



An Evaluation of the Cycle Taxi Service: Using Active Travel to Combat Loneliness

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EXECUTIVE SUMMARY

The ride side-by-side cycle taxi service was funded by the Department for Transport (DfT) under a one-year scheme to explore tackling loneliness and social isolation through transport as part of the government's wider Connected Society Strategy (HM Govt 2018). A total of 871 participants used the cycle taxi service between July 2022 and July 2023, completing over 3300 journeys, with individual participants making between 1 and 102 journeys each during that period.

Data collection for the evaluation consisted of semi-structured qualitative interviews with twenty-two participants along with quantitative data which was collected from all participants when they booked their first journey (n=871). The interviewees were self-selecting from the wider pool of cycle taxi users and interviews took place over the phone, by video call or face-to-face according to the preference of the participant. Interviews were audio recorded and transcribed using Otter.ai. Written transcripts were then manually checked and anonymised before being saved as documents for analysis. Four main themes (with a number of sub-topics) emerged from the analysis of the qualitative data. These were social contact, mobility, health and wellbeing, and inclusivity and accessibility.

Findings

Social isolation and loneliness are detrimental to health and wellbeing and are often related to levels of physical activity. Older and disabled people, those with a low income or from marginalised communities disproportionately experience social isolation and face significant barriers to mobility, exercise and social participation as well as health inequalities. The cycle taxi provided a sociable, active-travel opportunity that overcomes these barriers, reaching groups who are particularly disadvantaged.

Cycle taxi participants reported increased social contact as a result of engaging with the service, including with other riders and pilots, family and friends and their wider community and environs. Many participants also reported increased confidence to undertake other new activities, including other physical activities and cycling, which have further beneficial impacts on levels of social isolation and its health consequences.

The cycle taxi offered free, active transport for people who faced significant barriers to mobility and transport. For many it was a “lifeline”, providing their only means to get out and about. Participants used the cycle taxi for a range of journeys including essential everyday tasks such as going shopping or attending medical appointments, as well as leisure and social participation. Participants frequently emphasised how the cycle taxi gave them freedom and independence that they otherwise lacked, particularly given the limitations and/or inaccessibility of other transport options.

Health and wellbeing are intrinsically connected to physical activity, social contact and accessing the outdoors and nature. The cycle taxi offered participants a unique means to access all of these health promoting impacts in one journey. Participants reported strong mental health benefits both immediately after their ride and over the longer term. They also highlighted the physical health benefits of exercise and the importance of being able to get outdoors into nature and the fresh air. The fact that all of this was achieved in a fun and novel way only added to the benefits that participants experienced and, likewise, accessing the outdoors in an active way increased the mental health benefits. The cycle taxi is particularly important in providing these health and wellbeing benefits to the social groups who face the most barriers to accessing them and who experience the highest levels of social isolation and health inequalities.

Older and disabled people, those on a low income and/or from marginalised communities found the cycle taxi to be accessible and beneficial for them. The design of the cycle, the skills and adaptability of the pilots, and the fact that it was free all contributed to this accessibility. Participants were acutely aware of the benefits they experienced and keen that others have the opportunity to avail of them, both recommending the service to those in their networks and aspiring for the cycle taxi service to be rolled out more broadly.

Overall the cycle taxi offered participants a unique and accessible form of social participation, mobility, access to nature, exercise and health. It had significant reach and impact across groups who face significant barriers to these experiences. The active nature of the service added to the mental health benefits of accessing the outdoors and nature as well as the likelihood of improved social connectedness. Given these findings the following recommendations are made:

Recommendations

- 1) The cycle taxi service should be funded on a consistent and ongoing basis to ensure that disadvantaged communities continue to experience the social participation and health benefits of active travel. This is particularly important given local authorities' current spending on active travel and micromobility schemes which often exclude older and disabled people (and others with protected characteristics) and their Public Sector Equality Duty to not only avoid discrimination but to actively promote equality and inclusion (HM Govt 2010).
- 2) The service should remain free and available on an easy refer, including self-refer, basis. Other transport and physical activity options are either costly or, if they are free, require prohibitive amounts of paperwork and evidence before people can avail of them – only increasing the barriers to mobility and social participation.
- 3) Information and awareness about the cycle taxi service and its health, wellbeing and social participation impacts should be disseminated widely across health, social and public services to support referrals across target groups and open up funding sources.
- 4) The service (or something very similar) should be rolled out across a wider geographical area, including four-nationwide, to ensure equitable access to the benefits of the service across the country.
- 5) Developments of the service including special excursions and supported employment opportunities for those from marginalised groups could also have significant impacts and continue to widen the health, wellbeing and social participation benefits.

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1. INTRODUCTION & METHODS

The ride side-by-side cycle taxi service was funded by the Department for Transport (DfT) under a one-year scheme to explore tackling loneliness and social isolation through transport as part of the government's wider Connected Society Strategy (HM Govt 2018). Bikeworks submitted one of twelve successful bids out of more than 500 nationwide and was the only active travel/cycling project to be funded. Six side-by-side cycles with trailers were purchased for this project and a seventh was brought in from the pre-existing Bikeworks fleet. Two managers, fifteen pilots, one pilot mentor and three researchers were recruited, all working part-time over the duration of the service. A total of 871 participants used the cycle taxi service between July 2022 and July 2023, completing over 3300 journeys, with individual participants making between 1 and 102 journeys each during that period.

Data collection for the evaluation consisted of semi-structured qualitative interviews with a sample of participants along with quantitative data which was collected from all participants when they booked their first journey (n=871). The parameters of the quantitative data were set by DfT and consisted of demographic details alongside frequency of use. For the Bikeworks evaluation a question was added to capture frequency of social contact prior to uptake of the service (see appendix 1). However, responses to the demographic questions were patchy with high proportions of people selecting the "prefer not to say" option – a common feature of demographic surveys (for full details see chapter 4). For example, less than 100 participants answered the social contact question. Significantly more, but still less than half the overall participants (n=381), answered the question on gender, and the majority of respondents declined to answer questions on disability (n=548) and ethnicity (n=532). The question with the highest response rate related to the purpose of the journey (see chapter 2). Drawing substantive conclusions from this data is not, therefore, possible but, combined with the qualitative data, it provides some interesting indications about the service and its reach and uptake among target groups.

For the qualitative component of the evaluation, twenty-two participants took part in semi-structured interviews with one of two researchers who were hired to conduct the

interviews¹. Informed consent was obtained prior to the interviews and copies of completed information and consent forms were sent to participants directly afterwards (see appendix 2). The interviewees were self-selecting from the wider pool of cycle taxi users and interviews took place over the phone, by video call or face-to-face according to the preference of the participant. Adjustments were made to accommodate participants' access needs, such as a non-verbal respondent using the chat function to type their responses during a video call. Interviews lasted between sixteen and sixty minutes, with half (n=11) lasting between twenty and twenty-nine minutes. Five lasted more than thirty minutes and six took between sixteen and nineteen minutes. The length of each interview was largely determined by the participant and how much they wanted to say. Interviews were audio recorded and transcribed using Otter.ai. Written transcripts were then manually checked and anonymised before being saved as documents for analysis².

The interviews took place between March and July 2023 – the final five months of the project. In the initial evaluation design, it was envisaged that participants would be interviewed at fixed points (e.g. three, six and nine months) to attempt to capture some of the impact of the service over time as participants increased their use of it and, also, potentially their social contact. However, delays with onboarding research staff, and sluggish uptake of the offer to participate in interviews rendered this impossible and interviewees were recruited as and when they were available. Ultimately, this did not impact on the quality of the data recorded and, indeed, the interview data highlighted that any assumed link between length of time of involvement with the service, frequency of use, and social contact, did not play out in reality. For example, some participants who had been involved in the service since the beginning of this project, (or, indeed, the earlier Ride Side-By-Side service (see Inckle 2022)), had made less than three journeys, whereas others who were interviewed towards the end of the project and had only been using it for a few weeks had made more than a dozen journeys³. This suggests that it was not length of time of involvement with the service which was a key factor but, rather, frequency of use.

¹ The third researcher oversaw the design and delivery of the evaluation including training the interviewers, analysing the data and writing up the report.

² Participants included people with speech impediments and/or people whose first language was not English and this is reflected in the transcripts.

³ Moreover, given the patchy quantitative data in this field, mapping impact on social contact across data sources was not viable.

The initial target number of interviewees was between twenty and twenty-eight, depending on the detail and quality of the data that was returned. An initial pilot analysis was undertaken when eighteen interviews had been completed and, following this, a further four were completed to create a total of twenty-two interviewees. Both the pilot and the substantive analysis used a thematic approach, but the pilot analysis focused primarily on coding for social contact data. The transcripts were coded and then grouped into themes which were sorted and then re-checked across the data. When the twenty-two interviews were completed the process of coding, grouping, sorting and checking was repeated from scratch across all transcripts to ensure consistency and quality of analysis and providing an opportunity to review and revise the initial set of codes.

Nine of the twenty-two interviewees were carers, staff or group-leaders, three of whom also self-identified as disabled. The carers/leaders worked with people with a range of experiences, including older people who were often mobility impaired, autistic students attending a special college, a carer whose clients included learning disabled, mobility impaired and neurodivergent people as well as those with chronic health conditions. Three of the carers were family members of mobility impaired people two of whom were mobility impaired or had a chronic health condition themselves. There were also group leaders from a blind and visually impaired people's group and a group for vulnerable/isolated people.

Overall, four main themes (with a number of sub-topics) emerged from the analysis of the qualitative data. These were social contact, mobility, health and wellbeing, and inclusivity and accessibility. The themes have been presented in this order to reflect the key focus of the project, namely, using active travel to reduce loneliness and social isolation. Nonetheless, there are significant interconnections between all of the themes, social connectedness is an essential part of health and wellbeing and has a bi-directional relationship with it. Likewise, mobility, health and wellbeing are often interrelated and physical activity and social connectedness are strongly related for older people. The accessibility and inclusivity of the service is crucial in reaching the groups who are most likely to experience social isolation and have poorer health outcomes such as disabled, older and socially marginalised people. The data indicates that the cycle taxi had significant impacts in all of these areas and demonstrates a widespread appetite from participants for the service to expand its availability geographically and in terms of hours, days and type of service.

2. SOCIAL CONNECTEDNESS

The cycle taxi service was funded by DfT as part of the governments wider “Connected Society” strategy (HM Govt 2018) to promote social connectedness in this case via transport and specifically active travel. Social connectedness is usually understood in terms of loneliness, which is a subjective feeling of lacking adequate social connections, and social isolation, which is an objective measure of the amount and type of social contact a person has (Emerson et al 2021; Fakoya et al 2020; HM Govt 2018). Both loneliness and social isolation have significant negative impacts on mental and physical health including increased risk of stroke, heart disease, Alzheimers, depression and anxiety as well as increased likelihood of health-negative behaviours such as smoking and being physically inactive (Fakoya et al 2020; Hawkley 2022; HM Govt 2018). The link between social isolation and lack of physical activity is particularly significant for older people (e.g. those aged over 60) (Fakoya et al 2020; Schrepft et al 2019). It is only in recent years that loneliness and social isolation have been recognised social issues and matters of government/public health concern rather than an individual problem or deficit (Hawkley 2022; HM Govt 2018) and older, disabled, unemployed people, carers and some “marginalised groups” are recognised as being at particular risk of social isolation, loneliness and their impacts (Emerson et al 2021; Fakoya et al 2020; HM Govt 2018: 20).

Prior to the cycle taxi project, Bikeworks had significant experience of working with socially marginalised groups, including disabled and older people (see Inckle 2022) and these networks were activated to reach out to participants for the cycle taxi service. In addition, pilots were recruited who were already active within their communities and who brought organisations and individual participants with them. During quieter times pilots also visited organisations such as community, day and learning centres and religious organisations. Bikeworks also organised taster days and recruited additional participants via their inclusive cycle sessions – conversely some cycle taxi participants also discovered the inclusive cycling opportunities for the first time via the cycle taxi. Social media, word of mouth (see chapter 4) and the visibility of the cycle were also part of the recruitment.

The role of the cycle taxi in increasing social connectedness is borne out by the data. Participants reported increased levels of social contact and described a range of ways in which their social connectedness had improved as a result of using the cycle taxi. This

included social contact with pilots and other riders/participants, family and friends, the wider community and their local environs. Participants also reported that their experience with the cycle taxi increased their confidence, enabling them to go into the community and socialise in ways that they would not have previously felt able.

2.1 Increased Social Contact

Ascertaining participants' level of face-to-face social contact prior to using the cycle taxi service was difficult. Firstly, it relied on people being able to accurately recall and average out their levels of social contact in accordance with the predefined categories on the demographic survey and, secondly, being willing to disclose such personal information. The response rate was low across all the demographic questions, with the majority of participants selecting the "private/prefer not to say" option – a common feature of demographic surveys (Lor et al 2017). Only 87 (10%) of the 871 participants answered the social contact question and 78% of those reported that they had face-to-face social contact 2-3 times per week prior to participating in the cycle taxi service.

However, the interviews elicited much richer data about the social contact impacts of the cycle taxi including the level and type of increase participants experienced⁴. Of the 22 interviewees 64% (n=14) reported increased social contact as a result of participating in the service (nine of these were individual participants and five were carers, leaders or staff reporting on behalf of others – sometimes multiple people). Four participants (18%) suggested that their social contact "may/might" have increased as a result of the cycle taxi service and further four (18%) reported no increase at all, largely because they were already very well connected – however, they did report improvements in other areas such as mobility and/or health and wellbeing (see chapters 2 and 3). Some participants explicitly quantified the increase in social contact they experienced:

It's improved 50%, the socialising, because many people who I don't talk to, never talk to in the church or community centre, I started talking to them.

I do more now because of the taxi bike. ... I mean I go to college but other than that, I have new found contact of like three or four times a week.

⁴ Lor et al (2017) note that the likelihood of disclosing personal/demographic data can be related to when and how the questions are asked. For this reason, the qualitative interviews were structured to allow time to build trust and rapport before personal topics were broached, and to then steer away from them before the interview closed (see Rubin and Rubin (2003) and appendix).

Other participants spoke more generally about the transformative impact of the cycle taxi on their day-to-day experience. A full-time carer with a chronic health condition described how:

I had to give up work in 2019 to look after my wife and then since then I've lost contact with all my friends to be honest with you. And to join the Bikeworks, it's like, it was like meeting new friends again, and starting again.

A visually impaired participant also described how the cycle taxi service was his only means of getting out of the house and having social contact.

It's much more positive because, like, if there's no one come, then I just stay in my room. So yeah, with the pilot, and I could travel outside and speak to other people.

The increase in social contact was also highlighted by a member of staff at a college for autistic students:

Every student is different, but normally, we don't have a lot of contact with people out[side] of our organisation. For some of them is difficult to understand the relationship between individuals, but we try to encourage that, and I'm very happy to say that with your drivers it's very nice because it's more people that we expand their circle which, sometimes, is really, really small. Maybe it's just their circle, just their families and each other, so it's really nice to expand that circle.

Participants often recognised the wider, transformative impacts of the increased social contact they experienced (see also chapter 3 on health and wellbeing):

It's opened me up. So, and that's all I can say is, it's kind of like [I was] in a bubble, like doing my own things, doing this, doing this, doing this. And now it's opened my mind again, and I'm interacting with people, which I wasn't before. And that's what's opened it up to me. It's quite easy to go into a like, depression and stuff like that. But this has opened me up to that now, it's, I'm not, I don't feel down anymore.

Interview participants described a range of ways that their social contact had increased. These included contact with the pilots and other users of the service, family and friends, the wider community, and their locality. Participants also described how using the service increased their confidence to go out, socialise and explore their local area in ways they would have never considered otherwise.

2.2 Social Contact: Pilots and other riders

The side-by-side cycle and trailer allows four people (including the pilot) to travel together. For many participants the social interaction with the other riders/participants was key to increasing their social connectedness.

Also you get to talk, on this bike, to one another. ... you talk to people.

Many points made me use it. Yeah, these points, and socialising also, we have passengers. Sometimes I am the only passenger, sometimes we have four passengers. ... So we get to chat together like that. ... This gives me opportunity to go, so it improves my socialising.

Some of these relationships extended beyond the service and developed into friendships – as was the case in the previous ride side-by-side project (see Inckle 2022).

I met another person. [name] and her carer, [name]. Yeah. So we can become quite close. So just like meeting other friends.

The design of the cycle (see chapter 4) is integral to facilitating social contact with other riders. A visually impaired participant who had prior experience of tandem riding described how the side-by-side cycle improved communication.

Being side-by-side it's easy to communicate with the person next to you whereas on a tandem, which I have done in the past, not recently, but I used to ride a tandem, the person on the front's always speaking ahead, and you're saying "What did you say? Can't hear you."

Some participants used the service without the trailer so that it was a two-person vehicle whilst others experienced the cycle in both the four and two-person configurations. In either case the interaction with the pilots was also reported to be an important social connection for participants who appreciated and enjoyed the pilots' company (see also chapter 5).

Oh I feel very happy. I feel like, when I come home, I feel happy that I've got out for the day because as I said, I was quite isolated. You know, just to have a chat with the pilots as well and just to be in the fresh air and, you know, it's a really good feeling for me, I feel like, you know, I've actually sort of achieved something for that day. ... It's nice to have a little chat with them. You know, talk about anything, politics, gardening, anything.

To me, it's not just about the bike. It's the actual pilot, you're talking all the time, constantly. And the conversation is important to me, because I would sit upstairs and my wife [would] be downstairs and there's no communication. ... This is like, it's like a new release for me. It's like talking to someone else and having another opinion on something else. That's what's important to me also. Not just the bike ride, but the person that you're talking to, you know?

A carer described how the social contact with the pilot was crucial for one of her clients, an autistic man, who loved to explore the streets of his locality and interact with people but who was now prevented from doing so because of misinterpretations of his actions.

Yeah, but [name of pilot] I think is really good. [name of client] loves [pilot]. And I think he likes it for the conversation just as much as he does for the ride. For [client] it's really great because his favourite hobby is to be wandering around parts of [place] and it's like his special interests, he's autistic, is to like find different places that you could potentially live in. He wasn't allowed to wander around anymore because he got into some arguments with people and also, like, he tells women that they're beautiful just to be polite, but people get the wrong idea and because of him not understanding, and a few negative situations, they said that he's not allowed to wander out on his own anymore. But now he can cycle with [pilot] around so he's happy again. ... I think it's also about having conversation, because he doesn't really have that many people to chat to, particularly men, it gives him a man to chat to.

In addition to the social interaction, the pilots were also appreciated for their openness and flexibility in working with people with complex situations and adapting the service to fit their specific needs (see also chapter 4 and Inckle 2022). This ensured that the service, and the social connectedness it facilitated, were accessible for people who often experienced significant barriers to mobility and social contact. The cycle taxi service also enabled increased social contact with family and friends.

2.3 Social Contact: Family and friends

Cycle taxi participants described a range of ways in which the service enabled them to deepen connections with their family and/or friends. Two interviewees spoke enthusiastically about bringing teenage children or grandchildren on the cycle taxi with them (children had to be over sixteen and large enough to safely sit into the cycle).

My son came with me. He thought it was really embarrassing to start off with, and then as we go around his mates started saying, "Oh that looks cool!" So he felt he was, he loved it. In the end he really, really loved it. ... So yeah, I took my

daughter and my son. Yeah and they just loved it. They just really enjoyed it. [Daughter] wasn't pedalling, she was at the back letting us do all the hard work! ... They said "Can we do it again mum?" Like they really, really enjoyed it.

Other participants spoke about using the cycle to meet and share an enjoyable experience with other family members. A mobility impaired man described how cycling with his father, who is also mobility impaired, enhanced their relationship.

I really appreciated the social aspects of the cycle service ... Spending time with my dad outdoors. I mean, that's the main thing. ... I think it opened up a lot of conversations, a lot of topics. The fact that him and I sat almost next to one another, experiencing the same thing instantaneously, it just naturally brings up conversation, brings a closer, closeness and something, allowed us something to talk about even afterwards. That would be the social aspect. And my partner was there as well. It was nice for my partner and my dad to do something together, which was other than sitting around, for example at a dinner table. ... It makes me feel like I'm closer to my dad and my partner ultimately.

Another participant described how the cycle taxi had inspired him to book a trip for relatives to come and visit.

I've actually booked up for next month for them to come down and visit me, I've put them in a hotel for three nights. I wouldn't normally do that. But I've done that. And that's down to Bikeworks giving me that confidence, thinking all the places that Bikeworks have taken me, I can now take my stepmum and my dad to those places, giving me the confidence of the area as well.

A carer described how one of her mobility impaired clients used the cycle taxi service to have regular contact with friends and family members whom she would otherwise be unable to meet.

She does have kind of a routine going, like once a month, she'll pick up her parents and go round the park but she goes to different places as well. Last time she took [name of friend] to the park and then stopped to see her foster family that she used to live with. ... We do go to different places but there's the one set routine that's once a month is that we take her parents around the park and [name of client] likes to go with her parents and it's nice for them because her dad is like quite old now and walks with sticks. We get to like do it together.

Being able to meet and share an activity with family and/or friends was a key element of how the cycle taxi reduced the social isolation and/or loneliness experienced by many of

the participants, especially those with a disability, health condition or life situation which presented barriers to mobility and social contact. A number participants also described how the cycle taxi facilitated increased contact with their local community.

2.4 Social Contact: Community

For participants who had limited mobility (see chapter 2), simply being able to go outside and travel through their local environs and/or visit new places gave them a feeling of connection with the wider world. One participant described the cycle taxi as an opportunity to “Open up or like, kind of like, reconnecting to the society.” Another described how it:

Takes me through the city when I'm feeling low and I'm seeing all the people who, when I've been in the house, I wouldn't see no one. It's just the best thing. ... It makes me feel like I'm in the world. Because I'm going there and I'm in the traffic, I'm part of the world. Whereas I'm not otherwise part of the world, I don't feel like. But when I go on the bikes I'm part of it for god's sake! I go to traffic. I'm living. It makes me feel alive.

The staff member at the college for autistic students reported a similar impact:

I'm gonna give you an example. I have a student. In the last, I would say, three, four years, he didn't go out of the school. And with the bikes, we went out in the community for the first time in four years. So it was amazing.

For these participants, simply being able to go out and immerse themselves in the world around them was a significant change to the isolation that they normally experienced. Accessing the outdoors and community spaces is recognised as a significant feature of tackling loneliness and social isolation especially for older and disabled people (Emerson et al 2020; HM Govt 2018). For others, the attention that the cycle attracted and the interactions with passers-by added to their sense of connection with their community.

It's nice because a lot of people always sort of stop us on the bike. They're always inquisitive about the, you know, the service and, you know, people are quite nice and they wave and they say, “Oh, that looks brilliant!” And you know, it's just, it's just a really nice experience. But you know, it's really positive.

It was unbelievable. And at bus stops, it was the same you know, like, “Ooh, [we're] waiting for the bus and look at you, you're going on your way!” It was lovely. It was all laughing and joking and waving. It was not one nasty comment, ever, did I, not one. Everyone was just laughing. I thought it was brilliant.

This positive social interaction in the community is particularly important given the social exclusion and/or hostility that marginalised groups often experience, with recent research suggesting that only 56% of disabled people feel safe and welcome in their local community (Sustrans, 2022).

Participants also reported how the cycle taxi deepened relationships with people with whom they were associated but lacked significant or ongoing connection. For example, one visually impaired participant described how people in the community (in this example her hairdresser) made a special effort to talk to her once they had seen her using the cycle taxi. “Well, that was when the hairdresser made me realise, I’m thinking, you’ve seen me the other times and you’ve never popped out to say hi.” She felt this was particularly important in the context of her visual impairment which makes it difficult for her to recognise and initiate contact with people.

And that’s one of the things that visually impaired people find, the difficulty is sustaining friendships and making relationships. ... Because you have to come to me always. If I don’t know you’re there, if I’m walking past, how do I ever [know you are there] unless you go, “Oh, hi [name]” to me, I’m never going to know it’s you.

This opportunity to deepen community relationships was shared by other cycle taxi participants:

You can see other people and sometimes you see people, I see them in the church, I never talked to them in the church or community centre. Once I see them with me on bicycle, we become like friends. ... Once I see them on the bicycle, and then we chat, and then after a few days, I see them in the community centre, we started chatting ... many people who I don’t talk to, never talk to in the church or community centre, I started talking to them.

This was particularly important for some participants:

Yeah, please focus on the points which are really, really strange point like, like in the community centre, I don’t chat with this person, when I see her in the bicycle, we become, not friends, but we become chatting in the community centre again.

The cycle taxi enabled a number of participants to develop and deepen relationships with people in their local community with whom they would not have otherwise engaged at this

level. Participants also reported that the cycle taxi provided the means to connect with their local area/environment.

2.5 Social Contact: Local area/environment

For participants with limited mobility and/or a life situation that curtailed their ability to access their local community, the cycle taxi provided a means of reconnecting with their environs. This was important both emotionally and practically, enabling participants to engage in enjoyable day-to-day activities such as shopping at their local market:

I went and bought some fish on [name] Road [market], which I could not normally get to because I don't drive anymore.

Participants also described the positive impacts of getting to know their local community that they could not otherwise access. A carer described how, "It's kind of nice that she [client] gets to see her local area because she really doesn't see it otherwise." Another participant reported that:

[The cycle taxi] allows me to discover new streets. Even in my own area, I'm living, living here in my area 28 years, and they are only ten minutes walk from my place and I don't know all these new aisles and ... the beautiful small narrow, like snake, these streets like snake. ... If I walk I walk on the main road. If I go bus, the bus going on the bus road. I don't have car so I don't go [on] other road. But the driver go the streets, very narrow streets where she can, you know, go safely, not through the traffic. This gave me an opportunity to discover a new, new streets.

For some participants this opportunity to explore and connect with their local area had significant emotional impacts, as described by this participant following the death of his mother.

It's helped me because I could be wallowing upstairs crying, doing this, doing that, and I did for a couple of days, but then I had some Bikeworks [trips] already booked in and I thought no, I'm not going to cancel this. I need to do this for me. My mum would want me to do this. So I did it. And then one of the pilots took me around to all her birth places and where she grew up and stuff like that, and that is what I did, I did that for her, and for myself to remember those days. The good days.

This was something that he would not have felt able to do without the cycle taxi.

I wouldn't do that on my own. I couldn't even get down there. I know it's only [area] and stuff like that. I wouldn't get down there even from here, myself. I wouldn't even know how to get there probably.

Another participant described the importance of the cycle taxi journeys in enabling them to reconnect with their community after living away for years:

I was born and bred in [place] but over the past year, I mean, I was away for a few years abroad, but on coming back, just prior to the COVID, a lot of things had changed, and I wanted to go over lots of grounds and places that I knew as a child, and I was able to do that with Bikeworks so I've done a lot of sort of catching up with my youth if you like.

The opportunity to travel around and explore their local area in the cycle taxi offered participants unique opportunities that served both practical and emotional purposes. The connections they experienced are important for health and wellbeing (see chapter 4). Similarly, a number of participants described how the cycle taxi journeys boosted their confidence to undertake additional activities that they would have not otherwise considered.

2.6 Increased Confidence

Participants described how participating in the cycle taxi project increased their confidence to go out, to socialise and/or to try other new things:

I feel more able, to want to go out, to want to walk ahead to leave here. Um. To be out in the environment. And to talk to others.

One participant described the service as better than any of the psychological therapies he had tried over the years:

This has helped me much more. It's just getting out, using my legs and getting the confidence again of actually being surrounded by people. ... I went out yesterday. That was great. ... And I've started to do that gradually now. ... Just to walk, yeah, just to get out the door. Okay, it's not a Bikeworks day. Okay, let's go and do this because today I had such a lovely day. Let's, let's do this, do this again. And I went for a walk and I wouldn't do that without initially doing Bikeworks first to give me that confidence.

The staff-member from the college for autistic students also described how the experience of using the cycle taxi had increased the students' confidence and interest in exploring the wider community.

I think since we started with this, some of them they were, they're very willing to go out in the community, but before maybe they were scared, they didn't have the experience. And now I think they have a reference, I think they think, "Okay, we went out in the community and we were fine. So now we can go again." I think it's really good. For example, this particular student that he didn't go out in so many years and now, now he wants to go every day. And we cannot go every day! But he's asking like, to go out. Which is nice, really, really nice.

The experience with the cycle taxi also gave participants the confidence undertake new activities, as reported by a staff member from a service for vulnerable adults:

Um I think maybe just a little confidence thing, because, you know, I can say to them, when there [are] certain things that they don't feel confident about, I say "Well you got on that bike! You thought you weren't going to do that." But yeah, you know, it's showing them that they can try new and different things.

Significant among the activities that participants reported having new found confidence to undertake was independent cycling. This was true even for participants who had never cycled before:

Without cycle taxi, I could never imagine me on a road, I cannot cross without green man, I don't have the confidence, now I am thinking of routes I could take on a solo bike to work and back.

It was also the case for those who had considered cycling but were not sure about their ability or the type of cycle that might suit them.

I was thinking about buying a bike and I thought, oh, I wonder if I can cycle on that bike [e.g. the cycle taxi]. Then it'll help me make a decision to buy a bike, you know, to get a bit fitter and get out a little bit.

The introduction to Bikeworks through the cycle taxi service also enabled some participants to try the all-ability cycle sessions and experiment with different cycles that would suit their needs better than a standard two-wheeled bicycle, as this eighty-nine year-old reported:

And also when I found out that I can test other tricycles, I'm now thinking that perhaps within a year before I reach 90, as long as I'm still capable of doing any cycling, it would be a good idea to, to actually buy a tricycle. And I know by using Bikeworks, I can try out various tricycles for me. Find one that suits me, and hopefully, maybe I can buy a second hand one.

Another participant was considering undertaking the Bikeability training at Bikeworks so they felt more skilled and confident to cycle independently.

I'm gonna go into Bikeworks because they got some training for intermediate [Bikeability] and I'm intermediate because I'm not safe on the roads because I don't know all the road signs. So I'm aware of that and my pilot does, so great. But Bikeworks got cycling lessons so I'm gonna do that.

A visually impaired participant described how his experience with the cycle taxi had inspired him and his sighted supporter to sign up for other cycle services nearer to home as well as explore other activities elsewhere.

We've joined the cycling track up at [town name]. I mean, unfortunately, unlike your scheme, that's just going round and round the track and after a while it gets incredibly boring if I'm honest ... [But] it has made us realise that cycling is, what would you call it, a sport or an activity that we can access easily in the right environment. We'd never done it before. We'd never been out cycling before we, we tried your scheme, last March was the first time we did it. So we've gone on to do other things since.

The cycle taxi service had a significant impact in increasing participants confidence to go out, socialise, engage in new activities and explore independent cycling in ways which they would have never previously considered and/or felt able to do. This kind of confidence is essential to good mental health in itself and also via the increased social contact and activity that it enables. The relationship between lack of physical activity, social isolation and the health consequences of both have been highlighted as particularly impacting marginalised groups such as older and disabled people (Emerson et al 2021; Fakoya et al 2020; HM Govt 2018; Schrempft et al 2019) and the cycle taxi service is uniquely well placed to address these key, interdependent issues (see also chapters 3 and 4).

2.7 Summary

Social isolation and loneliness are detrimental to health and wellbeing and are often related to levels of physical activity. Older and disabled people, those with a low income or from

marginalised communities disproportionately experience social isolation and face significant barriers to mobility, exercise and social participation. The cycle taxi provides a sociable, active-travel opportunity that overcomes these barriers for groups who are particularly disadvantaged (see also chapters 3 and 5). Participants reported increased social contact as a result of engaging with the service which included contact with other riders and pilots, family and friends and the wider community and environs. Many participants also reported increased confidence to undertake other new activities, including cycling and other physical activities, which would have further beneficial impacts on levels of social isolation and its health consequences. Increased mobility was a significant feature of the benefits that participants experienced from the cycle taxi.

3. MOBILITY

The cycle taxi service offered participants bespoke, free, door-to-door transport which included the opportunity to enjoy the health benefits of active travel by pedalling alongside the pilot. Participants could book journeys to suit their needs (within the time and geographic constraints of the project). The cycle taxi provided essential mobility/transport for many participants who otherwise faced significant barriers to getting out and about. Transport and mobility inequalities are a significant feature of older, disabled and low-income people's lives across the UK (HM Govt 2018): more than 90% of mobility impaired people do not have an appropriate mobility aid to complete a 1km journey (Disabled Ramblers, 2023), car ownership and ownership of driving licences is much lower among disabled people (HM Govt, 2022). More than 40% of train stations are inaccessible (Lennard Cheshire, 2018) – something which is projected to increase with the proposed closure of ticket offices (Transport for All, 2023) and only around one third of London tube stations are accessible for disabled people (Kemp, 2022). Across all transport types disabled people make 38% less journeys than non-disabled people (Motability, 2022) and older and low-income people also experience significant barriers to transport and mobility (HM Govt 2018). In this context the cycle taxi provided “a lifeline” for many participants who highlighted a range of barriers to transport and mobility in their local area. Participants used the cycle taxi for a variety of leisure and utility journeys – often increasing the diversity and purpose of their trips as their engagement with the service continued. In this way, the cycle taxi provide participants with essential mobility, independence and freedom, as well as active travel, experiences which are essential to health and wellbeing as well as social participation (see also chapter 4).

3.1 A Lifeline

A number of participants faced significant barriers to accessing their local area and amenities, often describing the cycle taxi as a “lifeline” without which they would be more or less housebound. Some participants pinpointed their mobility issues as the main barrier:

I can't get out to the shops and go anywhere on my own because I have a condition where I can't walk properly.

I'm quite isolated. I've got sort of, mobility issues, so I don't get out a lot.

Others highlighted difficulties with public transport which was inaccessible and/or too difficult to use which prevented them from accessing their community and social events.

With it [the cycle taxi] coming to pick people up and drop people off it can be the difference between that person coming to the club and not. Because sometimes getting on public transport is too much for them. The walk is too far. So if the bike is not coming, then they might not leave their house. So it's, yeah, it's quite a lifeline really (staff member).

Um because I've got a problem to use transport. And my friends would not be able to help me all the time. So it'd be great, that not only to use the transport and also there's someone who assists me to travel to some places. Because I just start learning how to use the stick to walk. So it's more important as well. Yeah, very useful.

For others, recent changes in their locality meant they were no longer able to access essential local amenities, as this carer described:

Mum's local shop, they're doing building works, so they've blocked off a walkway. So all elderly people would have to walk another twenty minutes right round another way. Which is not possible for most people who are elderly round here. And if you went the other way, there's stairs which someone elderly with a shopping trolley just can't do. So mum is, like, really restricted. Cut off from her local shops at the moment. So this is like a little lifeline for her. ... Because she's literally just cut off from getting out of the moment.

For others, the lack of wider support services meant that the cycle taxi was often their only opportunity to get out and about.

I lose my sight quite recently. I started learning how to walk. So for me, like travel or to go outside is a problem for me. So with someone like the pilot to help me to travel around ... it's much more positive because, like, if there's no one come, then I just stay in my room. So yeah, with the pilot, and I could travel outside and speak to other people.

For many participants the cycle taxi was their only means of getting out and about, including to undertake essential tasks such as shopping as well as accessing their local community and social contact with others. As noted above, participants often pinpointed how limited and/or inaccessible other local transport options were.

3.2 Transport Inaccessibility

Despite the cycle taxi operating in London, which has the widest range and most frequently available public transport services available anywhere in the country, participants still reported significant barriers to accessing public transport. Accessibility at tube and train stations remains partial and unreliable across the network (Kemp 2022; Lennard Cheshire 2018) and the tube and trains are costly for those on limited incomes. Taxis are also expensive and for shorter journeys the bus is usually the cheapest option. Nonetheless, a number of participants cited difficulties with buses particularly in terms of how crowded and inconvenient they were. For some this created psychological stresses and for others the crowding caused physical concerns.

I'm on the bus, on the bus and I hate it. Don't like the trains, I don't like the bus. Not really, they're really quite busy around here as well. So I do get like apprehensive. ... It's not easy to get to those sort of places from here. Even two miles down the road, sometimes it's quite difficult to actually get [there] with buses and stuff like that.

I can use the bus but I want to avoid the crowd in the bus because in the bus, it's always disease, the flu and people coughing ... I don't have car, I don't have any family who has anything. And bus is not good, especially now my immunity is not very good because of cancer, and so bus is not good, it's crowded and ... they don't give you seat on the bus any more. So my worry about bus is the disease, the flu, disease but also the sitting down.

For other participants the pedestrian realm (e.g. pavements) prevented them not only from accessing their immediate locality but also availing of other transport options such as the bus or tube.

[My] walking is very, very limited. I've got a walking frame that I use sometimes to go out but that's quite uncomfortable because of the pain on my feet and the roads and pavements are so uneven, so it's difficult to use that to be quite honest.

I can go out if somebody is with me, I've got their arm. Basically, I've got to get my confidence back.

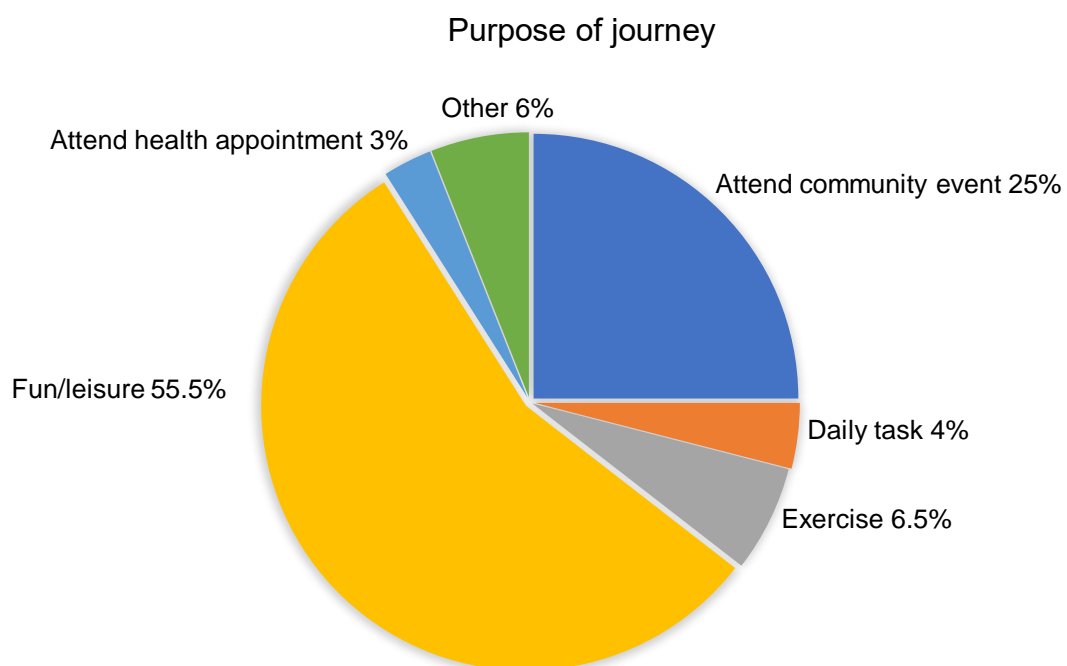
Other participants reported wider difficulties with using transport either because of accessibility issues or the lengthy bureaucratic processes required to access community transport services for people with limited mobility.

I think that's the, called dial-a-ride, right? But then the, the other one that when I'm in the process of trying to get proof of my limited mobility, a good GP has told me exactly what I've got apply for, there's a couple of x-rays I'm waiting to have sent to me, and a letter as medical proof that you know, I am as limited with mobility as I say I am, but they just want proof of this. But hopefully that will happen.

The cycle taxi provided essential, door-to-door transport for people who face significant barriers to everyday mobility. The fact that they could self-refer and book a journey to suit their specific needs made it uniquely accessible for them. The cycle taxi service being free of charge was also crucial for many given the expense of other options, especially equivalent door-to-door transport such as taxis, and the current cost of living crisis that has particularly impacted already disadvantaged groups (Earwaker & Johnson-Hunter 2023; Pring 2023 – see also chapter 5). Participants used the cycle taxi for a range of journey types and both the interview and quantitative data provided details about how people used the service.

3.3 Types of Journeys: Leisure and utility rides

The quantitative data included a DfT-led question about the purpose of the trip. This question had the highest completion rate with all 871 participants responding to the question.



The two most common types of journeys undertaken were social and leisure-oriented trips which, combined, counted for 80.5% (n=703) of the recorded journey data. This indicates that the cycle taxi service had significant success in meeting the need for increased social contact and social participation. Other recorded journeys included: completing a daily task including a health appointment (7%), exercise (6.5%), and “other” (6%). However, it is important to note that this data was collected when participants booked their first journey and, for many repeat users, their use evolved as they continued to use the service. This was particularly evident in the interview data where, whilst participants often described their journeys broadly in terms of being for leisure or utility, a significant proportion described an increasing range of journey-types as their understanding and confidence in using the service grew. Nonetheless, the fact that participants could choose the type and purpose of the journey was appreciated by all participants. A carer with a chronic health condition described how crucial leisure journeys were for him:

Leisure for me, leisure for me, but saying that, if I had a doctor's appointment and it happened to fall on that day, yes, I would do that also. But I would say it's for leisure for me, because it's my time, it's me, I call it me-time. It's my time, my recharging battery time. And mindfulness time for me, for my wellbeing. That's why I use it and I think that's, that's the way I want to look at Bikeworks is for wellbeing and companionship and, you know, talking to people and not getting locked away kind of thing.

For another participant the opportunity to undertake essential tasks was crucial:

I used [it] for going about and also I booked for like a going GP and shopping. But when I go GP then I make my decision to go to the shopping and do shopping as well, so in one thing I can do two things, attend the GP and then doing shopping.

For others the flexibility of the service in meeting their needs on a given day was key whether that was leisure, exercise or essential journeys.

Some are like hospital appointments. Some is like leisure, to just try and get fit and to be a bit healthier. So they take me to the, to swimming, aerobics actually and then they bring me back. Shopping. Yeah, and I go to a community garden and sometimes they you know, we go around the park and then they take me there. So yeah, we do different things, depending on what my need is really.

I've used a couple of them for shopping, but not a big shop, you know, just pass the shop because I need to get this. But generally speaking, it's social and just touring around the borough and on journeys to interesting places locally.

The bikes pick those members up from home and drop them off. Some of them go out for a little ride on the bike. Others are taken up to, we've got Morrison's close by, so they take to Morrison's if they want to go and get a bag of shopping (staff member).

The cycle taxi enabled people to undertake a range of journeys which would have otherwise been difficult, impossible, or prohibitively expensive to complete. Many participants highlighted the newfound independence and freedom they enjoyed as a result of using the service.

3.4 Independence and Freedom

As already noted, the cycle taxi provided free, door-to-door transport, offering bespoke journeys to meet the needs of each participant. For many this provided a radically new level of autonomy and independence. A participant with “spine problems” who found walking “very, very difficult” was otherwise dependent on his son.

It helps me to be independent and to get about and do what I need to do with ease, you know, and they're very helpful, you know, so, yeah, they're very kind and patient, the pilots, all of them. ... So this was, as I say, really important for me to have some independence, and not having to rely on my son and friends to do stuff for me. I could get out, up the post office or pay the bills. It's just up the road, but it's for me, it's a lot to walk, to try and walk there. So yeah, it's fantastic. In that respect, it really helps me to just you know, as I say, be independent and do what I need to do.

Others described how being able to go out and about and/or access nature increased their sense of independence and wellbeing: “It was just lovely to get out. You feel a certain amount of independence.” The combination of autonomous, accessible transport which enabled her to enjoy time outdoors was important for a visually impaired participant:

It's the level of independence it gives me in terms of where I want to go and what I want to do, with a very nice pilot, in a very novel way. ... Yes to go around a park independently. So I do feel that it is an independent way of doing it. I can go when I want to go. Yeah. It enables me to... explore the great outdoors independently. ... I think that it's just added or enhanced my well-being. In terms of being able to be out independently with my guide dog. That's what it's enabled me to do. On my own terms.

Many participants described how the cycle taxi gave them a new experience of freedom that they otherwise lacked:

It's the freedom of getting out and about, I don't get out very often. They're limited [options] for me to get out. And so it does give me a freedom couple of hours when I'm actually outside, enjoying what's going on and looking at places I haven't seen for many years.

A sense of freedom ... Just being through the streets it's just really nice. Sometimes in the park, but if you go to the through the streets, that you're not usually, um it just feels really freedom. That freedom.

This bike is, it gave me freedom. I can't explain that to you. So I always have to be driven, don't I, I'm not allowed to drive because of my sight. Yeah, so I'm free.

Independence and freedom are essential to health and wellbeing and yet many people, particularly disadvantaged and/or disabled people's lives are constrained by structural barriers. The cycle taxi offered an opportunity for participants to enjoy those essential experiences and the health and wellbeing impacts of them (see chapter 4).

3.5 Summary

The cycle taxi offered a free, active transport opportunity for people who faced significant barriers to mobility and transport. For many it was a "lifeline", providing their only means to get out and about. Participants used the cycle taxi for a range of journeys including essential everyday tasks such as going shopping or attending medical appointments, as well as leisure and social participation. Participants frequently emphasised how the cycle taxi gave them freedom and independence that they otherwise lacked, particularly given the limitations and/or inaccessibility of other transport options. These experiences are also integral to positive health and wellbeing.

4. HEALTH AND WELLBEING

Positive mental and physical health and wellbeing are strongly related to social connectedness, physical activity and access to the outdoors and nature (Bratman et al 2019; HM Govt 2018; Wood et al 2017) and accessing nature in an active way increases the health benefits of it (Mental Health Foundation 2021). Disabled and older people as well as those on low incomes, those from minority ethnic groups and those living in densely populated urban areas face significant barriers to accessing the outdoors and greenspaces/nature (Mental Health Foundation 2021; Wood 2017). Similarly, older and disabled people endure many barriers to physical activity and exercise (Inckle 2020; Martin Ginis et al 2016; Richardson et al 2019; WfW 2022; Sustrans 2022) and the ongoing mental and physical health inequalities experienced by disabled people, people on low incomes and those from minority ethnic backgrounds have been exacerbated by both the pandemic and the cost of living crisis (Earwaker and Johnson-Hunter 2023; Health Foundation 2021; Inclusion London 2020; Pring 2023; Reichard et al 2011). The cycle taxi offered a unique form of physical activity/exercise that provided access to the outdoors and nature as well as social contact. Participants reported a range of health and wellbeing benefits as a result of using the cycle taxi including immediate and longer-term mental health benefits.

4.1 Mental Health: Immediate impacts

The mental health benefits of the cycle taxi service were experienced both instantaneously and over the longer term. Participants reported immediate benefits from their ride in a variety of ways including feeling “elated”, “exhilarated”, “buzzing” and “euphoric”.

I always feel elated that I've done it.

My group really love it. They really enjoy, you know, riding on the bike. ... It's really quite nice, because it's quite exhilarating (staff member).

We couldn't stop talking about it because we enjoyed it so much. ... We came...we came up really, really buzzing from this.

I tried it and love it. [I feel] euphoric. 30 minutes I am talking on my lightwriter to my hubby [about] how wonderful I feel. I think cycle taxi is the most wonderful thing in the world.

Many participants described the cycle taxi service in glowing terms: “It's the best thing. It's just the best thing I've done other than hitting the Caribbean!”

I love it. I think it's a fantastic service. ... It really is a brilliant service. ... I love it. I am in love with the service. ... I'm in love with the pilots. And they're all wonderful. It's been fabulous!

Participants described feeling refreshed and uplifted, ready to take on more challenges, even when they had cycled quite significant distances.

I feel so good, I actually feel refreshed when I come back, believe it or not. Even if I've done almost 15 miles. I feel better. My body feels refreshed. I really do, I just feel like I don't want to stop when I come back home kind of thing.

We felt very good! It's almost like a new start – like a fresh start again.

Even participants who felt physically tired after their cycle taxi ride, nonetheless reported similar feelings of being uplifted: “Very tired but very happy and very healthy”.

It's just amazing. You just forget about what you're actually doing. Okay, I felt it afterwards, my legs were [tired] but, it felt good. I felt like invigorated. ... I felt great, but I was tired, because again, I don't do that much exercising as I'm full time in office. So yeah, yeah, I just felt [pause] glowing. I felt amazing. ... I don't know how else to explain it. It was like a little buzz when you get off of it you feel good. You felt good about yourself.

[Name of client] is very happy, she's quite tired, but very happy (carer).

A visually impaired participant reported the same positive, tired but happy, experience for her assistance dog who trots alongside the cycle as they tour a local park!

I've got the biggest smile on my face and so has my dog even though she's absolutely shattered. I feel great. The dog feels great, seems too. She sleeps well!

Participants frequently reported feelings of joy and happiness as a result of using the service. For example this member of staff at a group for older people said that their clients were “Very happy, very good. Honestly, very, very, very happy.” Other participants reported similar feelings:

I really enjoyed it and it's exercising my legs.

Oh I feel very happy.

Even those who had never cycled or who had not been able to cycle for a very long time reported similarly uplifted feelings.

I just thought it was fantastic. I'm 57 I haven't ridden a bike for years and years. And then it was just, I found it quite exhilarating actually.

I used to ride a bike before I got my visual impairment and, [as] I said, it's taken me back to my happy place.

Most of our students they didn't, they never ride a bike until we start to work with you guys, and it's been amazing. They, all of them, they are really happy (Staff).

Active participation was key to the enjoyment and this included pedalling with the pilot and overcoming challenges.

In the subway it's too much steep. It's like you going [up a] mountain, but I managed to help her. We managed to [over]come, it was fun. We screamed when we did it. We screamed like children. Please, you have to get support for this one [e.g. funding for the service] because it makes us like children again.

Others also had fun joining in with hand signals and ringing the bell.

I actually join in and do the left-hand signs and stuff like that, you know, and ring the bell when you need to get someone alert that we're coming behind, so I get involved in all that.

I think for them [e.g. students], one thing they love is the possibility to ring the bell. To go in the street and ring the bell. For them, they are so happy with that (staff).

The cycle taxi had instantaneous mental health benefits and participants reported a wide range of uplifted feelings after their ride including being exhilarated, joyful and energised for the day/tasks ahead. Participants particularly enjoyed actively participating in navigating difficult terrain, ringing the bell and signalling, and many loved the experience so much they were keen to go out whatever the weather (below). There were also longer-term mental health and wellbeing benefits and the combination of being physically active, being outside and having social contact were integral to these.

4.2 Mental Health: Longer term

The immediate joy and uplifted feelings that the cycle taxi engendered are unequivocal, but participants also noted longer and/or deeper mental health benefits from the cycle taxi. Over time many noticed an improvement in their mental health: “Mentally definitely, I look forward to it. Mentally definitely I improve”. The mental health benefits arose from the combination of getting out and about, the physical exercise and the social contact.

I've gone through a few bad, bad years to be honest with you, with my wife bed bound and my mum passing away only two weeks ago, and I was in decline. To be honest with you. I sat in the chair, wanting to go outside, but my anxiety took me, like I couldn't go. I thought, well, let's do these bikes, because I get on with people. And it's helped me out so much. I've been, I've been on so many therapies over the years, many, many years. And this has helped me much more. ... It's just getting out, using my legs and getting the confidence again of actually being surrounded by people. ... I mean, I could have been in all the therapy sessions in the world. But only for five weeks, this has helped me much more. ... This is, this is the best mental health I've had, going on the bikes. It's done me good.

They really enjoy riding on the bike. And, yeah, sometimes they pedal, sometimes they don't, but, whatever, they, you know, they're getting a health benefit because it's helping their mental health as well as physical health. And they just love getting out and about on it. ... I think mentally, in terms of when they come back, they're usually, you know, quite exhilarated and they'll have a lovely time (staff).

The cycle taxi was also crucial in enabling people who lived with long term mental health difficulties to get out, exercise and have social contact who would not otherwise be able to do so.

I was agoraphobic for years. So it's nice to have that sense of security that somebody's there for me. You know, like when I'm out and I go into the shop, I know when I come out, they're there. So I feel a bit more secure being out, if that makes sense.

I have a little bit depression. So I don't really want to go out. I go to college. But that's kind of, um, I have to push myself. And to be outside I have to push myself. So when the taxi service comes for me it's brilliant. ... It's the best thing ever.

The cycle taxi had a number of positive mental health benefits, creating both immediate and longer-term uplift to feelings. It also provided a means for people living with long term mental health difficulties to engage in social and leisure activity. The cycle taxi also offered

a route to physical health benefits providing an accessible form of exercise for people who otherwise face barriers to physical activity (see also chapter 5).

4.3 Physical Health

One of the unique features of the cycle taxi as a form of community/public transport is that it provides the opportunity to participate in active travel. Participants can pedal for as much or as little of the journey as they choose and they can also pedal at a gear that suits them – regardless of how the pilot and/or other riders are cycling. For many participants this was one of the few opportunities they had to exercise. Disabled and older people in particular face significant barriers to exercise/physical activity and especially cycling and active travel (Inckle 2020; Sustrans 2022; WfW 2022) and the cycle taxi provided an accessible and fun way to physically work out.

The exercise to my legs, I wouldn't normally cycle, I normally go around on crutches. So the cycling aspect is good, and getting out and about in the fresh air of course is always very good for one, you know the physical and mental aspect of being a little freer than I normally am, getting out getting out of the house as much as anything I suppose.

A carer of a learning disabled couple described how important the cycle taxi was for their health.

[Name of clients], they go because they're, she's got Down's Syndrome and she's got a husband, she got married to her husband with learning disabilities and since they've been married and living on their own they've gained a lot of weight. So everyone's like, kind of stressed at them. There's a lot of stress about that. And now they're going once a week, exercise together, which is very sweet. ...I mean they're not very active at all so it's probably the one time of the week that they're active.

For a participant with a heart condition the exercise provided by the cycle taxi was essential for his health.

I pedal, I pedal because I want to do exercise. I'm not going to gym. So I use it also not only to drop me in my destination, but I use it also to do exercise. ... The exercise is my favourite thing. And avoiding the bus. And exercise and also the joy, my joy and then the other, the onlookers joy. ... So my heart is not good. ... But because I use it usually once a week, definitely it helped my heart.

Other participants described how exercising on the cycle taxi impacted on specific physical issues over time, for example one participant reported “[improved] coordination and balance” and another was impressed with how it helped her after a knee replacement:

As time has gone by, I have found that very interesting because with my knee replacement, I don't do a lot of leg exercises. So I found pedalling – I've now been pedalling more and more – because what I've found is it's very good for my leg exercise. So I'm pedalling away. And at first I thought, well, if I pedal a lot, maybe when I get off I can't walk, but I haven't found that. I have found that it has increased, sort of, the mobility of my legs by pedalling, so I'm pedalling more and more with [pilot].

An eighty-nine year-old participant who was still able to ride his bike for short journeys really appreciated the additional exercise he was able to undertake on the cycle taxi: “I think this, it's the most strenuous exercise I do each week.”

The good thing is that the when I go out on these Thursday trips, I'm usually cycling for a lot longer, have a longer trip than I'll do on my bike, my own bike, because my bike, it's just restricted for about a mile or two miles radius, I just do shopping, right? And that's it. ... I get far more exercise when I go out on the side-by-side. ... I feel quite exhilarated by it. I might ache a bit afterwards, but that doesn't matter, it means that I've been exercising. ... I'm at the age where I've got all these things [e.g. health conditions], and the best thing is just to [do] anything that I'm medically advised to do, I do, and exercise is one of the things, you know.

The cycle taxi offered key, health-improving exercise for people with a range of opportunity-limiting situations. The sociable nature of the cycle taxi and the chance to explore new places made the experience of exercising enjoyable and desirable even when people were covering significant distances.

We couldn't stop talking about it because we enjoyed it so much. I mean, the first one was quite, quite a workout because, you know, I've got to lose some weight to be honest. I didn't want it to just be a doddle where I was a passenger on the back you know, I actually wanted to do some proper cycling. So we did, we covered, I'd say we covered about 10 miles in the time we were out. ... It was just a really, really good fun day out that incorporated fitness and exercise and well. Normally exercise is hard work but the benefit of doing it, it was really worthwhile.

Many participants enjoyed the experience so much that they were even happy to go out in bad weather – some even relishing it: “I enjoyed the weather raining.”

I'm very happy because in cold weather, in any kind of weather... just like, doing exercise, and chat with the pilot who is riding, who is riding for us. I chat with him, chat with the person and I [inaudible] for exercise and all the things, so I'm really happy I used it.

I've had nothing but great experiences on it, you know, even, one time, it might be one of the longest rides that the pilot and I did, it was a very cloudy day, it'd been raining, but towards the end of the day, it was really raining heavily. And we both got quite wet, really. But even that, I, it was worth it, you know.

Staff at an older people's service, where participants aged from their sixties to well into their nineties, also emphasised that bad weather was not a deterrent.

We started with better weather but even through the really bad weather, some of our older people were still happy to be on the bike which is amazing.

The opportunity to be physically active was a huge draw to the cycle taxi service which enabled participants to experience the health benefits of exercise often for the only time during their week and in a fun and sociable activity. Accessing nature and the outdoors was another key health benefit of the service.

4.4 Access to the Outdoors and Nature

The cycle taxi service operated in six boroughs across London including: Hammersmith and Fulham, Kensington and Chelsea, Tower Hamlets, Newham, Waltham Forest and Enfield. Many of these (particularly Tower Hamlets and Newham) have areas of densely populated housing and residents on low incomes. For many participants the cycle taxi provided a unique opportunity to discover new parts of their locality (see chapter one) and enjoy greenspaces that they had no other means to access. The Connected Society Strategy (HM Govt 2018) highlights the importance of access to community and greenspaces in tackling loneliness and social isolation, and access to the outdoors and nature has mental health and wellbeing benefits (Bratman et al 2019), especially when the space is accessed in a physically active way (Mental Health Foundation 2021; Wood et al 2017). At the same time, disabled and older people, as well as those on low incomes and from minority ethnic communities face significant barriers to accessing the outdoors and nature (Mental Health

Foundation 2021). The cycle taxi enabled participants from all of these backgrounds to get outdoors and to access greenspace in a physically active way.

The big space like [name of park] or [name of park] or [name of park], green space and then it's just brilliant because you've got to come out of the city into the green. And then it's like you're in this green space and the city's outside. But obviously you want to be part of the city as well. So there's a ride through the city to the park.

You wouldn't think it's there when you're riding through it but you think oh, my goodness, what's this forest, you know. Come out of this city into this little forest is a small place you ride around. It's got green everywhere and then you come out. It's brilliant.

For many participants the cycle taxi was their only means of accessing these areas:

Like you know, taking me to the park and the [name] Park – I wouldn't go and do that on my own. There's no chance, no chance in hell I'd do it. And to do it with a pilot that's there and you feel safe, it's, it's brilliant. ... This is a fantastic way of getting out there with nature, going to see the parks.

We mainly went around the area and visited some of the parks. I think you spend so much time at home for someone with limited mobility. People are eager to get out into the nature sometimes to places, just get fresh air, somewhere that they could also feel safe. Parks are – with dad, it seems like parks are the best places. We visited the parks, we went around [name] park for example. We saw the animals there, we saw some people. ... Spending time with my dad outdoors. I mean, that's the main thing (carer).

For others it was simply the opportunity simply to go outside and be in the fresh air that they would not otherwise experience:

It's nice, nice. Someone helped me travel, to go travel and then stay outside for a while.

I got outside, it was great!

It's, it's such a feel-good thing you know, to go out in the fresh air and you're on a par with anybody else.

Many participants described the health benefits they experienced as a result of being able to access the outdoors and nature/green spaces.

Being out in open spaces, like well, parks, etc ... it's fantastic. Being outdoors is just amazing.

Just, because we went to the park so it was very, very, it was a nice day, a bit chilly, but it was a nice day. And it was a big open space and we just stopped there for a little while and just, I dunno, just relaxed. It makes you relaxed. I don't know, it just felt really good.

A key benefit of the cycle taxi service is enabling people to travel (actively if they wished) from their home, free of charge, into nature and green spaces. For many participants this was their only opportunity to get outside and into the fresh air and it had significant health and wellbeing benefits for them. Participants frequently discussed the overall wellbeing impacts from using the cycle taxi service.

4.5 Overall Wellbeing

The combination of being able to access the outdoors on their own terms and including the freedom and independent mobility (chapter 3) the physical exercise and the social and/or leisure participation (chapter 2) had significant wellbeing impacts, from the simple uplifted feelings after the journey to a deeper sense of empowerment. A carer described the response of one of her clients:

She went, "It feels so good to get out for that hour," she went, "It does lift you up." Because she's literally just cut off from getting out of the moment. So it's really good for her wellbeing.

Other participants described specific wellbeing impacts from the cycle taxi, including it providing their only "me-time", and the sense of empowerment they felt as a result.

It was that, that time, I think that hour and a half was really all about me having a nice time. For the first time in my life I thought, 'Oh, this is something for me and not anyone else'. ... I feel like it gave me empowerment. I thought, this is something for me.

Another participant described how she felt "less weight metaphorically and literally" after her journey and continued to use the cycle taxi "to empower me." Another participant similarly used the service as an important part of his wellbeing.

I class Bikeworks as me-time, as my time to go out and do what I like doing just for that short period of time. It just, it really helps me. ... It's my time, my recharging battery time. And mindfulness time for me, for my wellbeing. That's

why I use it, and I think that's, that's the way I want to look at Bikeworks, is for wellbeing and companionship and you know, talking to people and not getting locked away kind of thing, and in a bubble, and I don't want that you know? ... I think for me personally, my wellbeing has got better.

For many participants the cycle taxi is their only opportunity to get out and about on their own terms and for themselves. Feelings of autonomy and empowerment are essential to health and wellbeing and older, disabled people and carers often face significant barriers to such activity.

4.6 Summary

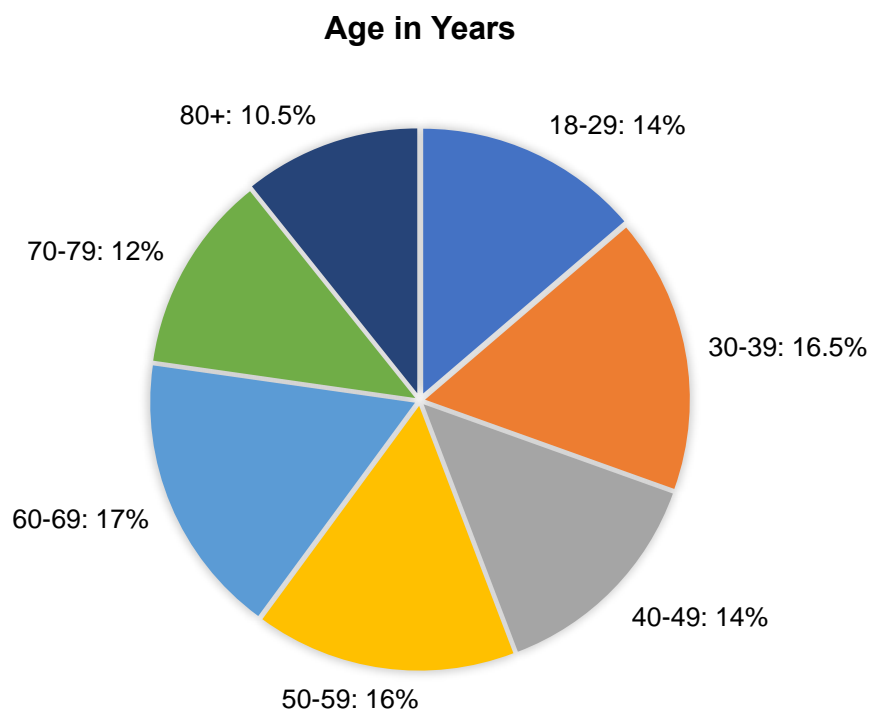
Health and wellbeing is intrinsically connected to physical activity, social contact and accessing the outdoors and nature. The cycle taxi offered participants a unique means to access all of these health promoting impacts in one journey. Participants reported strong mental health benefits both immediately after their ride and over the longer term. They also highlighted the physical health benefits of exercise and the importance of being able to get outdoors into nature and the fresh air. The fact that all of this was achieved in a fun and novel way only added to the benefits that participants experienced and, likewise, accessing the outdoors in an active way increases the mental health benefits. The cycle taxi is particularly important in that it provides these health and wellbeing benefits to precisely the social groups who face the most barriers to accessing them and experience the highest levels of social isolation and the widest health inequalities.

5. INCLUSION AND ACCESSIBILITY

Disabled and older people, those who are unemployed or socially marginalised are at disproportionate risk of social isolation and loneliness (chapter 1). These groups also tend to experience mental and physical health inequalities and there is an established relationship between lack of physical activity and social isolation and loneliness for older people (Fakoya et al 2020; Schrepft et al 2019). Health inequalities for older and disabled people and those from minority ethnic backgrounds have been exacerbated by both the pandemic and the cost of living crisis (Earwaker and Johnson-Hunter 2023; Health Foundation, 2021; Inclusion London, 2021; Pring 2023) and access to cycling is also limited for these groups and women (Sustrans 2022). The quantitative data, despite being partial, indicated that the cycle taxi had wide reach across these groups providing a much needed, free, source of mobility, exercise and social contact.

5.1 Participant Characteristics

Participants ages ranged from eighteen to ninety-four years and more than one third of the participants (39.5%) were over 60 – a group that faces significant barriers to physical activity as well as being disproportionately likely to experience social isolation (Fakoya et al 2020; HM Govt 2018; Schrepft et al, 2019).



However, only 29% of all participants (n=255) recorded their age, with 616 selecting the “prefer not to say” option⁵. A higher proportion, 44% (n=381), of participants responded to the question regarding sex/gender identity. Of these 61% (n=233) were female, 38% (n=144) were male and 0.5% (n=2) each selected “other/self-define” and “non-binary”. The higher proportion of female participants is perhaps not too surprising given the older age cohort, but it is significant in terms of women being much less likely to cycle (11%) than men (23%) (Sustrans, 2022)⁶.

Of the 323 people (37%) who provided quantitative data about their disability status 147 (46%) stated that they did not have a disability or health condition. Of the 176 who reported a primary disability or health condition 34% (n=59) reported a mobility impairment, 14% (n=25) were blind or visually impaired, 1% (n=2) were Deaf or hearing impaired, 13% (n=23) were neurodivergent, 11% (n=19) had a neurological condition, 10% (n=17) had a mental health difficulty, 5% (n=9) reported a long-term health condition and 12% (n=22) selected “other”. Although the largest group of respondents (n=548) chose the “prefer not to say” option, combined with the data from interviews, the data suggests that the service is accessible to and inclusive of a broad range of disabled people.

Eighteen of the twenty-two interview participants self-identified as disabled as set out in the Equality Act: “A person has a disability if [they have] a physical or mental impairment, and the impairment has a substantial and long-term adverse effect on [their] ability to carry out normal day-to-day activities” (HM Government, 2010). Participants described a range of impairments including: mobility (n=10), mental health (n=3), neurodivergence (n=1), Blind or visual impairment (n=5) and chronic health conditions (n=3) with some reporting multiple impairments.

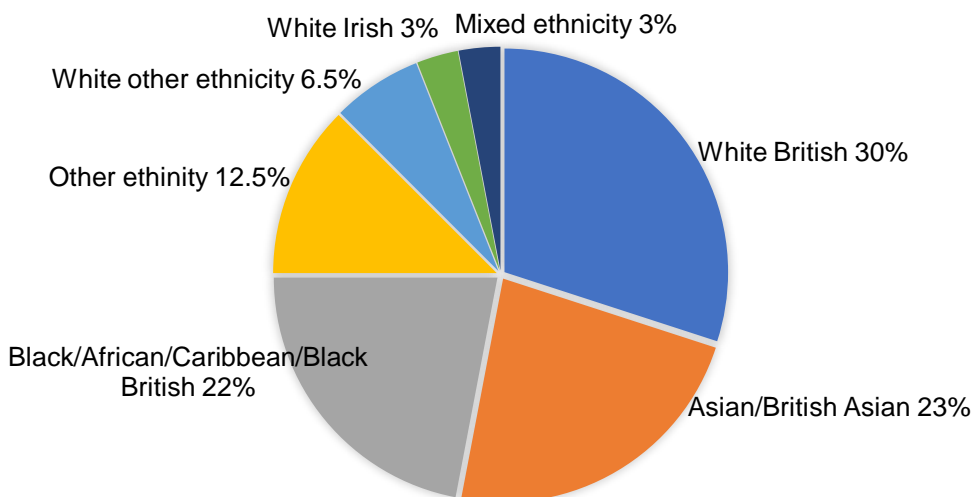
⁵ Of those who reported their age, 22 indicated they were between 0-17 years old, with a number selecting 0-3 years. The under-eighteens have not been included in the age data, since children, especially those as young as three, were not allowed to participate in the service. A small number of participants brought older teenage children or grandchildren with them if they were large enough to sit safely on the cycle, but these do not fully account for the scoring in the under 18 category. It is possible that many were entered in error, or as a way of avoiding reporting actual age if this was a sensitive topic. This seems particularly likely given that some of the participants who reported their age as 0-3 also indicated that they were using the cycle taxi to attend a community event.

⁶ Data was not collected on sexual orientation which may be relevant given that older LGBTQ+ people are also disproportionately at risk from social isolation (Perone et al, 2019).

Nine of the twenty-two interviewees were carers, staff or group-leaders, three of whom also self-identified as disabled. The carers/leaders worked with people with a range of experiences, including older people who were often also mobility impaired, autistic students attending a special college, a carer whose clients included learning disabled, mobility impaired and neurodivergent people as well as those with chronic health conditions. Three of the carers were family members of mobility impaired people one of whom was also mobility impaired themselves. There were also group leaders from a blind and visually impaired people’s group and a group for vulnerable/isolated people. The uptake by disabled people is significant given the barriers to mobility, exercise and active travel/cycling (Inckle, 2020; WfW, 2022) alongside the wider inequalities in health and social participation that have been exacerbated by the pandemic (EHRC, 2017; Health Foundation, 2021; Inclusion London, 2021).

Data on ethnicity was patchy with only 37% (n=319) of participants completing this question and 552 selecting “prefer not to say”. Of those who responded, the most common ethnicity selected was White British at 30% (n=97) with Asian/British Asian (including subcategories of Bangladeshi, Chinese, Indian, Pakistani and other) at 23% (n=74) and Black/African/Caribbean/Black British at 22% (n=70). 12.5% of the respondents identified as other/other ethnicity (including other – Arab); 6.5% as other white ethnicity; 3% identified as white Irish and 3% identified as mixed ethnicity. The data suggests that the service reached participants from diverse backgrounds, broadly reflective of the wider London population.

Ethnic Identity



Despite the incomplete nature of the demographic data, the available responses combined with the interview data suggest that the cycle taxi service is not only accessible to a wide range of demographic groups, but is particularly inclusive of those who are likely to experience barriers to mobility, transport and active travel and who are at high risk of social isolation and health inequalities. This is apparent reading across the quantitative data for a snapshot of regular cycle taxi participants. So that, notwithstanding that many very frequent users of the service (including those who had made more than 40 trips) selected the “prefer not to say”/“private” option for all or the majority of their demographic features, a number of those making regular journeys identified as being from minoritised groups and/or those who face significant barriers to mobility, exercise and social participation. For example, the highest number of trips made, 102 and 88, were both made by women who identified as Black British and one of whom also identified as visually impaired. Other frequent users (e.g. 19 and 21 trips) also identified as both visually impaired and from minority ethnic backgrounds (British Asian). Likewise, participants who had made 57 and 38 trips each identified as both mobility impaired and from “other ethnicity”. Frequent users were also in the older age categories with a 92 year-old making 77 trips and an 80 year-old making 22 trips. Frequent users also reported being neurodivergent (41 trips), having mental health difficulties (47 and 33 trips) and neurological conditions (25 trips). Taken together the data suggests that the cycle taxi service is reaching key target groups who experience high rates of social exclusion and barriers to transport, exercise and mobility.

Interviewees identified a range of features of the cycle taxi service that made it accessible for them. These include: the cycle itself, the pilots, and the service being free of charge. Participants were often so pleased with their experience that they recommended it to other people/services in their network and many emphasised that they would like to see an expansion of the service to include evenings and weekends, a London and/or nationwide service and also offering excursions and day trips.

5.2 Accessibility and Inclusion: The cycle

The ride side-by-side cycle is designed to accommodate a wide range of users who may not be able to cycle a regular bicycle and/or cycle alone. Participants with a range of health conditions and physical impairments described how the cycle was accessible for them and enabled them to exercise (see also chapter 4), for example, “The exercise to my legs, I wouldn't normally cycle, I normally go around on crutches.”

The participant who had recently had a knee replacement (chapter 4) described how the design of the cycle enabled her to exercise her legs without stressing the new joint.

More and more I'm pedalling, and the other thing is, the pedals are in such a position that their length, the length of your legs, so you're so you're pedalling, pedalling free. I don't know if I'm describing that. So for instance, like my legs are not bunched up there, I'm pedalling with the length of my legs moving. I don't know how to describe that. But I find that that's excellent for my leg exercises.

The experience of being able to participate in the physical activity of pedalling despite living with a mobility impairment that significantly impeded walking and other physical activity was commonly reported, including by this older participant.

I have arthritis in both my knees. I'm 79 years old. I still manage to get on the bike alright. ... I've got a lot of mobility issues, which was why this was so brilliant. ... But even if you've got mobility problems, it's still easy enough to get onto the bike. Because a friend of mine, I mean, [name] is I think she's 94 and she leaps on it alright!

The cycle taxi was equally accessible for people with a spectrum of impairments and health conditions, the tricycle providing balance and stability and a pilot to steer and direct the journey.

One of my disabilities is dyspraxia, it is hand eye coordination problems, so I cannot drive ... [The cycle taxi] is really safe for me, that's appealing for me.

Many were delighted and surprised by the design of the cycle and the way that it functioned, enabling them to participate and pedal at a level of intensity that suited them, or not at all, without having a detrimental impact on the pilot and/or other riders. This also meant it was possible for people who had never previously cycled (or who had not cycled for a very long time) to experience the benefits of cycling in a safe and enjoyable way.

I was shocked with the shape of the bicycle, the beautiful, a new surprise, you know for me! I am like child, I like it very much. It's like a child, you give him a new toy. ... I don't drive bicycle, I don't, I cannot ride bicycle never in my life on two wheeled bicycle, I never learned. So when I pedal I feel very happy because I feel like I'm riding bicycle.... I am still shocked. I don't know how if I pedal or I don't. It doesn't affect the driver. The technology is amazing to me. I cannot understand the technology. ... If you, you pedal you help the driver. If you don't pedal then you don't destroy anything.

The fact that you've got the choice of pedalling and the fact that you've got, you can pedal at, you can suit the gear to suit you. If it's getting too hard I can raise or lower the gear, and that's what amazes me about the bike that it can work like that, you know, that we're all, we're going to be in different gears, but we're all joining in, it's amazing.

Nonetheless, two participants stated that they sometimes worried about the strength of the motor and the batteries and others felt the seats were “quite hard” and could benefit from “a seat cushion or something”. Participants also queried whether it would be possible to have a child seat to enable young children to participate and perhaps a wider seat to accommodate larger individuals. Some participants also felt that pedal straps could help riders feel more secure and others suggested that music might be nice to pedal along to – although this could also potentially reduce the social aspect of the cycle by inhibiting conversation.

I just think a little bit of music would upbeat it a little bit for the younger lot? And the older lot, I think maybe they would want to listen to old songs going along or, you know what I mean?

A visually impaired participant was keen that disabled people worked in the service – something that Bikeworks has explored, with for example, cycle instructor training.

You should get some blind mechanics, as there's a college in [place]. I think, I don't know if they still do it, but they used to teach blind people had to become cycle mechanics.

Overall, participants were delighted with the cycle taxi, it enabled participants to cycle who would not otherwise be able to and it was accessible for those who experienced barriers to mobility, exercise and social participation, as this visually impaired participant highlighted.

I'd like to thank whoever came up with the scheme. For actually, for once, thinking of people can't sort of avail themselves of services in the usual way. Because so often you find it's – although they say it's inclusive – when you make inquiries, it isn't usually as inclusive, whereas this really was.

In addition to the design and function of the cycle providing a high level of accessibility for a diverse range of participants the pilots were also essential in enabling people to participate in a way which was safe and enjoyable for them.

5.3 Inclusion and Accessibility: Pilot skills

Pilots were frequently praised for the skill, sensitivity and adaptability they demonstrated as well as their warmth and sociability. They accommodated a diverse spectrum of people with vastly differing needs and experiences ranging from, for example enabling a person who “was agoraphobic for years” to “feel a bit more secure being out” to incorporating the exercise needs of a visually-impaired participant’s assistance dog into the service.

I have a guide dog and because it's a side by side it's not too fast and she's able to keep up. We both get to have a lovely stretch of our legs, both of us. ... Oh she absolutely adores him [pilot], whenever she sees him she, well she just wrenches herself away from me, she just runs towards him. ... It's always better to meet at a park because I have a guide dog, you know, I want her to enjoy the time as well. So it's got to be [that] we meet at a place where she can also have a free run.

Other visually impaired participants recounted equally positive experiences.

The pilot was lovely ... And she was our partner, as long as we were safe. She was really cool. They were all cool, like “Have fun, enjoy it! It's there to be-”, you know, they really did make us feel really secure.

The relationship with the pilots was an integral part of the experience for many participants (see chapter 2) who genuinely enjoyed and appreciated their company.

I've been on [with] three different pilots and they're all wonderful. And they all, they're all a credit to themselves, what they've made me feel like.

The pilots' openness and adaptability enabled people whose opportunities for social contact were very restricted to benefit from the social aspect as this carer of an autistic man described (also reported in chapter 2).

Yeah, but [name of pilot] I think is really good. [name of client] loves [name of pilot]. And [name of client] I think he likes it for the conversation just as much as he does for the ride. For [name of client] it's really great because his favourite hobby is to be wandering around parts of [place] and it's like his special interests, he's autistic, is to like find different places that you could potentially live in

[place]. He wasn't allowed to wander around anymore because he got into some arguments with people and also like he tells other women that they're beautiful just to be polite, but that people get the wrong idea and because of him not understanding and a few negative situations, they said that he's not allowed to wander out on his own anymore. But now he can cycle with [name of pilot] around so he's happy again.

A staff member at the college for autistic students also described how the openness and adaptability of the pilots was a vital part of the service, especially in situations when students had “a little episode of dysregulation.”

But I need to say that the drivers were very, very patient. They were very relaxed. They were, actually, a thing I love is that they were willing to learn. They were asking us “Okay, do you want me to do something? Do you want me to help you?” So it was really, really nice, really nice. But in our kind of organisation this happens every day. And the good thing is to have resources to, to deal with the situation and I need say that your drivers they were very happy to do it.

Other participants also cited the openness and willingness of the pilots to learn as a key factor in the accessibility and inclusivity of the service.

Because once you come off, the pilots always give feedback, “How did you get on today? How'd you do?” They're always asking questions. “Is there anything that we can improve?” And that's a good thing as well. That's positive too. You know, “What could be better about today's trip?” And that's good too. You know? Just, they're interacting with us. So, “What could be better today? What could have been better? What could we have done better? What could we-”, you know. That is, that is good. That's communication, you know? Which is positive.

The pilots skills, adaptability and sociability are all integral in making the cycle taxi accessible and effective in delivering mobility, social participation and health benefits to populations who face significant disadvantages in these areas. The skills of the pilots were such that one organisation recommended them for an award.

In our organisation we have an award, we call it the Q award, it's an award for people who help us to, with the students about autism, people who want to learn about autism. And I would like to nominate you guys because I think you're doing a great job.

5.4 Inclusion and Accessibility: Cost

The cycle taxi offered a bespoke, free service, which picked people up at locations they chose – often their home but sometimes work, college or a community centre – and

transported them to destinations of their choice. For many participants the cycle taxi being free of charge was essential in enabling them to make use of the service: “I suppose it's free, I suppose that's one of the most important things!”

Three carers highlighted how the service being free made it accessible for clients/relatives in difficult circumstances:

It's a really accessible that they pick you up from your house. It's really good. ... And also it means that she can get out and about without having to pay money because she doesn't have much money and we don't use the contract because they so rubbish, they don't come. So actually, all her money goes on taxis, so it's good that there's a free way that she can get out and about.

Her wheelchair has been broken as well, like three months and has only just been fixed. So at that point, when we were taking her once a month, then at least she could get out of the house and like move about rather than having to always get a taxi because yeah she didn't have a wheelchair, which is ridiculous. ... And the home where she lives don't give her money for taxis or anything, which I think is terrible. But you know the cycle taxi could take her.

Mum just won't be able to get to a local shop unless she got a minicab, but obviously, in this day and age, like it's a little bit tight isn't it with everything going up?

Given the challenges that many are facing in the current cost of living crisis, which has particularly impacted disabled, minority ethnic and other low-income people (Earwaker and Johnson-Hunter, 2023; Pring, 2023), the opportunity for a free and healthy activity which can also provide essential journeys and contact with family, friends and the wider community was a “lifeline” (see chapter 3) for many.

5.5 Sharing the Benefits

Participants experienced a range of benefits from the cycle taxi, including increased social contact (chapter 2) improved mobility and independence (chapter 3) and physical and mental health impacts, especially from being able to exercise and access the outdoors and nature in an active way (chapter 4). Many participants knew of others who could benefit from the service and actively referred and/or recommended it to them.

One of the things is like [name], she's my trainer, how do you call it, to train me how to use the stick to walk? [e.g. training a newly visually impaired person to navigate with a cane] So she's got a client, kind of like, a bit shy to use the

service. She asked me if I could sit with him together. So it was kind of this [client] could meet other people and maybe like this.

Today I've been to my disabled coffee morning, I tell them over there as well.

Participants often referred/recommended people to the service who had very different life situations to themselves but whom they nonetheless recognised that the cycle taxi would benefit.

You get very booked up – which I'm delighted about. In fact, I'm sorry I've told so many people! [Laughs] And I told my doctor, "Why, why are you not promulgating this everywhere?!" ... I want to take a friend of mine, who's got dementia, with, with her carer who happens to be her niece, because I think she would love it. Going through parks, seeing all the dogs and everything. ... This will give her access to lovely open air which she, and she'll see dogs and all sorts of things, which she loves.

I've got a friend who's got cerebral palsy and she was asking, you know, she's young, she's in her thirties, and she's saying is the scheme available for me to apply for? And I said, I'll see if I can find out.

Recognising the breadth of the service was true more generally, with many participants highlighting its potential reach across a range of demographic groups and life situations. For example, a visually impaired participant felt that the cycle taxi would benefit:

People who aren't so steady on their feet, because it's very secure isn't it, you feel very safe on it. And you're not alone. So, like you say, for removing isolation from people who are perhaps isolated.

Participants also recognised the benefits for people struggling with their mental health or who had difficulty accessing the outdoors.

I think people who suffer from depression. There's lots of places that people go to for contact. I think those people would benefit from it. And I think like, there's lots of lonely people at home. Like I was lonely and it's like, there are lonely people.

Anyone with some level of mobility difficulties, people who are having trouble getting on a bicycle, or people that they might like the outdoors, like being active, but for whatever reason they can't, whether they're old or they struggle with their limbs etc.

Others felt that everyone could benefit from the social aspect of the cycle taxi and it being a fun way to get out and exercise.

I think the cycle taxi would benefit most people, to be honest, in general ... and not just disabled people. I think other people would just like to have the experience.

Yeah! Families could cycle around the park as a unit rather than all on – there's lots of people that use bikes in the park but they're all, you know, individual. And there's quite a lot of mobility scooters and things like that going through the park, but again, they're people on their own. This is where people can be together as a unit. ... It's the social interaction that you get out of it as well.

Many participants were so happy with their experience that they were keen to help with promoting the service to ensure that others had the opportunity to benefit from it.

I am marketing it! Wherever I go, I tell them “There is bicycle!” and then they are surprised and they start, they become you know, customers, passengers or something.

I've always said if you need any help in promoting this, I'm always willing to step up and say, “Look, you know, this is a great service,” and if you need it to be promoted and I can help, I'm more than keen to do that.

I'm happy to do advertising as well.

Participants were not only keen to recommend the service to others but also that it expands, with many aspiring to evening and weekend, London and nationwide opportunities, as well as special excursions and day trips on the cycle taxi.

5.6 Expanding to Meet the Need

Participants often indicated that, if it were possible, they would use the cycle taxi much more often than the current service permitted, expressing an appetite for evening and more weekend availability, a service across London and nationwide and which also offered day trips and excursions.

If I could go out every day I would.

I'd love to use it every day and in the evenings.

After four o'clock, or weekends.

It would be quite nice to have it on weekends ... it would be really good if they could do it at a weekend so that we could book it for fun things like that (carer).

London-based participants were aware that the service only operated in a limited number of boroughs and they were keen for it to expand across the capital so that people could benefit regardless of their geographical location.

Every borough, every neighbouring borough should have it.

More: yeah, more days, more areas covered. ... Expand it to other boroughs.

All boroughs should be having this, this service, because it is better than any therapy. It's better because you're actually talking to someone, you're getting out there. Just, someone just like me, who just wants companionship and a bit of leisure and a bit of, bit of self-confidence.

Those who lived outside of London wanted the cycle taxi to operate nationwide, so people in every area of the country could benefit from it.

We both said how good it would be if there were a similar service that we can access actually in [county] a bit nearer to home. ... I'd love it to be promoted more and rolled out across the country, that would be my recommendation, if it could be done.

In addition to being keen for the cycle taxi to operate for more hours and in a wider geographical location, participants also highlighted that a service offering excursions or day-trips would be popular.

A one-day thing where, like a little bus service, where like, it's got a meeting point at 10 o'clock, and it goes to somewhere for another point, like say to [area of London] or to [other area]. Like a one-day thing, and then when it goes there, there's a pickup point there, like a little bus stop, so to speak. And then it comes back, like a daily service, like, for one day a week (carer).

They can offer excursions. You know, tell people they come Wednesday, the bike will go to wherever, you know, go to someplace. They can have excursions, so for instance, they can pick up the four... I think it takes four, four people. Well they can say that the bike will on Wednesdays from [location] go to the Serpentine art gallery. They could have designated places it will go.

The cycle taxi offered mobility, exercise and social participation to people who often faced significant barriers to accessing them. Participants recognised this, and were keen for the

service to expand, often actively recruiting beneficiaries in their networks and aspiring for increased opportunities across London and around the country.

5.7 Summary

Overall, participants whose life-situations meant that they often experienced barriers to social participation, mobility and health found the cycle taxi to be accessible and beneficial for them. The design of the cycle, the skills and adaptability of the pilots, and the fact that it was free all contributed to this accessibility. Participants were acutely aware of the benefits they experienced and keen that others have the opportunity to avail it, recommending the service to those in their networks and aspiring for the cycle taxi service to be rolled out more broadly. Finally, many participants were anxious that the service continue without it being dependent on intermittent funding streams and they wanted to ensure that those in positions of power and/or decision-making knew of the service and its benefits: “Tell Sadiq Khan there can be many, many advantages of this one.” Others took a more robust approach, suggesting that if funding was not forthcoming then, “If not, give them my number!”

6. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Social isolation and loneliness are detrimental to health and wellbeing and are often related to levels of physical activity. Older and disabled people, those with a low income or from marginalised communities disproportionately experience social isolation and face significant barriers to mobility, exercise and social participation. The cycle taxi offers a sociable, active-travel opportunity that overcomes these barriers, reaching groups who are particularly disadvantaged.

Cycle taxi participants reported increased social contact as a result of engaging with the service, including with other riders and pilots, family and friends and their wider community and environs. Many participants also reported increased confidence to undertake other new activities, including other physical activities and cycling, which have further beneficial impacts on levels of social isolation and its health consequences.

The cycle taxi offered free, active transport for people who faced significant barriers to mobility and transport. For many it was a “lifeline”, providing their only means to get out and about. Participants used the cycle taxi for a range of journeys including essential everyday tasks such as going shopping or attending medical appointments, as well as leisure and social participation. Participants frequently emphasised how the cycle taxi gave them freedom and independence that they otherwise lacked, particularly given the limitations and/or inaccessibility of other transport options.

Health and wellbeing are intrinsically connected to physical activity, social contact and accessing the outdoors and nature. The cycle taxi offered participants a unique means to access all of these health promoting impacts in one journey. Participants reported strong mental health benefits both immediately after their ride and over the longer term. They also highlighted the physical health benefits of exercise and the importance of being able to get outdoors into nature and the fresh air. The fact that all of this was achieved in a fun and novel way only added to the benefits that participants experienced and, likewise, accessing the outdoors in an active way increased the mental health benefits. The cycle taxi is particularly important in providing these health and wellbeing benefits to the social groups

who face the most barriers to accessing them and who experience the highest levels of social isolation and health inequalities.

Older and disabled people, those on a low income and/or from marginalised communities found the cycle taxi to be accessible and beneficial for them. The design of the cycle, the skills and adaptability of the pilots, and the fact that it was free all contributed to this accessibility. Participants were acutely aware of the benefits they experienced and keen that others have the opportunity to avail of them, both recommending the service to those in their networks and aspiring for the cycle taxi service to be rolled out more broadly.

Overall the cycle taxi offered participants a unique and accessible form of social participation, mobility, access to nature, exercise and health. It had significant reach and impact across groups who face significant barriers to these experiences. The active nature of the service added to the mental health benefits of accessing the outdoors and nature as well as the likelihood of improved social connectedness. Given these findings the following recommendations are made:

Recommendations

- 1) The cycle taxi service should be funded on a consistent and ongoing basis to ensure that disadvantaged communities continue to experience the social participation and health benefits of active travel. This is particularly important given local authorities' current spending on active travel and micromobility schemes which often exclude older and disabled people (and others with protected characteristics) and their Public Sector Equality Duty to not only avoid discrimination but to actively promote equality and inclusion (HM Govt 2010).
- 2) The service should remain free and available on an easy refer, including self-refer, basis. Other transport and physical activity options are either costly or, if they are free, require prohibitive amounts of paperwork and evidence before people can avail of them – only increasing the barriers to mobility and social participation.
- 3) Information and awareness about the cycle taxi service and its health, wellbeing and social participation impacts should be disseminated widely across health, social and public services to support referrals across target groups and open up funding sources.

- 4) The service (or something very similar) should be rolled out across a wider geographical area, including four-nationwide, to ensure equitable access to the benefits of the service across the country.
- 5) Developments of the service including special excursions and supported employment opportunities for those from marginalised groups could also have significant impacts and continue to widen the health, wellbeing and social participation benefits.

7. APPENDIXES

APPENDIX 1: DEMOGRAPHIC & SOCIAL CONTACT DATA

Cycle Taxi Scheme: Participant information

Thank you for completing this form. The information you provide is anonymous. It is your choice whether or not to complete it and it will not affect your participation in the cycle taxi scheme. We will use this information to help us understand and report on who is benefitting from the cycle taxi service. By completing this form you consent to providing this anonymous data for our use. Date: ____/____/____

1) Age:

- 18-29
- 30-39
- 40-49
- 50-59
- 60-69
- 70-79
- 80 or over
- Prefer not to say

2) Sex/gender:

- Female
- Male
- Non-binary
- Other/self-define (please state): _____
- Prefer not to say

3) Do you have a disability/impairment or long-term health condition?

- Yes
- No
- Prefer not to say

If **yes**, please circle which of the following apply to you (you can choose more than one):

- Mobility impairment
- Blind/visual impairment
- Deaf/hearing impairment
- Learning disability
- Neuro-diversity (e.g. ADHD, Autism)
- Neurological condition (e.g. Alzheimer's, Epilepsy, MS)
- Mental health difficulty
- Long term health condition (please state): _____
- Other/self-define (please state): _____

4) Ethnicity (please circle):

- White
- English / Welsh / Scottish / Northern Irish / British
- Irish

- Gypsy or Irish Traveller
- Any other white background (please state): _____

Mixed / Multiple ethnic groups

- White and Black Caribbean
- White and Black African
- White and Asian
- Any other Mixed / Multiple ethnic background (please state): _____

Asian / Asian British

- Indian
- Pakistani
- Bangladeshi
- Chinese
- Any other Asian background (please state): _____

Black / African / Caribbean / Black British

- African
- Caribbean
- Any other Black / African / Caribbean background (please state):

Other ethnic group

- Arab
- Any _____ other _____ ethnic _____ group (please state): _____
- Prefer not to say

5) Social contact: how often do have in-person contact with other people?

- Every day
- 4-6 times a week
- 2-3 times a week
- Once a week
- Once a fortnight
- Once a month
- Other (please state) _____
- Prefer not to say

APPENDIX 2: INFORMATION & CONSENT FORM

CYCLE TAXI EVALUATION Interview Information & Consent Form

(One copy each for participant and Bikeworks – add note if completed verbally)

- Bikeworks received funding from the Department for Transport (DfT) to run the Cycle Taxi service in four London boroughs.



- Bikeworks and DfT (with the help of NatCen) want to measure the impact of the service. This will be done using data from the bookings (e.g. how many journeys were taken) and **interviewing** people who have used the Cycle Taxi service.



- The interview will be audio recorded and then transcribed into an anonymous written document. Once the written document is complete the recording will be deleted.

- You can choose not to answer any questions and you can end the interview at any time. Your answers and your decision whether or not to be interviewed will not affect your right to use the Cycle Taxi service.



- The information will be written up into reports, presentations and information leaflets to help get more funding for the service. All the information will be completely anonymous and no names or any identifying information will be used.

- If you have any questions please ask the researcher today or contact David Dansky at david.dansky@bikeworks.org.uk 07857 745747 or 020 8980 7998

I have read and understood the information about the evaluation of the Cycle Taxi service and I agree to be interviewed for the evaluation as stated above.

Participant

Name:

Signature:

Date:

Researcher

Name:

Signature:

Date:

APPENDIX 3: INTERVIEW SCHEDULE

Cycle Taxi Participants

Introduction, information and verbal consent

Hello, my name is [-----] I'm contacting you from the Bikeworks Cycle Taxi service. You said that you would be happy to be contacted to talk about your experiences. Is now a good time to talk? [if not, rearrange]

[complete consent form with participant]

Any final questions before we start?

Great, thank you, I'm going to start recording the interview now [switch on recorder]

Interview Questions

(Opening questions)

- Roughly how long have you been using the CT service?
- What made you decide to use the service?
- Did you have any concerns before your first journey? – can you tell me about them?
- How many journeys have you made/how often do you use it?
- How often would you like to use the CT service?

(Main questions)

- Are your CT journeys the same or different each time you use the service and how do you feel about that?
 - [prompt/probe for variations in journey route and purpose, and the pilot and passengers taking the trip]
- How do you feel after your journeys?
- What are your favourite things about the CT service?
- Have you ever had a difficult or negative experience? – can you tell me about that?
- Is there anything that the CT service enables you to do that you wouldn't be able to otherwise?
- Do you have any difficulties with getting out and about in general?
 - [prompt/probe for personal mobility or health problems and/or access to transport]
 - How do you normally get around? [if not answered above]
- Have you noticed any changes in yourself since you have been using the CT service?

- [prompt/probe for physical health, social contact, mental health/wellbeing]
- Since starting on CT service how often do you have in-person contact with other people?
 - [prompt/probe (if necessary) for every day; 4-6 times a week; 2-3 times a week; once a week; once a fortnight; once a month and if this is an increase]
- How does this make you feel?

(Closing questions)

- Do you think other people would benefit from the CT service?
 - [prompt/probe (if necessary) for who and why]
- Is there anything else that you think it would be good for the CT service to offer?
- Is there anything else you would like to say about your experience with the CT service?

Closing information

Thank you so much for taking the time to talk to me today. Your answers will be used to write an evaluation of the CT service which we hope will enable us to get more funding to continue and expand the service. Neither your name or any information that identifies you will be used in the report. Do you have any questions for me before we finish?

If you think of any questions after today you can contact David Dansky who is running the project david.dansky@bikeworks.org.uk 07857 745747 or 020 8980 7998.

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