
Manchester Urban Institute

# Governing Urban Transformation

## A Report Exploring the Potential Socioeconomic Impacts that Bike Pooling Schemes could have on Greater Manchester. Commissioned by the Corridor Manchester Partnership.

[11/05/2017]

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## Author declaration

I 9451036 confirm that this report is based on my own work and that I am happy with both my own and my partner's 9454754 contribution to the final submitted version.

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## Executive Summary

Despite the growing popularity on cycling in Manchester, a large proportion of cyclists are students or casual riders. The motorised vehicle, and public transport still dominate commuting in Manchester. Bike pooling is a modern and largely unheard of phenomenon, although there is potential for use in Manchester, schemes have been slow to develop. This paper is concerned with highlighting the socioeconomic impacts of pool bikes. Questionnaires and secondary data have been used to try to evaluate the impacts of pool biking in Manchester. A range of positive impacts were found from increased productivity of workers to increased cardiovascular performance. However, this paper goes onto explain that other factors such as the weather, safety and laziness are preventing people from cycling and thus using pool bike schemes. This paper will conclude bike pooling is unlikely to become a genuinely viable option for Manchester, however with a spread of investment across the city and increased awareness of bike pool schemes this could change.

## Introduction

This report has been commissioned to address the potential impact that bike pool schemes could have in Greater Manchester set out by the Corridor Manchester Partnership.

A bike pool is a scheme set up by organisations that provide free rental bikes and safety equipment for their employees during the working week. Bike pools are ideal for short, work related trips around a busy city, such as Manchester. In the modern city, the cheapest, healthiest and most sustainable form of transport is the bicycle (Cervero, 2013). Since the Corridor Manchester (2017a) partnership was founded in 2007, cycling, amongst other forms of more sustainable transport such as buses in Manchester have been prioritised. The introduction of Dutch-style cycle lanes has provided a safer cycling environment for all abilities.

However, cycling in Manchester is not as accessible as it should be. Unlike Glasgow, Liverpool and London, Manchester does not have an on-street bike hire scheme (Lewis, 2016). Therefore, the burden is placed on the private-sector. Bike pooling, in Manchester, could provide businesses with cheaper transport options around the city, increase worker productivity and increase profit. Bike pools in Manchester could create a positive profile of the city. This could make Manchester more attractive to investors in a Northern Powerhouse 'Core City', as Corridor Manchester is intimately focused on doing.

This report will examine the socioeconomic impact that large-scale implementation of bike pools in Manchester could have. It will conclude that bike pooling is unlikely to have a future in Manchester. However, with specific focus on sustainability in the city, this scheme could potentially work.

## Context

This section will explore the literature on the potential socioeconomic impacts of cycling.

Cycling already provides a vital service to Manchester, economically. Increased cycling participation has boosted the Greater Manchester economy by £108 million (Sustrans, 2015). Precisely, 67 pence per mile cycled is saved in comparison to driving, equating to a £98.5 million saving for Greater Manchester per year (ibid.). However, the economic benefit of cycling in Manchester could be extended. Importantly, higher cycle rates could reduce employee healthcare costs, cardiovascular problems and hospitalisation, and thus increase business work attendance and employee productivity (Connor, 2014). Being physically active does seem to have beneficial impacts on work performance. It seems that higher physical activity and cardiovascular respiratory fitness have positive impacts on quality and quantity of employee work (Pronk et al., 2004). A more physically active Mancunian population could have profound impacts on overall city work output. In turn, this could boost the economy of Manchester and develop the 'Northern Powerhouse', a key aim of the Corridor Manchester Partnership.

However, lack of bike ownership in Greater Manchester appears to be a major barrier preventing further cycling induced economic growth. As only 48% of adults within Greater Manchester own a bicycle, and two thirds would like to ride more (Sustrans, 2015), the problem appears to be based around provision. Therefore, bike pooling could have profound impacts on usage, and in turn induce economic growth.

It seems that the economic benefit of cycling could extend further than employee productivity in Manchester. Higher cycling rates, and the implementation of private bike pooling schemes could significantly reduce business costs. In London, organisations that adopt bike pool schemes, tend to save £25-£80 per bike each month (TfL, 2008). Despite a small start-up cost, bike pools become self-sufficient and therefore reduce long-term business expenses, and increase profit (Cardiff Council, 2009; Steverman, 2008). Furthermore, the economic impact that substituting car parking spaces with bike pools is significant. The cost of a parking space in high-density urban areas is approximately £2,000

per year (TfL, 2006). Therefore, introducing bike pools instead of car parking spaces could save Mancunian businesses' thousands, developing the regional economy, from the ground-up, as a result.

The health benefits of cycling have been well documented; from reduced emissions to increased life expectancy (Deenihan and Caulfield, 2014). Unwin (1995) found Britain's health has great potential to improve from increased cycling levels. Increased levels of physical activity and reductions in emissions suggest the physical health benefits of urban cycling far outweigh the negatives (Pucher and Buehler, 2012). Although there are clear benefits to cycling, since cyclists are 14 times more likely to be fatally injured per kilometre travelled than motorists, the obvious disadvantages are clear (Department for Transport, 2015). Despite this, Cavill and Davis (2007) argue that the health benefits of cycling outweigh the risks by twenty to one. An example of these health benefits were seen in Copenhagen, Denmark which found cycling to work reduced the chances of any-cause mortality by 28% (Cavill et al., 2008).

Despite the positive correlation between increased cycling and the health of adults (Oja et al.,2010), in 2011, only 2.8% of people cycled to work in the UK (ONS, 2011). This highlights the potential benefits increased cycling could have on Britain's health. In Japan, the healthiest commuting group are those who cycle (Ohta et al., 2007) highlighting the potential health benefits of cycling. However, the reason that 30% of women and 14% of men do not commute by bike in the UK, is a fear of accidents (Oja et al., 1998). This shows how although the health benefits of cycling are well documented, fears over safety deter many from its potential health gains.

Emotionally, those who cycle appear to be happier, less stressed and more mentally healthy (Sustrans, 2015; Pucher and Buehler, 2012). It could, therefore, be predicted that increases in cycling, especially increases in cycling to work would improve the physical and mental health of the Greater Manchester population.

However, there appears to be a severe lack of specific literature on the impacts of bike pooling on health. Literature surrounding this topic tends to only address the impacts on health from cycling itself or the economic impacts of pool bikes.

## Methodology

Both primary and secondary data were needed to be able to examine the socioeconomic impacts that bike pooling could have on Manchester.

To be effectively able to see how local people would respond to introduction of pool bikes, the use of questionnaires was required. The questionnaire included mostly closed questions to make analysis of data quicker and easier (Newell, 1993). However, closed questions can lead to information being missed or hidden (Edwards et al., 2009). Due to time constraints on the data collection; the use of closed questions in an online questionnaire was most practical (Blaxter et al., 2001). An open ended “any further comments” section was also left at the bottom of the questionnaire, to allow elaboration. The questionnaire was posted onto local social media sites and surveyed 57 Mancunian commuters. The data gained from the questionnaire was vital in revealing the potential impacts of pool bikes in Manchester. A potential limitation was that respondents would not know what pool bikes are. This was overcome by including a small description of how these schemes work.

To supplement the primary data collected several different secondary data sources were used. Policy documents, academic literature, newspaper articles and national statistics were examined. The secondary data was used to contrast or compare with the primary data collected, this gave the data more substance and validity. The aim, credibility and legitimacy of all the secondary data sources were all measured and reviewed to ensure the sources were reliable and valid (Szabo and Strang, 1997).

## Findings

After analysing secondary data, it became clear that the impact that bike pool implementation could have in Manchester is profound. The potential economic benefit to the city appears to be multifaceted. Firstly, in terms of personal work performance, it seems that employees whom cycle to work, take half the sick days of those who do not (YouGov, 2013). A fitter, and thus more productive workforce in Manchester, served by bike pools could help to grow the local economy. This theory is supported by figure 1. This graph shows that although only 11.8% of participants ever cycle to work, those that do, feel more productive in comparison to non-cyclists. As visualised in figure 1, cyclists feel largely more productive at work in comparison to non-cyclists.

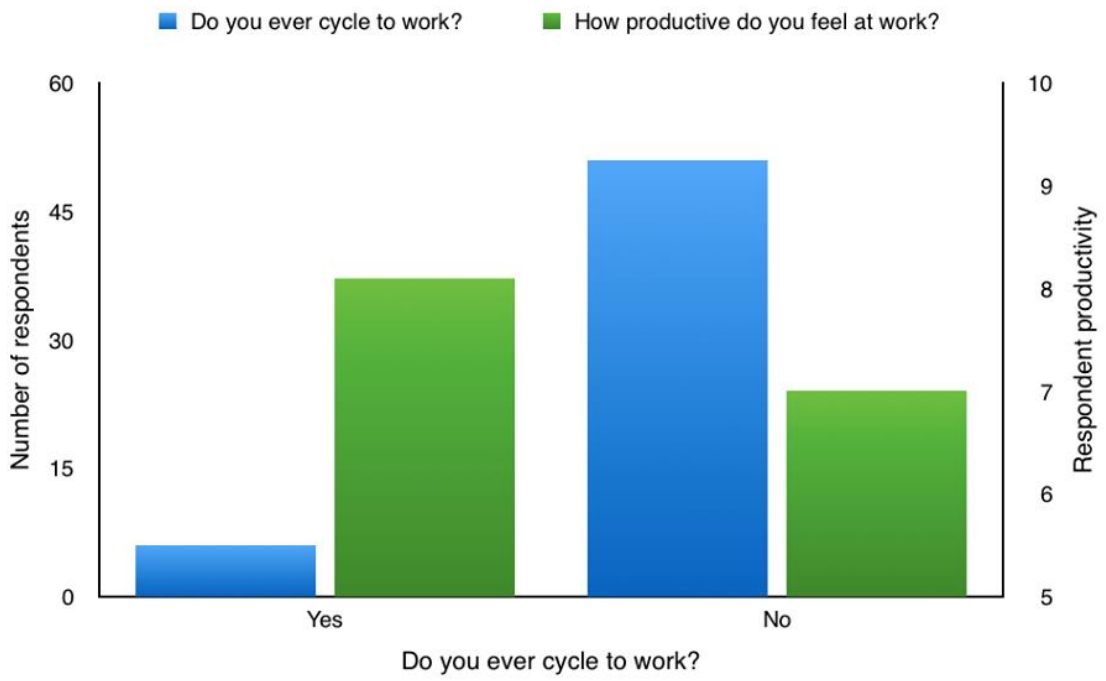


**Figure 1: Relationship between cycling to work and productivity**

The findings support the idea that higher fitness rates have positive impacts on employee work quality and quantity, as argued by Connor (2014) and Pronk et al. (2004). Considering that the participants that do cycle to work, or use a bicycle at work, feel significantly more productive, it would be fair to conclude that increases in cycling would influence overall city

productivity rates. This eludes to the economic benefit that cycling has on the local economy.

Substituting car parking spaces with bike pool banks, could decrease business expense and thus increase profit, as argued by Cardiff Council (2009) and Steverman (2008). However, this idea seems to ignore the fact that many workers in Manchester have no desire to cycle during the working day. Figure 2 shows that a sizeable proportion of employees have no interest in cycling whatsoever.

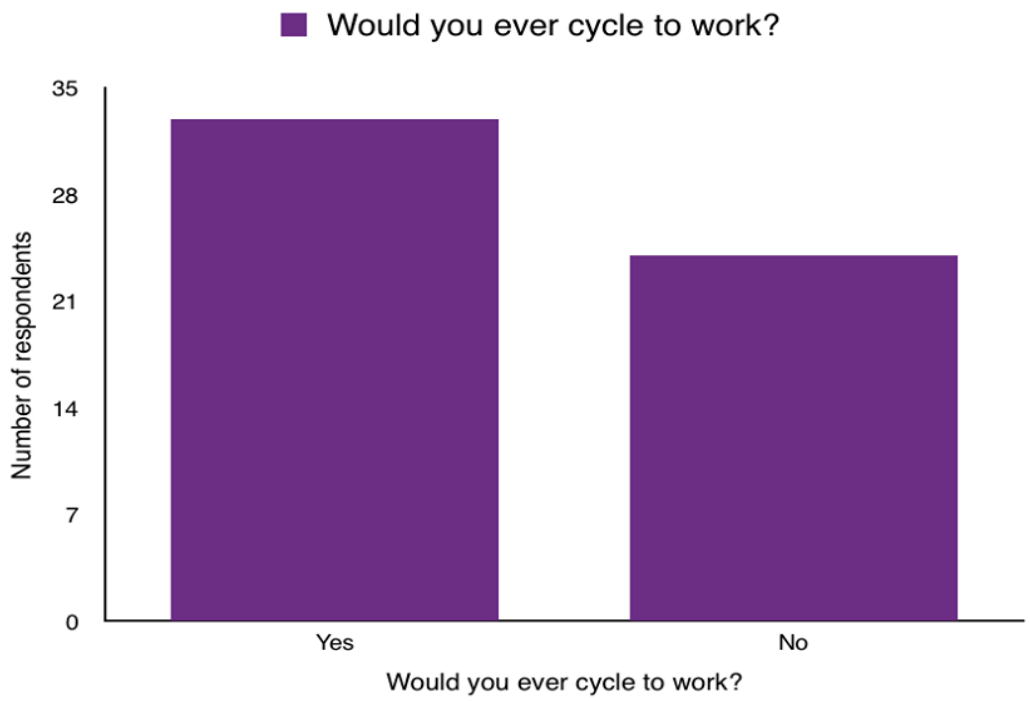


**Figure 2: Likelihood Mancunians' would ever cycle to work**

Here, 42% of respondents believe that they would never cycle to work. Furthermore, some respondents even stated that if they were unable to drive and park at work, it would it would seriously influence their desire to continue working with their current employer. Economically too, substituting car parking spaces with bike pools might not work, as many other respondents argued that cycling to meetings might emit the work business impression. Therefore, introducing bike pools to businesses could negatively impact Greater Manchester financially. As it could be a wasted investment and would likely remain largely underused.

However, Manchester City Council (2012) stated they believed pool bikes are one of the most important ways to get people cycling. An increased pool bike scheme in Manchester could allow the 27% of people who do not have the facilities, but have the desire to, to cycle (Sustrans, 2015). The single major scheme that appears to be available in Manchester is only available to businesses along Oxford Road Corridor who are offered the use of electric cargo bikes for free. Therefore, it appears that the use of pool bike schemes is drastically underused for its potential in Manchester. A clear lack of knowledge of pool bikes was highlighted in questionnaire data and is visualised in figure 3.

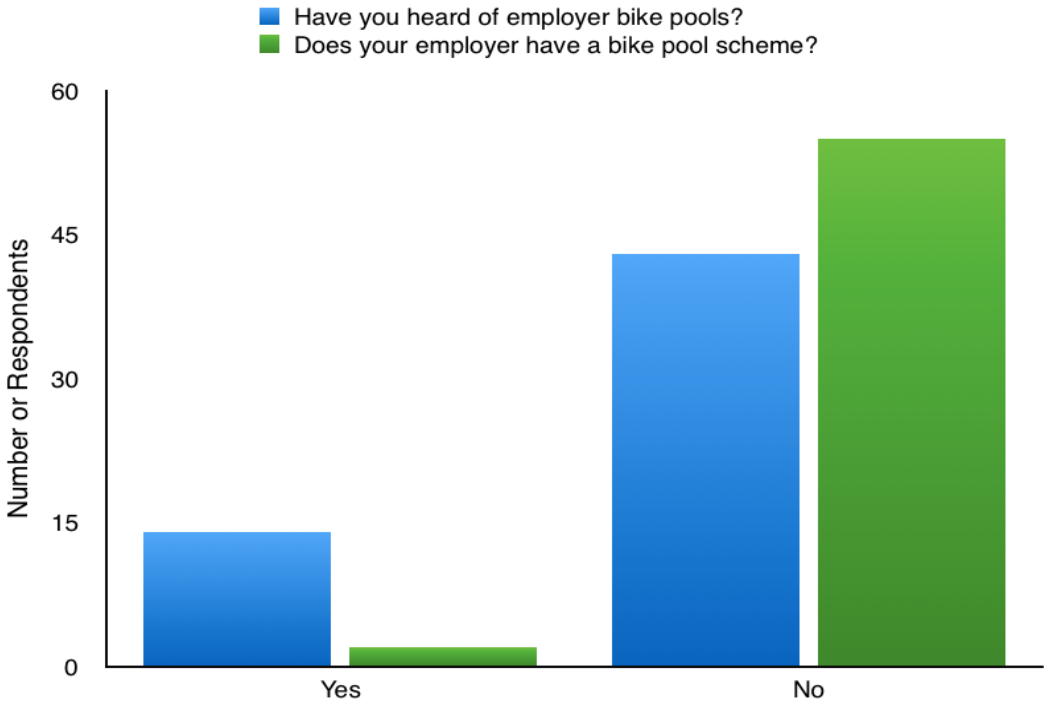


**Figure 3: Employee bike pools schemes' knowledge and availability**

Figure 3 highlights that only 24.5% of respondents had even heard of employee pool bike schemes. Although many of the participants do not work on the Oxford Road Corridor, this data illustrates how poorly advertised and under-used current schemes are. This is shown in figure 3 by the fact only two respondents stated their employer offered a pool bike scheme, this would suggest that current schemes are under-used or under-advertised for employees. The lack of acknowledgement of pool bike schemes is highlighted by the fact the Manchester Corridor (2017b) cycling page has no mention of the pool bike scheme which could explain why it appears the scheme is underused. It could therefore be argued that

increased public awareness and the implementation of bike pool schemes could have profound socioeconomic impacts on Manchester.

Despite investments from Corridor Manchester along Oxford Road it appears their aims are not being met. Figure 4 highlights how little Mancunians cycle in comparison to the Corridor Manchester aim. The cycle count of approximately 80,000 in Figure 4, almost halfway through the year, evidently shows that investment in cycling in Greater Manchester has been largely unsuccessful. Considering the overall aim of 500,000 cyclists per year, the lack of cycling in the city currently suggests that the likelihood of bike pools genuinely succeeding is minimal, regardless of large-scale investment in cycling infrastructure. However, Thomas et al. (2009) found, in the Netherlands, that weather is a crucial factor in reducing cycling numbers. This might explain why Manchester is currently well below its target as this period has mainly included winter months.


Figure 4:

Date 04/05/2017

Cyclists today: 1,319

Cyclists this year: 80,000

**Figure 4: Image of cycle count on Oxford Road (photographed 04/05/2017)**

Weather appears to be the most important factor determining the lack of cycling in Manchester. Figure 5 shows that 35% of respondents believed poor weather is the main reason against biking, supporting the work of Thomas et al. (2009). Nevertheless, there seem to be other key factors preventing large scale cycle adoption in Greater Manchester.

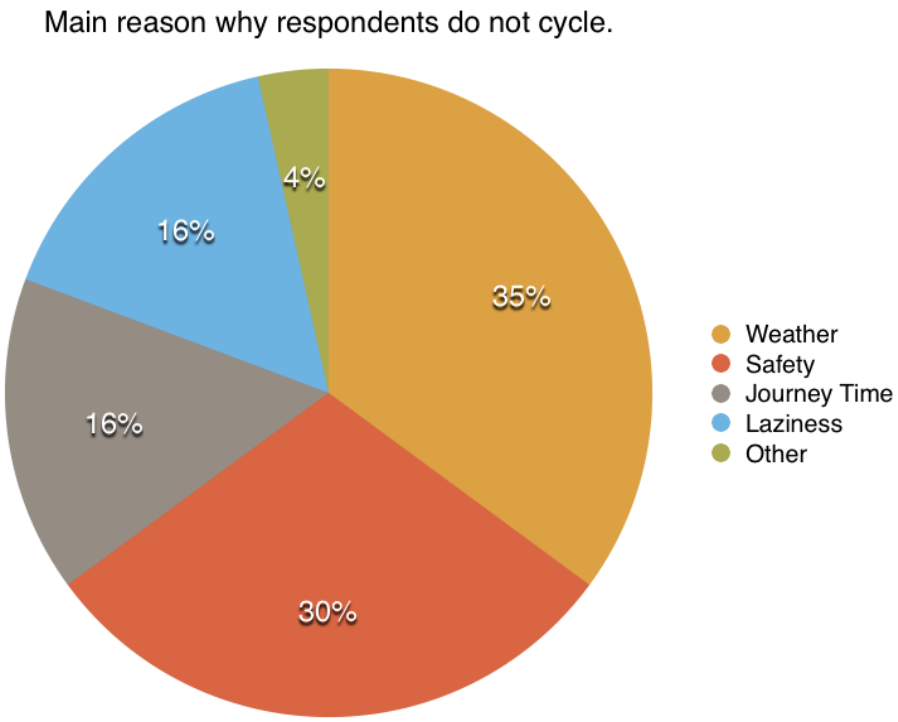


**Figure 5: Main reason why respondents would not cycle**

The data in figure 5 shows that the other key reason for a lack of cycling in Manchester is safety. 30% of respondents cited this as the main reason for them not cycling and 80% of Mancunians' believe that cycling safety in the city needs to be improved (Sustrans, 2015). This shows that safety concerns surrounding cycling are holding back current pool bike schemes. This correlates with Oja et al. (1998), that a fear of accidents is a key reason preventing people commuting by bike. Literature suggests the health benefits of cycling far outweigh the costs. In Manchester, however, this is not the opinion of many, which would probably negatively impact the success of any pool bike scheme implemented.

Furthermore, if Mancunian workers are unwilling to change their attitudes, bike pooling schemes will be unlikely to succeed. This is particularly seen in how 16% of respondents in

figure 5 believe themselves to be ‘too lazy’ to cycle at work, suggesting investments into cycling would not change many transport habits. This is largely supported by YouGov (2013), who found that 12% of respondents were too lazy to cycle at work. A combination of laziness and safety shows that cycling in Manchester is unpopular. Bike pools are unlikely to dramatically change this.

## Conclusion

Clearly, bike pools do provide significant socioeconomic benefits to the modern-day city. These benefits could be experienced by Greater Manchester. In terms of economic growth to a Northern Powerhouse 'Core City', bike pools could increase employee productivity and decrease business expenses. Socially, increased cycling from bike pools could not only increase personal cardiovascular health, but also dramatically increase the mental health of employees.

Cycling in Manchester is currently challenged by a lack of a public, on-street bike hire scheme and limited bike ownership. Currently, private bike pooling schemes are completely under-advertised and under-used, seriously preventing schemes from reaching their potential in Manchester. This could provide the perfect conditions for bike pools to be genuinely successful across the city.

However, the actual impact that bike pooling implementation could have across Greater Manchester is limited. Cycling in the city is unpopular, with many opting for other forms of transport due to weather, safety, laziness and business norms. Preconceptions surrounding cycling in Manchester would fundamentally prohibit bike pooling schemes from being an actual success, right now.

This report concludes that Manchester has the potential to benefit socioeconomically from bike pool schemes. To create an environment whereby bike pooling schemes could flourish, Corridor Manchester may like to consider spreading investment in cycling infrastructure to the entire city, rather than focus purely on Oxford Road. Awareness and education in cycling and bike pooling schemes would fundamentally increase the likelihood of their success.

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