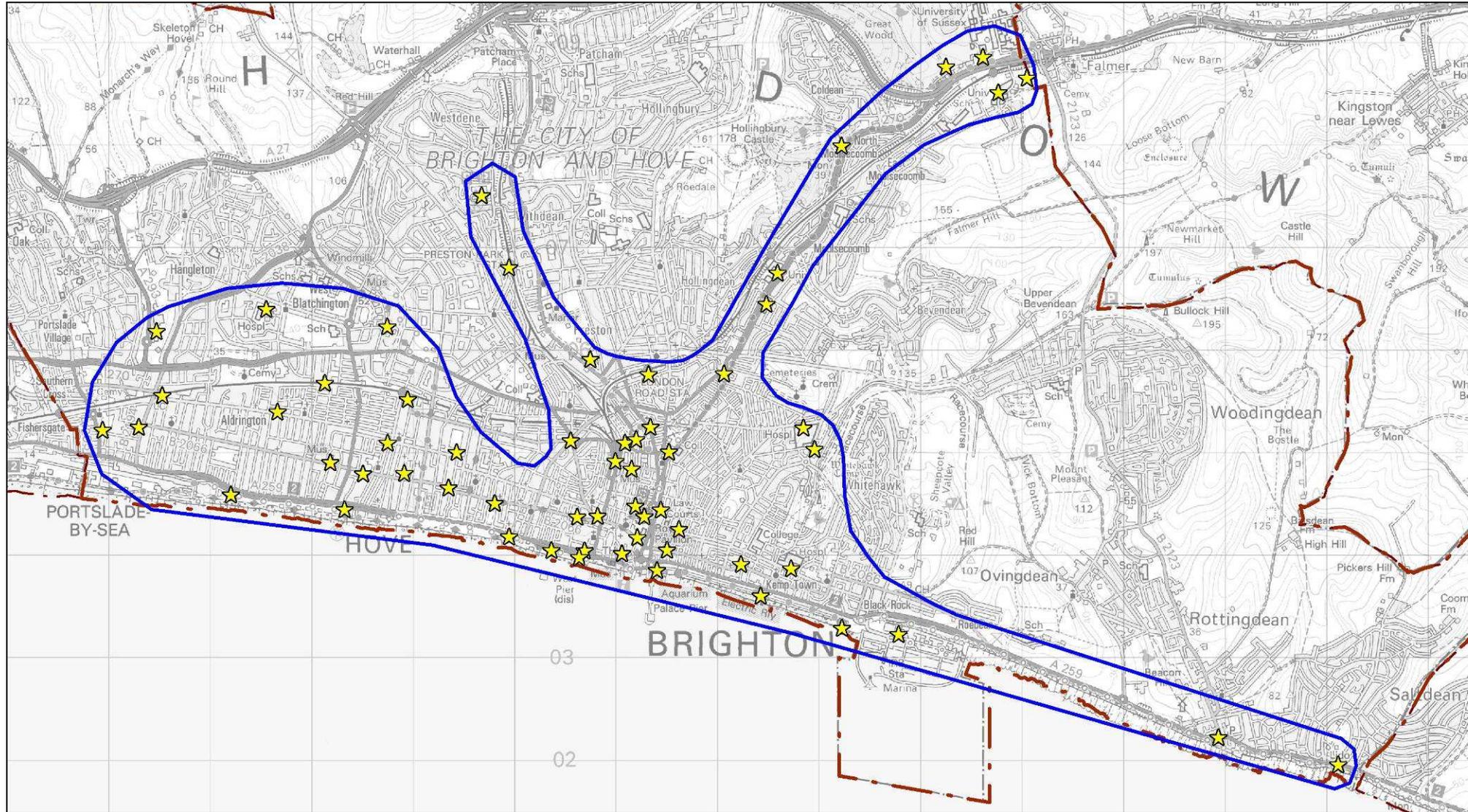
- 4.16 Locations for the bike hire scheme were identified within the city centre and seafront area and some of the inner residential suburbs. Areas where parking supply is currently limited were also identified. The majority supported the removal of potential on street parking to accommodate public cycle hire.
- 4.17 The benefits of encouraging physical activity were also identified as a key benefit of a bike hire scheme.
- 4.18 All the responses supported the potential for introducing a bike hire scheme in Brighton & Hove.

5 Area of Search and Site Assessment

Area of Search and Site Assessment

- 5.1 An initial desktop review was carried out to identify the major destinations in the city to determine the likely extent of the scheme.
- 5.2 The plan in Figure 5.1 below shows the approximate area of search. This took into account the location of potential destinations based on a number of factors:
- Current attractions and major people generators
 - Future/potential attractions and major people generators
 - Main interchanges
 - Current and future cycle routes
 - Topography
 - Demography; and the
 - Views of council officers and stakeholders
- 5.3 Significant areas of the city were considered to have very low potential for cycle hire. These were mostly on the basis of one or more of the following:
- Distance from main centres,
 - Steep or frequent gradients,
 - Accessible by major roads only or
 - Predominantly residential.
- 5.4 A total of 60 destinations were identified (see Figure 5.1). These focused on the following destination types:
- Leisure/tourism
 - Retail
 - Business/employment
 - Interchange
 - Education
 - Community; and
 - Health

Figure 5.1 Area of Search



Site Assessment

- 5.5 An initial high level assessment was carried out to select the sites with the highest potential for bike hire.
- 5.6 This was carried out on the basis of factors which were considered to have the highest impact on potential usage, based on experience both from schemes elsewhere and on other cycling initiatives such as cycle parking centres. The factors used were:
- **Extent of market** – the number and variety of potential users is crucial to the success of a scheme
 - **Cycling levels** – areas with higher existing levels of cycling are likely to have higher take-up
 - **Support for cycling** (existing and proposed cycle routes) – sites where there is little or no provision for cycling are less likely to attract users, especially people with less cycling experience
 - **Topography** – hillier locations are inevitably going to struggle to attract usage
 - **Relation to other sites** – sites located very close together will have less usage as users are unlikely to cycle between them, as will very isolated or remote sites. The sites most likely to attract users are those spaced at regular and convenient distances from each other (0.5 – 1.5km).
- 5.7 Of the 60 sites, 16 were rejected as having very low potential (shown in red in Figure 5.2) leaving 44 sites to be considered in detail. These sites are shown below in Figure 5.3, with a larger scale plan of the city centre (Figure 5.4).
- 5.8 A detailed desktop exercise was carried out to assess the 44 shortlisted sites on a wide range of criteria. These were developed specifically to assess the suitability of the sites for a bike hire scheme and were derived from an assessment tool used for the investigation of bike parking . The assessment of the sites also benefited from in-depth discussion with the Client.
- 5.9 Descriptions of the 44 shortlisted sites are provided below and shown in the attached detailed plans in Appendix B.

Figure 5.2 Location of initial 60 potential sites for a public bike hire scheme

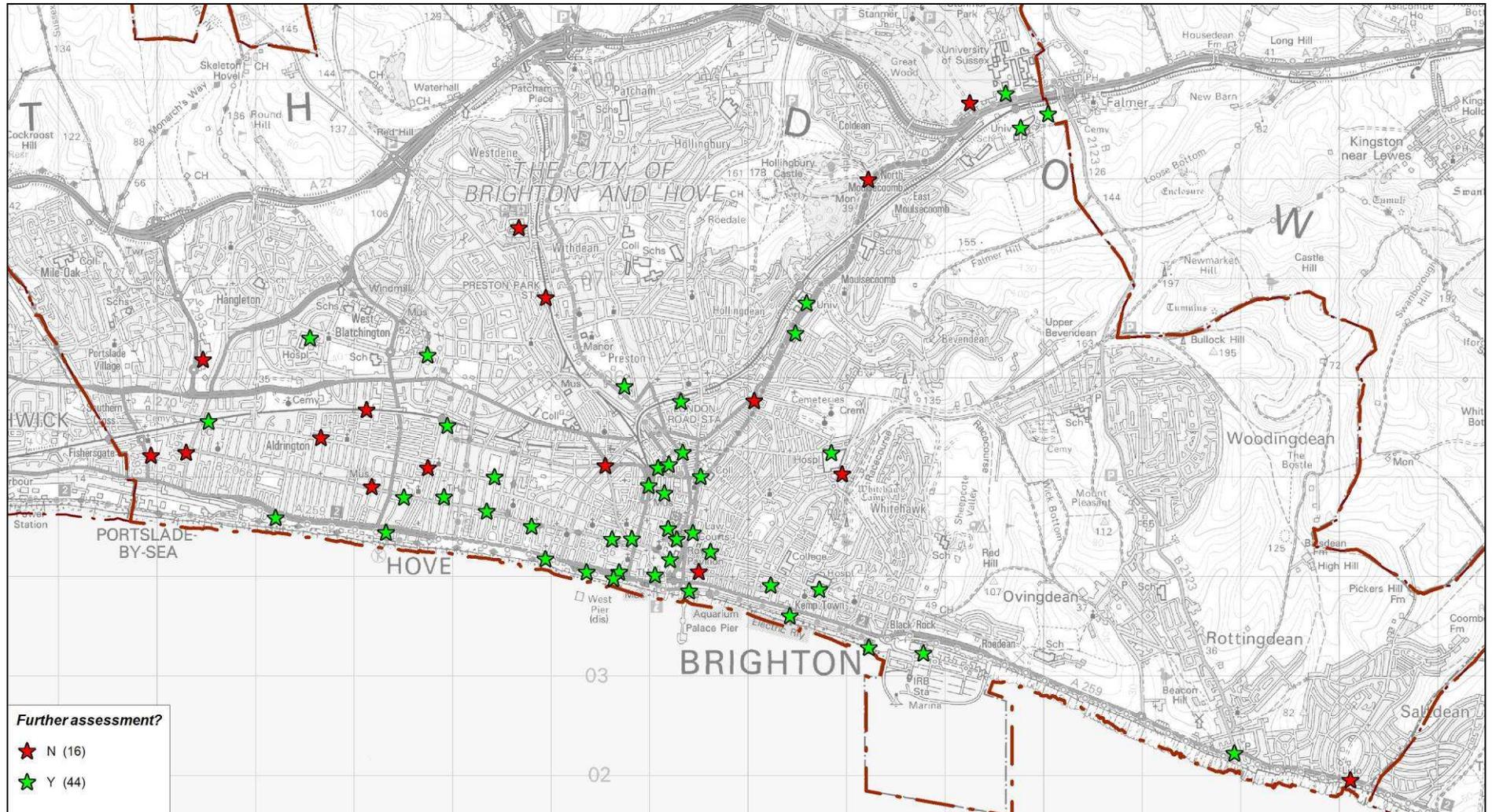


Figure 5.3 Location of all sites selected for more detailed examination

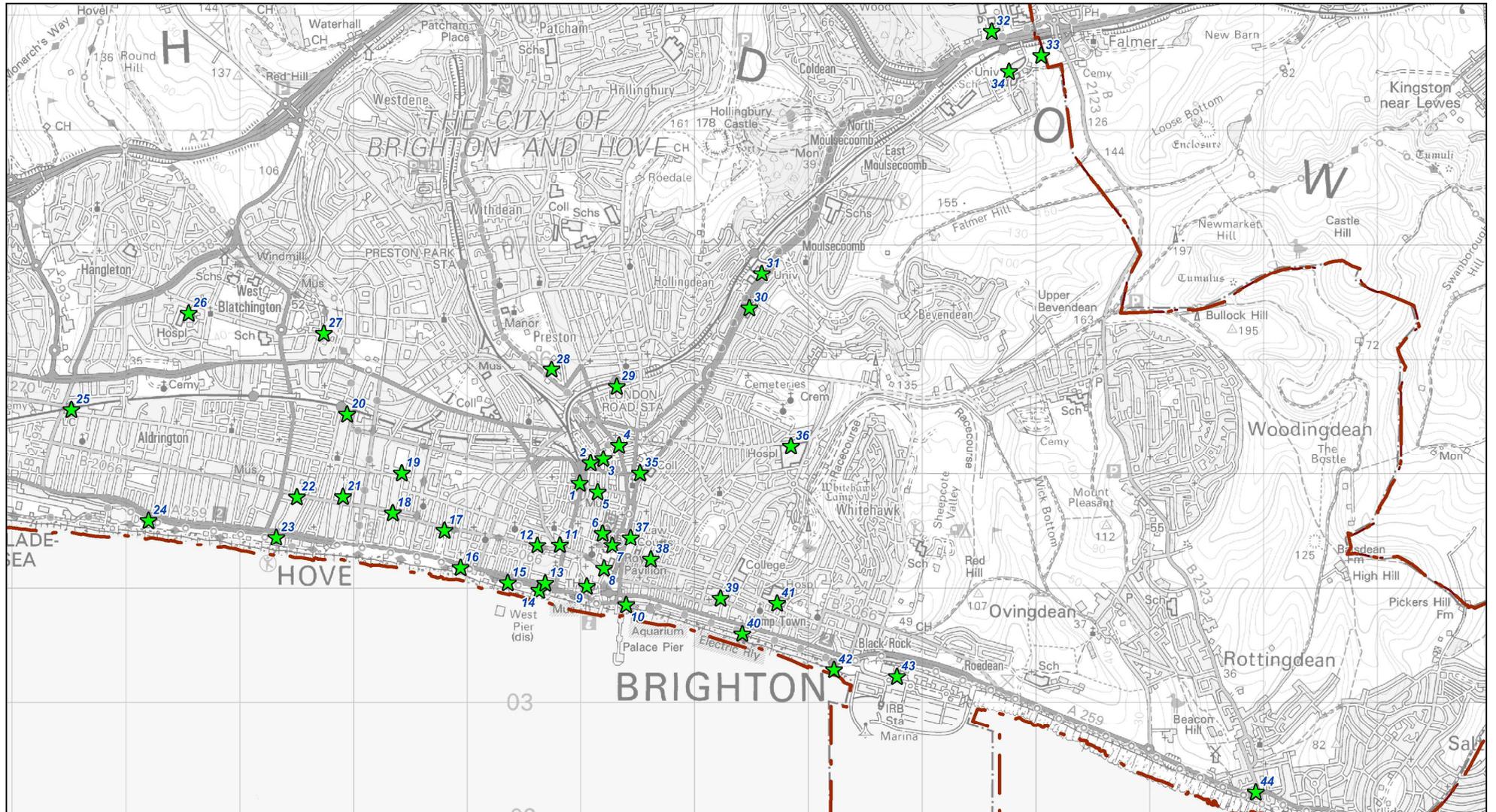


Figure 5.4 Location of city centre sites selected for more detailed examination



Table 5.1 - Site Description of 44 shortlisted sites

Site no.	Site	Possible location(s)	Primary journey type	Secondary journey type	Other journey types
1	Brighton Station south	Front of station	Interchange	Business	
	<i>Key destination - very high profile site which would serve a wide range of journey types by both locals and visitors, as well as meeting a number of policy goals. Needs to take into account cycle parking centre study (Arup) and station travel plan (by MVA for Southern).</i>				
2	Brighton Station north	By existing cycle parking	Interchange	Business	Education
	<i>Key destination - lower profile site than front of station but nevertheless serving a wide range of journey types by both locals and visitors, as well as meeting a number of policy goals. Needs to take into account cycle parking centre study (Arup) and station travel plan (by MVA for Southern).</i>				
3	New England Quarter	Outside Sainsbury's	Business	Retail	
	<i>Recently developed area with number of businesses as well as residential buildings. Proposed location is in centre of NEQ but there are a number of alternatives. Parts of the NEQ have not yet been developed and there may be opportunities for synergies with any future proposals.</i>				
4	London Road area	By j/w Baker St	Retail	Business	
	<i>Traditional mixed priority shopping area, including the Open Market. It is also close to the SME business hub at New England House. There have been various regeneration proposals for the area including current proposals for the redevelopment of the Open Market.</i>				
5	North Laine north	Kensington Place j/w Trafalgar St	Retail	Business	
	<i>Site serving the northern part of the North Laine. Footway space is limited and an on-street site may be required. Alternative locations are available.</i>				
6	North Laine central	Jubilee Street opp. Jubilee Library	Community	Retail	Leisure, Business
	<i>Key destination - high profile site with a very high level of activity which would serve the main Jubilee Library and Prince Regent swimming pool. An on-street location would be preferable opposite the library entrance (NB Jubilee St is one-way with a contraflow cycle lane). An alternative but lower profile location is possible by the pool</i>				
7	North Laine south	E end of Church St	Leisure	Retail	Community
	<i>The New Road/Pavilion Gardens area is a key destination. However a site in New Road itself would have to fit in with the streetscape and might not be available when events take place / the road is closed. Hence locations nearby are preferred - this would be a fairly high profile site north of the Royal Pavilion serving a wide range of</i>				
8	North Street	Castle Square	Retail	Business	Leisure
	<i>The New Road/Pavilion Gardens area is a key destination. However a site in New Road itself would have to fit in with the streetscape and might not be available when events take place / the road is closed. Hence locations nearby are preferred - this would be a fairly high profile site south of the Royal Pavilion serving a wide range of</i>				
9	The Lanes	By Brighton TH	Retail	Community	Leisure
	<i>Space is at a premium in the Lanes and cycle access is limited. The preferred location would be in Bartholomew Square near the Town Hall as this is easily accessible while still having would have a high profile. It would also be convenient for council staff and visitors.</i>				
10	Brighton Pier	Near entrance to pier	Leisure	Interchange	
	<i>Key destination - high profile site with a very high level of activity by both pedestrians and cyclists. Location needs to take account of heavy use of existing cycle parking. A location slightly to the east would also be convenient for the Volks Railway station.</i>				
11	Clock Tower	Queens Square	Retail	Business	Interchange
	<i>This site would serve the main shopping area and would have a fairly high profile. A location in Queens Square is preferred as this is not a through route and there is ample space. Near to bus stops in Western Road</i>				

Site no.	Site	Possible location(s)	Primary journey type	Secondary journey type	Other journey types
12	Churchill Square	On Western Rd frontage	Retail	Business	Interchange
	<i>High profile site - however Western Road itself is currently not suitable for novice cyclists mainly due to conflict with buses. This would have to be addressed as part of public bike hire. A location on the plaza in front of the shopping centre would require negotiation with the management company. Near to bus stops in Western Road</i>				
13	Brighton Centre	Outside main entrance	Leisure	Retail	Business
	<i>High profile site serving a wide range of journey types. It would particularly benefit those attending events at the Centre. There is ample space on the northern side of Kings Road although access to the seafront cycle track would require crossing the road. Note that site 14 would be opposite on the south side of the A259.</i>				
14	Seafront - central Brighton	Opposite Grand Hotel	Leisure	Retail	
	<i>Very high profile site adjacent to the seafront cycle track, with a high level of activity by both pedestrians and cyclists. Care would be needed to not to reduce the effective width of the cycle track/footway.</i>				
15	Seafront - West Pier	By cycle track	Leisure	Retail	
	<i>High profile site adjacent to the seafront cycle track, and very close to the site of the proposed i360 development. The popular children's play area is just to the west.</i>				
16	Seafront - central Hove	Near Meeting Place cafe (s of Waterloo Rd)	Leisure	Retail	
	<i>High profile site adjacent to the seafront cycle track and Hove Lawns. There is ample space around the Peace Statue where the opportunity could be taken to rationalise the existing cycle parking.</i>				
17	Brunswick Place	North of Western Road	Retail	Business	Leisure
	<i>Site serving the Western Road shopping and restaurant area. A location in Brunswick Square adjacent to Western Road would be preferred. However this lies in the conservation zone - a location north of Western Road would avoid any issues.</i>				
18	Central Hove	Western end of Palmeira Sq	Retail	Business	
	<i>Site serving the eastern end of the Church Road shopping and restaurant area. A location on the triangular island south of Salisbury Road would be possible and the opportunity could be taken to create a cycle track across the island allowing right turns into Church Road.</i>				
19	SCCC cricket ground	At entrance	Leisure	Community	
	<i>While this would only be heavily used during the cricket season, it could also serve the nearby Hove court & Police Station. Plans have recently been submitted for major redevelopment of the cricket ground and there may be opportunities for synergies with these proposals.</i>				
20	Hove Station	East of entrance	Interchange	Business	
	<i>High profile site serving mainly interchange journeys. However space is limited immediately outside the station and the preferred location would be on road east of the entrance (but avoiding conflict with existing businesses).</i>				
21	Hove Town Hall	By Norton Rd entrance	Community	Retail	Business
	<i>High profile site serving the retail and restaurant area on Church Road as well as the Town Hall. There is ample space for bike hire parking which could be combined with improvements to the existing cycle parking. This would also be convenient for council staff and visitors.</i>				
22	Hove Library	Outside main entrance	Community	Retail	
	<i>There is little space on the footway outside the Library entrance itself on the southern side of Church Road. An on-street location is therefore preferred which could be combined with new cycle parking. This site could also serve the large Tesco superstore nearby as well as George Street Hove.</i>				
23	King Alfred LC	Kingsway entrance	Leisure	Community	
	<i>While major redevelopment plans have been shelved, this is still a key site which would lend itself well to bike hire. There is a reasonable amount of space on the footway is limited but the opportunity could be taken to improve bike parking at the same time.</i>				

Site no.	Site	Possible location(s)	Primary journey type	Secondary journey type	Other journey types
24	Hove Lagoon	By cycle track near playground and café	Leisure		
	<i>This site lies at the western end of the traffic-free cycle track along the seafront and would be a convenient location for a hire site. The café here has recently been refurbished and there is a popular children's playground.</i>				
25	Portslade Station	On Portland Road	Interchange	Retail	
	<i>Site serving the fourth busiest station in the city as well as the shopping area along Boundary Rd. There is a lower level of cycling in this area and a scheme might help to address this.</i>				
26	Hove Polyclinic/Mill View	Near main entrance	Health		
	<i>This site would serve both health-related destinations. While it would naturally complement these, there are few other destinations in the nearby area limiting potential usage.</i>				
27	Hove Park	Near café / Old Shoreham Rd	Leisure	Business	
	<i>Hove Park has a cycle track around its perimeter and is popular with local families. The site could also serve the new business campus at City Park as well as the Engineerium museum</i>				
28	Preston Park	At s end of park	Leisure	Business	
	<i>Site serving the park as well as the businesses and Health Centre on the western side of the A23 London Road. The main A23 cycle route runs along a cycle track along the western side of the park and cycling is also encouraged on a number of other paths throughout the park.</i>				
29	London Rd Station	S of main entrance	Interchange		
	<i>Site serving the fifth busiest station in the city. A location on-street south of the station entrance is preferred. Rail trips are mainly outbound in the morning peak i.e. a cycle hire scheme would have to attract trips from elsewhere to the station.</i>				
30	Brighton University Mithras House	Car park near main entrance	Education	Retail	
	<i>The main Lewes Road cycle route runs past this destination with cycle lanes on both sides of the dual carriageway. Crossing to the western (northbound) side of the road may deter less experienced cyclists. A location in the car park would require negotiation with the university management.</i>				
31	Brighton University Moulsecoomb	Cockcroft Building, Lewes Rd	Education	Interchange	
	<i>The main Lewes Road cycle route runs past the large campus and university library here with cycle lanes on both sides of the dual carriageway. Crossing to the eastern (southbound) side of the road may deter less experienced cyclists. A site on the footway is preferred. This site would also serve Moulsecoomb station.</i>				
32	Sussex University	Entrance to campus s of Sussex House	Education	Leisure	
	<i>Site serving the very large Sussex University campus with a preferred location near the end of the cycle route from Brighton. If successful satellite sites could be created elsewhere on the campus. A site here would require negotiation with the university management.</i>				
33	Falmer Stadium (B&H Albion)	Near link from Falmer station	Leisure	Interchange	
	<i>Site serving the stadium (due to open for August 2011) which could be used outside match days for a range of activities. A major travel plan has been drawn up which includes improved cycle access.</i>				
34	Brighton University Falmer	Near entrance from cycle route	Education	Leisure	
	<i>Site serving the large Brighton University campus which could also serve the David Lloyd Leisure Centre. A location is preferred near the entrance from Falmer Road or from Moulsecoomb. A site here would require negotiation with the university management.</i>				
35	The Level	S end near St Peters Church	Leisure	Retail	
	<i>Site serving the southern part of the London road shopping area as well as the Hanover area. The preferred location would be at the south end near the café. This would be adjacent to the cycle track running between Elm Grove and Church Street.</i>				

Site no.	Site	Possible location(s)	Primary journey type	Secondary journey type	Other journey types
36	Brighton General Hospital	Outside main entrance	Health		
	<i>This site would serve a number of health-related destinations. While it would naturally complement these, there are few other destinations in the nearby area and the site lies at the top of a steep hill, limiting potential usage. A location on the eastern side of the site could attract users from Brighton Racecourse.</i>				
37	Brighton University Grand Parade	Outside entrance or in Kingswood St	Education	Business	
	<i>Site serving the central Brighton University campus as well as the proposed new development at the Circus Street site. Preferred location on-road in Kingswood St due to limited space on Grand Parade. However cycle access is not ideal as the north-south cycle track runs on the far (western) side of Grand Parade.</i>				
38	Edward Street	Near American Express	Business	Community	
	<i>Site serving a number of major commercial and public sector sites: American Express, John Street Police Station, courts complex, Benefits Office. However the nature of Edward Street is not conducive to cycling (dual carriageway, hill) which may deter less experienced cyclists.</i>				
39	Kemptown	W end of St Georges Rd	Retail	Business	
	<i>Site in the heart of Kemptown also serving the wider surrounding area. However there is very limited space along St Georges Road and the preferred location is on-road (similar to recent cycle parking improvements nearby).</i>				
40	Madeira Drive	Near Peter Pan's Playground/Yellowave	Leisure	Community	
	<i>High profile site adjacent to the seafront cycle track, and very close to the Yellowave beach sports centre & Volks Railway's Halfway station. The popular children's play area is just to the west. The Madeira Lift also serves this site from the upper level of Marine Parade.</i>				
41	RSC Hospital	At front of hospital site or on Eastern Rd	Health	Interchange	
	<i>High profile site serving the large hospital campus, for which major redevelopment proposals have just been announced. There are a number of possible locations, most of which would require negotiation with the hospital management.</i>				
42	Seafront Black Rock	Near Volks Railway station	Leisure	Interchange	
	<i>High profile site adjacent to the seafront cycle route and very close to the Volks Railway's Marina station. The Marina itself is just to the east.</i>				
43	Marina	S of main square	Leisure	Retail	
	<i>High profile destination with high level of activity which would lend itself well to a public hire scheme. This would be of benefit to residents as well as the many visitors. If successful satellite sites could be created elsewhere on the Marina complex.</i>				
44	Rottingdean	West St car park	Leisure	Interchange	
	<i>Site serving Rottingdean village centre and close to the path down to the beach. The area is served by a number of major bus routes as well as the cycle track to Brighton.</i>				

5.10 The choice and scoring system for the criteria were developed specifically to assess the suitability of sites for a Brighton & Hove public bike hire scheme. The scoring matrix was based on an assessment tool used for the investigation of bike parking centres for other local authorities. This was revised on the basis of professional experience to take into account evidence on the factors linked to the success of public hire schemes elsewhere.

5.11 A number of criteria were given double weighting. These were considered to have particular importance to the success of the scheme and are linked to those used in the initial site selection (identified in paragraph 5.6 above. For example, the possibility of planning-led funding is weighted due to scheme cost being one of the most important considerations in the feasibility of the scheme.

5.12 Where possible the assessment was based on available data such as census information. However only a limited amount of data was available and in other cases the criteria were assessed on the basis of in-depth local knowledge. The assessment criteria are described in more detail below.

Table 5.2 - Assessment Criteria for Brighton & Hove Bike Hire Locations

No.	Description	Notes	Weighting?
1	Distance from end destination (e.g. access to station)	<i>Research on cycle parking shows cyclists do not tend to use parking more than 50m from destination. If it takes a significant time to walk from the hire site to the end destination this will be a deterrent</i>	
2	Total size of potential market	<i>As noted above this a crucial factor. Market sizes were not available so this was estimated using local knowledge, except in the case of rail stations where details of passenger numbers were used.</i>	Y
3	Make-up of potential market (i.e. likelihood to cycle)	<i>Ideally this would have used Mosaic data. As this was not available local knowledge was based on the range of usage and demographic types.</i>	Y
4	Variety of potential market (number of destination types within 400m radius/5 minutes walk)	<i>Different trip types ensures higher rate of turnover of bicycles. A high level of usage has been shown to be a key determinant in scheme success (e.g. in Barcelona each hire bike is used on average by more than 10 people a day). A range of destination types was used:</i> <ul style="list-style-type: none"> • Leisure (swimming pool, cinemas, playground) • Retail (high street, shopping centre, supermarket, etc.) • Employment (office) • Interchange (station, major bus stop) • Education (university, FE college – NOT schools) • Health (hospital, health centre) • Community (council office, police station, place of worship) • Residential 	
5	Existing cycle levels	<i>2001 census data on Travel to Work. If available, Cycling Town monitoring data could also be used, as could flyparking data from Bike Off study.</i>	
6	Cycle provision incl. proximity & accessibility to main route(s)	<i>Sites that are difficult to access by cycle will tend to have low usage. While some users will not be deterred by main roads, many will be less experienced cyclists who prefer to use quieter roads or cycle facilities. The provision of on-street cycle facilities, including cycle lanes, tracks, Advanced Stop Lines, Toucan crossings etc., will be a key determinant.</i>	Y
7	Main Bikeability level of surrounding network	<i>If site can only be reached using busy main roads it will have low usage. Using Bikeability allows a comparison to be made of the cycling skill level needed to use the surrounding road network which will be needed for most hire bike trips (i.e. apart from those solely along the seafront cycle track). While some users will have Level 3 Bikeability skills, many will be less experienced cyclists who have skills equivalent to Level 2 or even Level 1.</i>	
8	Practical feasibility / complexity	<i>The total available space in which to provide cycle hire facilities is the main feature of this criterion. While it will not be possible to use all available space at each site for bike hire parking or facilities, more space will allow greater opportunities for added value services such as a bike retail or maintenance offer. A larger footprint will also ease construction such as providing cycle storage. Other factors here are issues such as ease of access, statutory undertakers equipment, gradient, drainage etc.</i>	
9	Public visibility/profile	<i>There are two aspects to this criterion.</i> <ol style="list-style-type: none"> <i>i. If a site is not immediately visible it will be harder to attract casual users</i> <i>ii. Provision of cycle hire at higher profile locations such as Brighton station will support other aims of the Brighton & Hove Cycling Town programme by reinforcing the message that cycling is a high status and desirable activity.</i> 	Y
10	Land management issues	<i>The sites investigated have included both those where land is within the Council's ownership or management, and those managed by third parties (e.g. at a station). However in the latter case it is likely that negotiation will be required to address land owners concerns, which may even include the payment of a fee. The anticipated impact of land transfer and/or potential is therefore the determining feature of this criterion.</i>	
11	Security issues	<i>This includes both the risk to the hire bikes/sites of theft or vandalism, and the level of personal safety etc. It is known that the centre of Brighton is a cycle theft hot-spot and this has been taken into account. Sites located out of the surveillance of passers-by or CCTV will be more at risk than those clearly in view.</i>	
12	Political / community acceptability, incl. local planning	<i>This criterion takes into account a wide range of factors which will affect the attitude of the local community both in terms of the impact of the site itself (based on similar issues such as the introduction of, on-street cycle parking etc.) and on local community support for cycling/environmental initiatives. It also takes into account the necessity for planning permission and the effect of conservation zones on sites.</i>	
13	Links with new/proposed developments	<i>There is a high level of development in Brighton & Hove and this criterion takes into account its impact on each site. This includes the possibility of historic or future S106 funding, the inclusion of bike hire as a condition in a travel plan for a development, and other synergies.</i>	Y
14	Broader policy issues	<i>The provision of bike hire will support a wide range of other policies of the council and PCT policies, such as the encouragement of sustainable transport, provision of travel plans, use of public transport, promotion of healthy travel, access to sports and community facilities etc. Sites with higher levels of linkages to other policies and LAA objectives will therefore bring greater added benefit (although this in itself will not necessarily lead to higher usage of a site).</i>	Y

5.13 The results from the assessment of the selected sites are shown below, including site scores and a division into 4 tranches, based on quartiles.

Table 5.3 - Ranking of potential Brighton & Hove Bike Hire locations

Site no.	Site	Possible location(s)	Score	Tranche
1	Brighton Station south	Front of station	81	1
2	Brighton Station north	By existing cycle parking	79	1
3	New England Quarter	Outside Sainsbury's	73	2
4	London Road area	By j/w Baker St	61	3
5	North Laine north	Kensington Place j/w Trafalgar St	62	3
6	North Laine central	Jubilee Street opp. Jubilee Library	89	1
7	North Laine south	E end of Church St	79	1
8	North Street	Castle Square	68	2
9	The Lanes	By Brighton TH	68	2
10	Brighton Pier	Near entrance to pier	80	1
11	Clock Tower	Queens Square	63	3
12	Churchill Square	On Western Rd frontage	66	2
13	Brighton Centre	Outside main entrance	75	1
14	Seafront - central Brighton	Opposite Grand Hotel	79	1
15	Seafront - West Pier	By cycle track	72	2
16	Seafront - central Hove	Near Meeting Place cafe (s of Waterloo Rd)	76	1
17	Brunswick Place	North of Western Road	58	4
18	Central Hove	Western end of Palmeira Sq	61	3
19	SCCC cricket ground	At entrance	55	4
20	Hove Station	East of entrance	67	2
21	Hove Town Hall	By Norton Rd entrance	70	2
22	Hove Library	Outside main entrance	64	3
23	King Alfred LC	Kingsway entrance	74	1
24	Hove Lagoon	By cycle track near playground and café	61	3
25	Portslade Station	On Portland Road	51	4
26	Hove Polyclinic/Mill View	Near main entrance	43	4
27	Hove Park	Near café / Old Shoreham Rd	55	4
28	Preston Park	At s end of park	63	3
29	London Rd Station	S of main entrance	56	4
30	Brighton Univ Mithras House	Car park near main entrance	59	4
31	Brighton Univ Moulsecoomb	Cockcroft Building, Lewes Rd	65	3
32	Sussex University	Entrance to campus s of Sussex House	69	2
33	Falmer Stadium (B&H Albion)	Near link from Falmer station	66	2
34	Brighton Univ Falmer	Near entrance from cycle route	66	2
35	The Level	S end near St Peters Church	75	1
36	Brighton General Hospital	Outside main entrance	46	4
37	Brighton Univ Grand Parade	Outside entrance or in Kingswood St	65	3
38	Edward Street	Near American Express	63	3
39	Kemptown	W end of St Georges Rd	57	4
40	Madeira Drive	Near Peter Pan's Playground/Yellowave	75	1
41	RSC Hospital	At front of hospital site or on Eastern Rd	66	2
42	Seafront Black Rock	Near Volks Railway station	81	1
43	Marina	S of main square	68	2
44	Rottingdean	West St car park	55	4

5.14 A proposed schedule of 12 first tranche and 12 second tranche sites is shown below. This would represent how schemes might be rolled out across the city. This takes into account the ranking as well as the distribution of sites

Table 5.4 Potential roll out of Brighton & Hove Bike Hire sites across the city

Site no.	Site	Tranche
6	North Laine central	1
1	Brighton Station south	1
42	Seafront Black Rock	1
10	Brighton Pier	1
2	Brighton Station north	1
7	North Laine south	1
14	Seafront - central Brighton	1
16	Seafront - central Hove	1
13	Brighton Centre	1
35	The Level	1
40	Madeira Drive	1
23	King Alfred LC	1
3	New England Quarter	2
15	Seafront - West Pier	2
21	Hove Town Hall	2
32	Sussex University	2
8	North Street	2
9	The Lanes	2
43	Marina	2
20	Hove Station	2
12	Churchill Square	2
33	Falmer Stadium (B&H Albion)	2
34	Brighton Univ Falmer	2
41	RSC Hospital	2

5.15 Figure 5.5 below shows the locations of the first two tranches of sites which would be mostly located in Central Brighton, on the seafront and around the University at Falmer. Figure 5.6 shows the location of Tranches 1 to 4,

Figure 5.5 First and second tranche sites

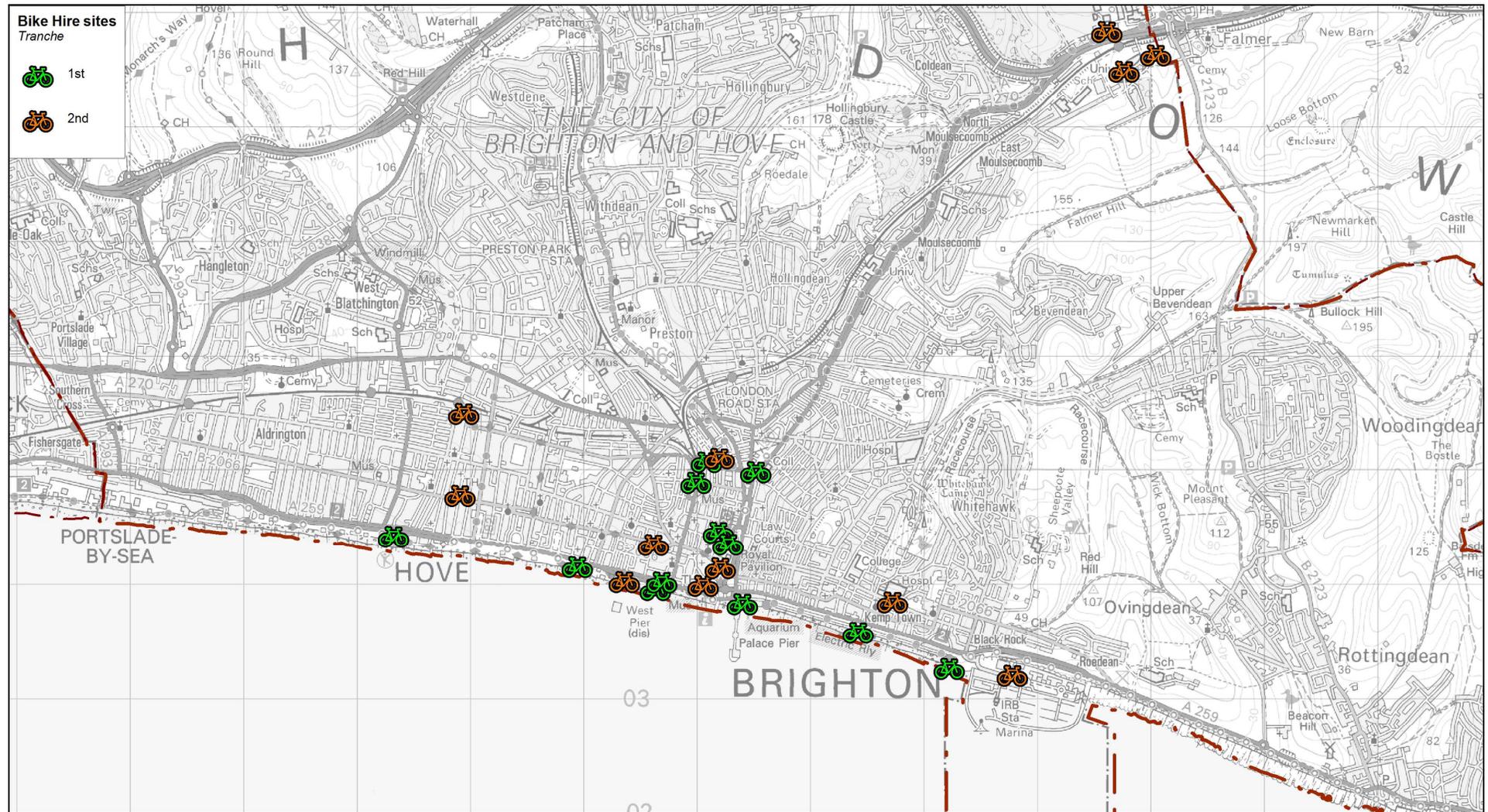
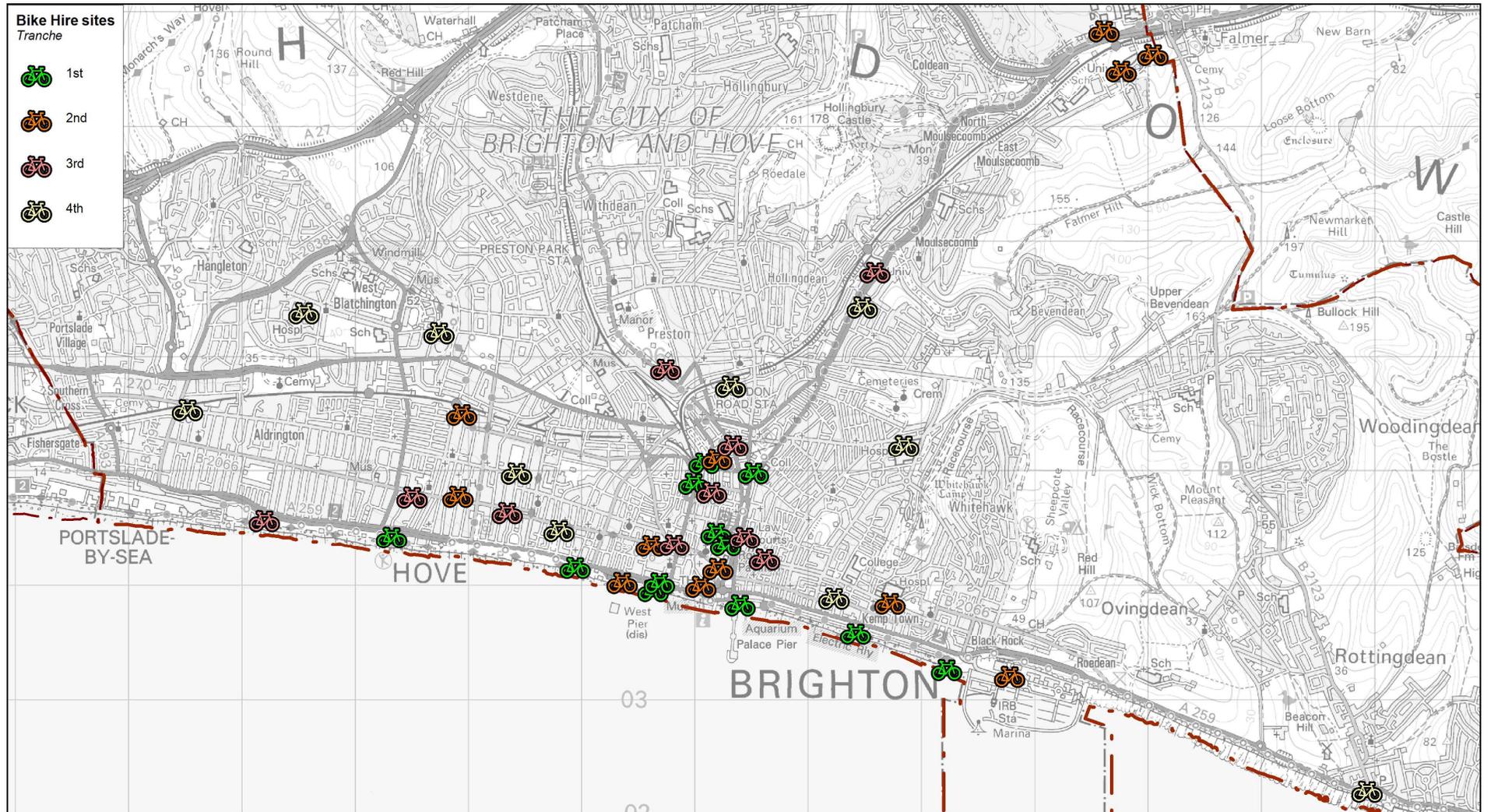


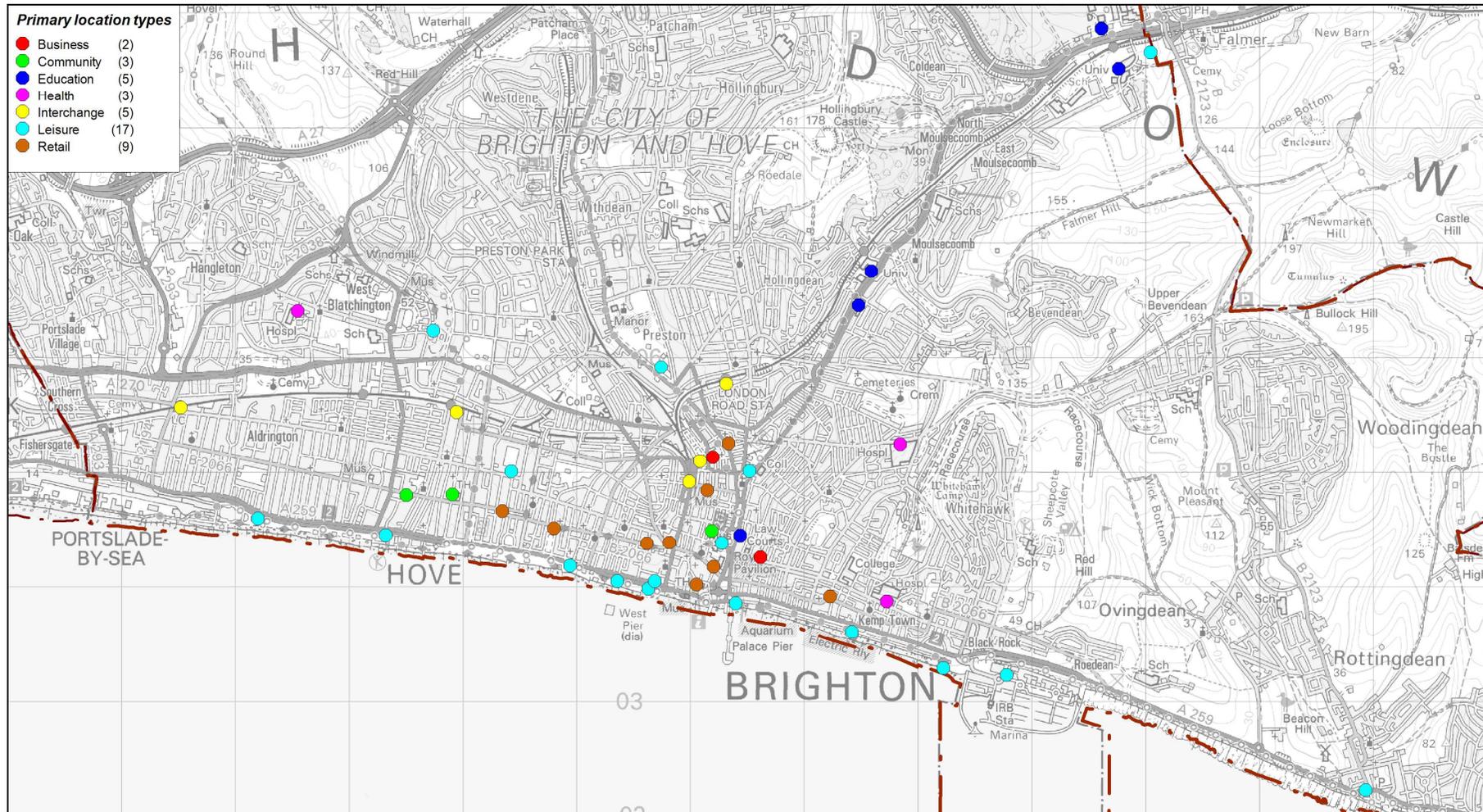
Figure 5.6 Tranche 1 to 4 sites



Implications for scheme operation

- 5.16 The majority of sites shortlisted are linked to leisure use with 17 of the 44 sites having this as the primary destination type (see Figure 5.7 below). This is even more pronounced for the first and second tranche sites, where 12 out of 24 are leisure-based.
- 5.17 The second most common destination type is retail, with nine of the 44 sites having this as the primary destination type (but only three of these being among the first and second tranche sites).

Figure 5.7 Sites by primary destination type



5.18 This will affect the development and operation of the scheme in a number of ways, as summarised below. Some of these issues are dealt with in more detail elsewhere in this study.

Marketing and promotion

5.19 The scheme will need to be marketed to visitors to the area as much as to residents. Information will therefore need to be made available before arrival in the city and the scheme will need to have a high profile on tourism websites including those for attractions and hotels.

Payment

5.20 Many users will be infrequent visitors to the area and payment schemes will need to take this into account. While discounts for regular users (as proposed in London) should not necessarily be ruled out, this should not be subsidised for high prices for one-off users which might act as a deterrent.

5.21 The method of payment and booking process must also be simple for infrequent users. This may rule out smart-card systems in the short term.

Usability of scheme

5.22 Again, many users will be unfamiliar with the scheme and therefore all aspects of its operation should be as simple as possible. The operation of docking stations should be easy to understand, and the bikes themselves should be straightforward to use.

5.23 It would be advisable given Brighton & Hove's topography to ensure that the bikes used in the scheme are suitable for trips involving hills. The preferred option is hub gears (for low maintenance) with a range of 6 or 8 gears including a low "hill-climbing" ratio.

Traffic/infrastructure

5.24 As many users will be less experienced cyclists, those sites on or near busier roads will need to be carefully considered. A full assessment of the network around each site would be desirable to ensure that all hire bikes can be used with the minimum of travel along roads where Level 3 Bikeability skills are needed.

5.25 Where this is not possible changes to infrastructure should be considered to reduce the skill level needed.

Traffic laws

5.26 While the onus for obeying traffic laws will remain with the user, sites should be located in a way to minimise the temptation for users to cycle antisocially (e.g. on the pavement or against a one-way system).

5.27 A site located at the end of a long one-way road which requires a detour to access legally is likely cause problems. As above, a full assessment of the network around each site should be done to reduce this risk.

5.28 In London the hire bikes include basic safety messages displayed prominently on the handlebars (e.g. "Do NOT undertake buses and other large vehicles"). Consideration should be given to this in the Brighton & Hove scheme.

6 Programme and Costings

6.1 This section summarises a recommended programme for rolling out the cycle hire scheme based on the rationale presented above, together with cost considerations for the preferred scheme.

Draft High Level Implementation Programme

6.2 The programme is presented in two forms, the first reflecting the preferred tranches of the highest scoring sites, the second presents the programme when the sites are listed on order of their initial reference.

6.3 The programme typically covers a three year cycle which works with the typical operational life of the bicycles. The criteria comprising the programme are:

- Feasibility
- Consultation
- Design
- Implementation
- Monitoring & Review

6.4 As shown in Table 6.1 the preferred approach is to undertake the preparatory works for the initial 24 sites identified in Tranche 1 and 2 at the same time. This supports increasing the scheme's initial viability by starting with a range of sites and also reduces the level of consultation required.

6.5 Tranche 3 and 4 sites (in this case identified in the 2012/13 financial year as "some sites only") would then follow once the outcomes of a monitoring exercise for Tranches 1 and 2 was known.

Table 6.1 Programme by Tranche

Site no.	Site	Tranche	Financial Year 2011/12				Financial Year 2012/13				Financial Year 2013/14			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
6	North Laine Central	1												
1	Brighton Station south	1												
42	Seafront Black Rock	1												
10	Brighton Pier	1												
2	Brighton Station north	1												
7	North Laine south	1												
14	Seafront central Brighton	1												
16	Seafront central Hove	1												
13	Brighton Centre	1												
35	The Level	1												
40	Madeira Drive	1												
23	King Alfred LC	1												
3	New England Quarter	2												
15	Seafront - West Pier	2												
21	Hove Town Hall	2												
32	Sussex University	2												
8	North Street	2												
9	The Lanes	2												
43	Marina	2												
20	Hove Station	2												
12	Churchill Square	3												
33	Falmer Stadium (B&H Albion)	2												
34	Brighton Univ Falmer	2												
41	RSC Hospital	2												
31	Brighton Univ Moulsecoomb	3												
37	Brighton Univ Grand Parade	3												
38	Edward Street / Amex	3												
22	Hove Library	3												
11	Clock Tower	3												
28	Preston Park	3												
5	North Laine north	3												
4	London Road area	3												
18	Central Hove	3												
24	Hove Lagoon	3												
30	Brighton Univ Mithras House	3												
17	Brunswick Place	3												
39	Kemptown	3												
29	London Rd Station	3												
19	SCCC cricket ground	3												
27	Hove Park	3												
44	Rottingdean	3												
25	Portslade Station	3												
36	Brighton Gen Hospital	3												
26	Hove Polyclinic	3												
	Feasibility													
	Consultation													
	Monitoring & review													
	Design													
	Implementation													

SOME SITES ONLY

- 6.6 The more detailed stages for the preferred sites will be staggered to accommodate factors internal and external to the Council (resourcing, funding, landownership etc.). Each tranche of implementation is followed by a period to monitor and review the results. This will be achieved in conjunction through discussions with the eventual scheme operator.
- 6.7 We strongly recommend ongoing monitoring as data about the number and types of users is crucial to assess the success of the scheme. A further round of detailed qualitative monitoring is also recommended once all sites have been implemented. This could take the form of surveys of users as well as residents and visitors to assess attitudes to the scheme and its overall profile.
- 6.8 Additional data collection for monitoring purposes might include an assessment of funding, operational characteristics such as ease of maintenance and system characteristics such as effectiveness of the technology applied. The effectiveness of the sites chosen in terms of usage would also be a key consideration with lessons learnt applied to determine the suitability of the Tranche 3 and 4 sites identified in this report.
- 6.9 Table 6.2 below presents the same implementation programme but listing the sites in order of their site reference.

Table 6.2 Programme by Site Reference

Site no.	Site	Tranche	Financial Year 2011/12				Financial Year 2012/13				Financial Year 2013/14			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Brighton Station south	1												
2	Brighton Station north	1												
3	New England Quarter	2												
4	London Road area	3												
5	North Laine north	3												
6	North Laine Central	1												
7	North Laine south	1												
8	North Street	2												
9	The Lanes	2												
10	Brighton Pier	1												
11	Clock Tower	3												
12	Churchill Square	3												
13	Brighton Centre	1												
14	Seafront central Brighton	1												
15	Seafront - West Pier	2												
16	Seafront central Hove	1												
17	Brunswick Place	3												
18	Central Hove	3												
19	SCCC cricket ground	3												
20	Hove Station	2												
21	Hove Town Hall	2												
22	Hove Library	3												
23	King Alfred LC	1												
24	Hove Lagoon	3												
25	Portslade Station	3												
26	Hove Polyclinic	3												
27	Hove Park	3												
28	Preston Park	3												
29	London Rd Station	3												
30	Brighton Univ Mithras House	3												
31	Brighton Univ Moulsecoomb	3												
32	Sussex University	2												
33	Falmer Stadium (B&H Albion)	2												
34	Brighton Univ Falmer	2												
35	The Level	1												
36	Brighton Gen Hospital	3												
37	Brighton Univ Grand Parade	3												
38	Edward Street / Amex	3												
39	Kemptown	3												
40	Madeira Drive	1												
41	RSC Hospital	2												
42	Seafront Black Rock	1												
43	Marina	2												
44	Rottingdean	3												
	Feasibility													
	Consultation													
	Monitoring & review													
	Design													
	Implementation													

High Level Cost Review

6.10 At this stage, it is not possible to present a detailed business case for the potential Brighton & Hove scheme owing to the need for more detailed investigation into user numbers. However, through the research conducted to date, we have sourced some specific data for typical costs.

6.11 Figure 6.3 below presents the initial cost implications using a variety of sources. As some of this data is from the Hour Bike scheme in Blackpool it should not be distributed without the express permission of this organisation and is merely presented in this report to provide an indicative cost for establishing a cycle hire scheme. It should be noted that the costs shown in Figure 6.3 exclude the following:

- Consultation
- Promotion and Marketing
- Production of advertising materials
- Brighton & Hove Council resourcing
- Insurances

Table 6.3 Indicative Costs of rolling out Tranche 1

INDICATIVE COSTS OF TRANCHE 1 (EXCLUDES INCOME)			
Hubs identified in 1st tranche	10		
Number of bikes per hub	12		
Total Number of bikes in first tranche	120		
1. CAPITAL COSTS			
	Cost	Notes	Source
Equipment	159,600	Includes Rental Units, Locks, Bikes, Power, SIM Cards, Network Contracts	Hour Bike
Planning Application and TRO's per hub	10,000	Worst Case cost of £1000 per site	TfL - Cost of car club sites
One off marketing and promotion	10,000		Assumed
TOTAL	179,600		
2. RECURRENT COSTS			
Maintenance	10,000	Servicing costs of £100 per bike per annum. Probably less under a maintenance contract	Assumed
Replacement of Stolen Bikes @10 per year	13,300	Assumes 10 bikes are stolen per year and need to be replaced	Assumed
Management and Operations	13,000		Hour Bike
TOTAL (excluding insurance)	36,300		
GRAND TOTAL - HOUR BIKE MODELS	215,900		
PREMIUM FOR BESPOKE BIKES	39,900	Bespoke models are 25% more expensive	Assumed
GRAND TOTAL - BESPOKE BIKES	255,800		

6.12 It will be important to develop a more detailed breakdown once an agreed business model has been scoped.

7 Conclusions

Key Study Findings

- 7.1 Brighton & Hove City Council commissioned JMP to undertake a study to examine the viability of introducing a public cycle hire scheme in the city. This report documents the findings from the study.
- 7.2 A number of different tasks were undertaken as part of the study, including a review of existing schemes; stakeholder consultation; consideration of potential business models and an outline scope for the implementation of a cycle hire scheme including an examination of potential locations.
- 7.3 As part of the study a review was undertaken of other public cycle hire schemes in operation in the UK and within continental Europe. From the review it was evident that there are a number of different types of schemes in operation. These ranged from fully automated large scale schemes based on smartcard technology which are implemented, operated and maintained by a private company to relatively informal schemes provided on a smaller scale and operated using simple technology by local authorities.
- 7.4 From the review of existing schemes a number of key principles were identified:-
- Unlike many towns and cities in the UK, the potential market for cycle hire in Brighton & Hove is essentially twofold, relating to residents of the city and those visiting for leisure/ tourism/conference purposes.
 - Different approaches will be required to encourage the uptake of cycle hire amongst residents and visitors. The hour bike scheme in Blackpool offers two forms of access: full membership targeted at residents or a day pass targeted at visitors. It is recommended that a similar approach is adopted for Brighton & Hove.
 - Visitors to Brighton using the scheme are likely to be occasional bike hire users. In order to maximise the potential usage of the scheme, it is important that the system is made as intuitive as possible. The report outlines a number of potential mechanisms to access the system, most of which rely on the use of a credit card for both payment and security purposes.
 - Any extension of the scheme to take account of objectives based around social inclusion will need to consider users who may not have access to credit cards. Other means of ensuring the security of the bikes and identifying users would therefore need to be established in order to minimise potential losses. These could be based around a “community registration” scheme.
 - The charging mechanism for use of the bikes will need to be carefully considered so as to provide a balance between maximising the uptake for a scheme and generating an income stream which can fund essential maintenance requirements and scheme expansion. In line with other schemes, it is recommended that a 30 minute free period is adopted, but for occasional users that all day use of a machine is discouraged through an escalating charging system making retention of unused bikes unattractive.
 - Docking stations should be provided to store bikes. This has benefits in terms of security, aesthetics, and ease of access and allows users to more readily identify locations where bikes are available. Again, this is particularly important for sites with a large leisure market where there may be little prior wayfinding knowledge of the city. Docking stations proposed for sensitive conservation areas may require planning permission or additional community consultation.

- Bespoke bikes should be considered rather than ‘off the peg’ machines. Bespoke bikes should be designed to be resistant to vandalism and wear and tear and should reflect the environment in which they are used. The design of the bikes should reflect the objectives of the “Public Space, Public Life” document and should not detract from the existing streetscape. They should be protected from the effects of sea spray, be suitable for use on the flat and also for use on longer trips or those involving hills. It may therefore be advisable given Brighton & Hove’s topography to provide bikes with a low gearing system.
- The scheme will need to be marketed to visitors to the area as much as to residents. Information will need to be made available before arrival in the city and the scheme will need to have a high profile on tourism websites including those for attractions and hotels. It is recommended that Visit Brighton and public transport operators are consulted in the development of the scheme in order to maximise its potential exposure.
- The charging mechanism for use of the bikes will need to be carefully considered so as to provide a balance between maximising the uptake for a scheme and generating an income stream which can fund essential maintenance requirements and scheme expansion. In line with other schemes, it is recommended that a 30 minute free period is adopted, but for occasional users that all day use of a machine is discouraged through an escalating charging system designed to discourage day users holding onto machines.
- Key stakeholders should be consulted at the earliest possible opportunity. More successful schemes (politically and operationally) have a high level of local community involvement which fosters civic pride and ownership and helps to promote the scheme to potential users. The consultation conducted as part of this study, suggests that key stakeholders would be receptive to the introduction of a scheme.
- Most schemes rely upon an element of public subsidy, at least in the early start up phase. The level of ongoing support will be dependent on the ability of the scheme to attract a private sector partner or funding. The most common Public / Private Partnerships to date have been where A private company implements, operates and manages a cycle hire scheme on behalf of a local authority in exchange for exclusive advertising rights and a share of the revenue generated from the scheme. However this would be unlikely to be attractive to Brighton & Hove given the potential adverse impact on the public realm of wholesale advertising.
- In the case of Brighton & Hove, external funding is most likely to come from advertising on bikes, coupled with membership fees and user charges. There are examples of wholly owned local authority schemes where such funding has permitted a scheme to become cost ‘neutral’ following initial start up costs. In the case of Blackpool (which has the closest fit to a potential scheme in Brighton & Hove), the council has purchased the entire product including on-street infrastructure from Hourbike, and pay Hourbike a fee to manage their part of the membership operation and promote the system. Blackpool keeps all revenue income and pays Hourbike a bonus if revenue exceeds an agreed figure. In order to minimise risks to the council some form of tie up with a private operator should be considered where supplying, implementing and managing aspects of the scheme are either shared or are the responsibility of the operator.
- The potential to share costs through a ‘tied in’ bike hire / cycle centre facility at Brighton Station should also be explored with Southern Railways..Links with Brighton & Hove Buses could also be explored (NB these operators share a parent company).

7.5 Following the review of cycle hire schemes, the study also considered implementation issues including the potential locations for a scheme. The most suitable locations for an initial scheme roll out

were clustered in the city centre, on the seafront, around the rail station and close to the universities in Falmer. They scored well because of their access to potential markets, access to key destinations, existing cycle infrastructure provision and public visibility. It is recommended that any future scheme is rolled out using these Tranche 1 sites rather than as a pilot since these have not been found to be effective elsewhere.

Next Steps

7.6 The work undertaken for the purposes of the study indicates that a public cycle hire scheme is a feasible proposition for Brighton & Hove. However, the study has also identified a number of key issues in respect of implementing a cycle hire scheme in Brighton & Hove in particular the limitations of additional advertising revenue; potential risk of theft and vandalism and potential requirement for planning permissions in locating bike stations. The information gathered here should be used as a basis for future discussion. To progress this project the following is recommended:

- Further work to establish in more detail the potential demand for a scheme.
- Discussions with private operators of public cycle hire schemes to consider in more detail specific issues in relation to Brighton & Hove, in particular scheme specification, operator costs and the proposed Tranche 1 implementation.
- Investigate how electric bikes might be incorporated into a scheme
- Early discussions with the council's Procurement team to establish the way of seeking operators for a scheme
- Seek advice from officers where similar projects have been operating to further increase knowledge in this area and to learn from their experiences.
- Establish the type of business model which is likely to be used and the likely revenue commitments and ongoing funding this will require. Sources of funding additional to subscription fees and user charges, including the opportunity to use CDT funding and/ or European funding such as CIVITAS should be considered.

Appendix A

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Appendix B

Site Specific Locations (Bound Separately)