

BRIEFING NOTE FOR CYCLE INDUSTRY

**cycle
BOOM**
DESIGN FOR LIFELONG
HEALTH & WELLBEING

Electric Cycling for an Ageing Population

Cycling for an Ageing Population

The population across Europe is ageing as people are living longer and the birth rate is falling. Policy makers are looking at systematic approaches to support and encourage people to stay active for longer in an effort to reduce end of life morbidity and the wider impact on national health and care services. Promoting and prolonging cycling among an ageing population is one way of achieving this. Developments in cycle technology such as electric assisted cycles ('e-bikes') could help to support this strategy. This briefing note reports on key findings from the cycle BOOM study and provides recommendations on how the cycle industry could respond.

The cycle BOOM Project

cycle BOOM was a three-year project (2013-2016) to develop a better understanding of how the design of the built environment and technology shapes engagement with, and experience of cycling as people get older, and how this affects their independent mobility, health and wellbeing.

Part of the project involved seventy-seven participants age 50 and over living in the Oxford and Reading areas, who had either



*E-bikes can promote health and wellbeing
(Photo: Raleigh, 2014)*

not cycled, or seriously reduced their cycling in the last five years, taking part in a cycling and wellbeing trial. Following a short cycling assessment and advice programme with an accredited trainer, participants pledged to cycle outdoors for at least 30 minutes three times a week over an 8-week period and to keep a diary of their experience. Half used an e-bike loaned to them through the project. They were also asked to complete an online survey several months after the trial to identify the impact on their personal wellbeing and whether they had continued to cycle.

The E-bike Experience

Participants cycled for an average of 3 hours per week and made, on average, 30 separate journeys over the 8-week trial period.



Example participant diary of cycling experience

Enjoyment | Freedom | Flexibility | Sociability | Sense of Achievement | Health & Wellbeing

The majority of participants embraced using the e-bike, many cycling more than the required 90 minutes per week. Those who had difficulty walking or riding a conventional pedal cycle because of physical limitations were particularly enthusiastic. The sheer enjoyment and thrill of e-biking was a recurrent theme. Power assist was appreciated because it helped riders to tackle hills and make more frequent and longer journeys.

There was a feeling that the e-bike offered a certain degree of freedom and flexibility to move around whilst providing some form of exercise. Participants often commented that they had replaced some short journeys that they would have otherwise made by car. The e-bike also allowed participants to ride with their more agile partner or friend and a real 'sense of achievement' from travelling distances and to places unimaginable alone or on a regular pedal cycle. Overall, participants felt e-biking had enabled them to undertake healthy exercise outdoors and that this had contributed to personal health and wellbeing.

"Riding an e-bike seems more fun than riding an ordinary bike." Aline, 60s, Oxford.

"Had I been using my own bike I would have to dismount and walk up the hill. On the

e-bike I remained seated and comfortably cycled up the hill." Roanna, 60s, Reading.

"It was good exercise and I felt that I'd really accomplished something. If you'd suggested this to me a year ago I'd have dismissed the possibility of cycling this distance out of hand." Harvey, 60s, Oxford.

"I feel that the electric bike has enabled us to make journeys that we might not otherwise have done and get out enjoying the countryside." Alysia (and husband), 50s, Oxford.

"I ventured further afield this week and used the bike as an alternative to the car. I have been mostly staying in the local area on the bike and using it for errands where I would have possibly have used the car." Colline, 60s, Oxford.

"Really enjoying the time on the e-bike. Beginning to wonder if I will find my own cycle hard work. Feel fitter and sleeping extremely well." Amanda, 60s, Reading.

"The second week I've gone for a short ride before getting Sunday dinner ready. Definitely makes me feel better." Aurelia, 50s, Reading.

"I feel the rides are getting a bit easier and the average speed is creeping up, so maybe I'm getting a bit fitter which is one of the benefits of regular cycling... so that's really good. Lost 5kgs." Padraic, 50s, Reading.

All names used in the quotes are pseudonyms.

Safety | Confidence

The e-bike was often regarded as safer than riding an ordinary pedal cycle. This was because it allowed riders to move away from a stationary position at junctions more quickly and to avoid wobbling into the path of motor traffic when tackling inclines. In summary, the e-bike seemed to increase rider confidence to explore the landscape and make longer journeys because of the certainty of getting home using power assist.

"I feel more confident now with the e-bike. I am discovering that it makes me feel safer in traffic and at traffic lights to get off to a good wobble-free start. It's especially good on an uphill start." Colline, 60s, Oxford.

"Enjoyed the experience in spite of the elements. Now feel much more confident about tackling longer journeys and cycling in bad weather, particularly high winds." Aline, 60s, Oxford.

“The main thing about the e-bike is that I don’t feel that any hill or any long ride is a chore or might be beyond me.” Alysia, 50s, Oxford.

“Odometer now indicates 511 miles. I would never have achieved this on my pushbike not even contemplated doing the journeys I have done. There was always consolation in the thought that, if one became weary, there was always help from the motor to get you home, albeit with pedalling.” Ulrick, 80s, Oxford.

Around two thirds of participants perceived that their wellbeing had improved compared to before taking part in the trial and that they had become more physically active.

E-bike Design, Comfort & Operation

Overall, opinions of the design, comfort and operation of the e-bike were positive. There was a feeling that an upright riding position offered better comfort and visibility. The step-through frame made it easy to mount and dismount - despite some male participants questioning whether they were riding a ‘ladies bike’.

Integrated equipment such as the rear wheel lock, lighting system, mudguards and prop stand were appreciated. Many participants were aware of their vulnerability when cycling on the road and purchased safety equipment including high visibility clothing, helmets and even handle-bar mounted mirrors to aid turning movements.

A key issue that detracted from the overall experience of using the e-bike was difficulty manoeuvring it, for example into cycle parking spaces, because of its weight. Many participants were also concerned about the affordability of e-bikes feeling that they were priced too highly. This also led to fears about leaving the e-bike in public places for fear of it being stolen.

“Good trip again really enjoying the e-bike now. Still feels heavy though and the saddle is hard.” Binky, 60s, Reading.

“A good old fashioned European ‘sit-up-and-beg’ bike which I’ve always thought is a good position to cycle in... and you can see all around you. I also think from a safety point of view, you’re a lot safer because your hi-vis jacket is on much better view from other drivers. I find it very comfortable, you don’t get back ache.” Wilbert, 50s, Reading

“First time on the e-bike. It was a good experience but felt vulnerable without a mirror particularly with my hearing problems. Today I ordered a cheap mirror from ebay... Fitted mirror, much safer now.” Mo, 50s, Reading.

“Mounting and dismounting easier than on my own bike. Only issue with weight is if I need to lift and move the back wheel, which is a bit awkward.” Aline, 60s, Oxford.

“I found the e-bike good to ride but very cumbersome to get into my terraced house. It was very heavy to lift up the door step. I do like the ‘palm rests’ on the handlebar grips.” Roanna, 60s, Reading.

“Very useful to have a ‘jobbing’ bike in town that is small and light. The e-bike is too heavy to manoeuvre easily if parking in awkward places.” Alysia, 50s, Oxford.

“It took me longer to put all the locks on the bike but that’s because I want it to be secure in the cycle rack.” Kari, 50s, Oxford.

When operating the e-bike, riders used discretion on gear selection and power setting based on what they felt appropriate to their fitness, health condition and journey situation. Some participants decided to forgo power assist altogether to increase exercise and this accounted for around 15 per cent of total participant riding time. Others felt restricted by the 15mph limit on the motor. Participants reported a combination of interest and intrigue about the e-bike among friends, colleagues and members of the public and reported that there was a common misconception that ‘e-biking’ was cheating because you did not need to pedal.

“I’m using high levels of assistance for practical trips to the shops and lower levels of assistance for my 22 mile ‘get fitter’ rides.” Padraic, 50s, Reading.

“Suffered last week from painful right knee (the one with the Oxford half knee replacement), so using more power, which definitely seems to help. Definitely finding a higher gear with power is better for the knee.” Aline, 60s, Oxford.

“I felt a little limited by the 15mph. Although I could go faster the bike is very heavy with no power assistance. But cycling into the wind or going uphill is pleasurable.” Mo, 50s, Reading.

Following the trial, fourteen participants purchased new e-bikes and a further five purchased one of the e-bikes used for the project all at a discounted price.

Summary

This aspect of the cycle BOOM study has demonstrated that there is the potential to engage a significant market of older and retired people contemplating cycling as part of a personal project for healthy ageing.



Scan to view videos of participants talking about their experiences, or visit: www.cycleboom.org/video/

Key Recommendations

The UK cycle industry should capitalise on the growing potential for e-bikes by:

1. Promoting the positive benefits of e-biking including fun, freedom and the ability to access the outdoors with other people and the contribution this can make to promoting health and wellbeing.
2. Tackling the general misperception that e-biking is 'cheating' by conveying the message that e-bikes provide 'power assistance'.
3. Encouraging retailers to stock e-bikes and training their front-of-house staff with the skills and expertise to support speculative buyers with a range of needs.
4. Working with government to improve affordability through tax-free saving and other incentives such as battery replacement schemes.
5. Working in partnership with training providers to offer bespoke e-bike training.
6. Providing 'try-out' events to allow the public to experience e-biking first-hand.
7. Working with public transport operators and motor vehicle manufacturers to find solutions for in/on vehicle carriage and charging of e-bikes.
8. Reducing the weight of e-bikes to improve manoeuvrability.
9. Offering a wider variety of sizes and designs to suit different heights and needs and ensuring that step-through frames are marketed as 'unisex'.
10. Ensuring operation of e-bikes is straightforward by using a simple array of power assist levels and gearing.
11. Providing optional features such as integrated mirrors, hand warmers, navigation systems (in addition to standard features such as locking devices, lights, chain/mudguards, prop stands and pannier racks) to improve comfort and utility of city and hybrid cycles.
12. Encouraging the government to monitor use of e-bikes in the National Travel Survey.

Further Briefing Notes, a Summary Report of Key Findings and Recommendations and a series of short videos from the cycle BOOM study is available at www.cycleboom.org



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