

Cycling in the City: A report of our scoping and piloting work  
towards evaluating the health impacts of the Cycling in the City  
programme

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# *Cycling*

IN THE CITY

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## 1. Key findings

- Census data show that, in 2011, 2.87% of Newcastle residents reported travelling to work by bicycle.
- Relatively high proportions of the commuter cyclists in Newcastle, at the time of the 2011 Census, lived in the inner-city areas of Sandyford, Jesmond, Heaton, Gosforth, Kenton, and Arthur's Hill, which overlap substantially with the areas designated as Community Cycling Areas under the Newcastle Fit for Cycling scheme.
- Cyclist prevalence indicators, based on sensor data from the Traffic Accident and Data Unit, show a slight upward trend in cycling in Newcastle from 2005 to 2014.
- Census figures also suggest an increase in commuter cycling: At the 2011 Census, 3,308 (2.9% of the commuter population) Newcastle residents reported cycling to work, compared with 1,781 (1.9% of the commuter population) at the 2001 Census.
- This increase in cycling has been accompanied by an apparent increase in cycle collisions: 15% of the cycle collisions reported from 2005-2014, happened in 2014.
- More than 80% of reported cycle collisions were slight, rather than serious. Only one cyclist fatality was recorded within the Newcastle local authority boundary between 2005 and 2014.
- Collisions involving cyclists were most common in the City centre, Byker, Heaton and Gosforth. Many of these occurred on hot spots at roundabouts and awkward junctions.
- Using the 2011 Census travel-to-work data as a base, we estimated a 2% cyclist collision rate for 2011. We estimated a 0.6% collision rate for non-cyclist commuters in 2011. This indicates that commuter cyclists in Newcastle in 2011 had an elevated risk of being involved in a collision, relative to those who commute by other means. However, there are limitations to using the Census travel-to-work data as a base for estimating risk, which are discussed in this report.
- We looked in detail at 2 specific routes used by CITC participants: one leisure route and one commuter route. There were no collisions reported on the leisure route during the 10-year period examined, indicating extremely low risk to users. There was a non-zero, but still very low, collision rate for the commuter route. Estimates of the health benefits of the routes suggested that the physical activity gained by the leisure-route users would gain them an average of 1.8 life years, whilst the physical activity of the commuter-route users would gain them an average of 2.5 life years.
- Qualitative data suggested that the participants who were interviewed benefited from CITC participation in range of ways including;

- Increased cycling skills, knowledge, and confidence.
  - Improvements in physical health (weight loss and symptom alleviation).
  - Improvements in mental health and wellbeing (reduced stress and anxiety, including discontinuation of antidepressant use, and an increased sense of self-confidence and independence).
  - Discovery, and enjoyment of, new areas of the City.
- Qualitative interviews revealed that lack of infrastructure, poor weather, a lack of confidence in cycling on roads, equipment cost, training times and health problems were all perceived as barriers to cycling. However, the flexibility of the CITC programme and staff had helped participants to work around training times (flexible scheduling) and health issues (customising bikes to deal with disabilities).

## 2. The Cycling in the City programme (CITC)

Newcastle City Council (NCC) recently received a £5.7m award from the Department for Transport's Cycle City Ambition Fund to implement the Newcastle Fit for Cycling programme and develop cycling paths across the city. The programme is part of a ten-year plan to improve cycle routes and facilities across the city and make it a better place for walking and cycling.

As part of this programme, Public Health at NCC committed £776,000 to develop a project to encourage more people to take up cycling - the Cycling in the City (CITC) programme. In line with the recent NICE guidance PH41 on walking and cycling, a suite of activities were developed, including cycle tuition, cycle maintenance training, led rides, and support through cycling champions. The main intervention techniques used are: imparting knowledge about cycling, bicycle repair and safety, and increasing skills, capability and social support in relation to cycling. Targeted marketing, using materials developed to encourage "normalisation" of cycling, are also used in the programme to encourage people to consider cycling as an everyday activity.

Although the programme is open to all adults living or working in Newcastle upon Tyne, initial recruitment has been focused on groups who are less likely to cycle: young people (especially younger women), older adults and ethnic minorities. Activities also target areas of greater need, such as the deprived communities of East and Inner West Newcastle, where obesity rates are higher than in the rest of the city. The CITC programme aims to increase physical activity in the targeted populations, thereby improving population health and reducing health inequalities.

We have scoped the available data, and piloted methods for evaluating the health impact of the CITC programme. This report contains a summary of our findings, along with some recommendations for future work.

### 3. Cycling in Newcastle – the context of the CITC programme

To understand the context in which the CITC programme operates, it is useful to have a background picture of cycling in Newcastle upon Tyne. To provide this, we examined [Census data](#) on modes of travel to work (2011), [cycle sensor data](#) (2005-2014), and [cycle collision records](#) (2005-2014).

#### The Census data

Census data show that, in 2011, 2.87% of Newcastle residents reported travelling to work by bicycle (Table 1). The data were broken down further, by lower layer super output area (LSOA), and mapped. Doing this revealed the areas of Newcastle in which greater proportions of residents reported cycling to work (Figure 1). The map shows relatively high proportions of cyclists in the inner-city areas of Sandyford, Jesmond, Heaton, Gosforth, Kenton, and Arthur's Hill. Several of these areas (Sandyford, Jesmond, Heaton and Arthur's Hill) overlap with designated Community Cycling Areas under the Newcastle Fit for Cycling scheme (White, 2015). The correspondence between Community Cycling Areas and cyclist prevalence is shown in Figure 2.

Maps showing the proportions of Newcastle residents using all other methods of travel to work, by LSOA, can be found in the Appendix, with links to the interactive online versions of the maps.

*Table 1. Data taken from the 2011 Census on the modes of travel to work reported by residents of Newcastle upon Tyne. Data from the 2011 Census can be accessed [here](#).*

Method of Travel to Work	Number	% total commuters using mode
<b>All categories</b>	<b>212,864</b>	-
Work mainly at or from home	3,988	-
Not in employment	93,529	-
<b>Total commuter population</b>	<b>115,347</b>	-
Underground, metro, light rail, tram	6,414	5.56
Train	1,460	1.27
Bus, minibus or coach	22,137	19.19
Taxi	1,114	0.97
Motorcycle, scooter or moped	352	0.31
Driving a car or van	56,851	49.29
Passenger in a car or van	6,867	5.95
<b>Bicycle</b>	<b>3,308</b>	<b>2.87</b>
On foot	15,993	13.87
Other method of travel to work	851	0.74



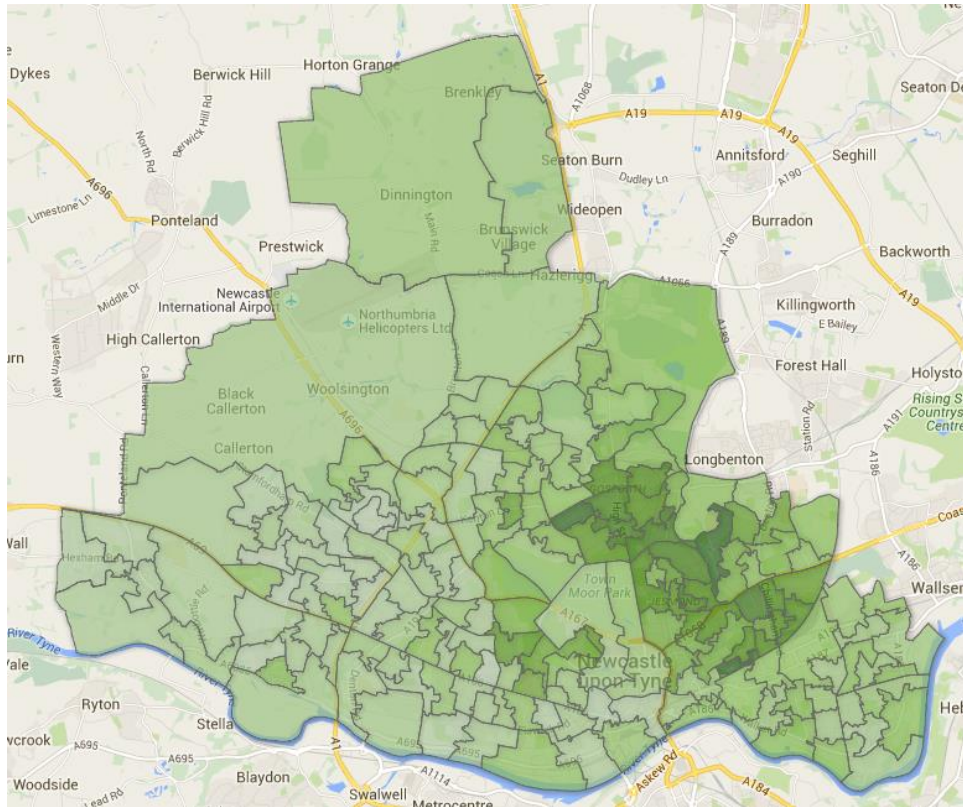


Figure 1. A map of the proportion of Newcastle upon Tyne residents who reported cycling to work at the 2011 Census, organised by lower layer super output area. Darker green areas denote a relatively high proportion of cyclist commuters. Click on the image, or use [this link](#), to view an interactive version of the map, containing the numbers.

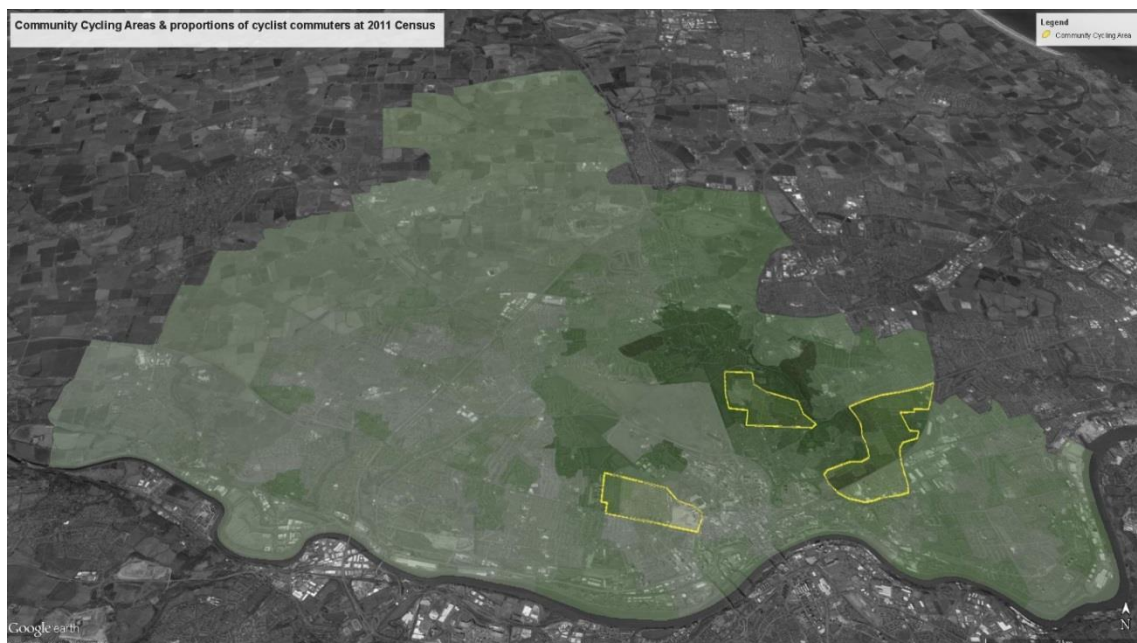


Figure 2. The proportion of Newcastle upon Tyne residents who reported cycling to work at the 2011 Census, organised by lower layer super output area, with the Fit for Cycling Community Cycle Areas overlaid (outlined in yellow). Darker green areas denote a relatively high proportion of cyclist commuters – as in Figure 1.



### The cycle sensor data

Cycle count and accident data were provided by the Traffic Accident and Data Unit (TADU). Cycle prevalence indicators, estimated by TADU, using the 19 cycle sensors within the Newcastle area showed an average of 151 cyclists per month passing their sensors in 2014. Since there are not cycle sensors on all roads and paths in Newcastle, this figure must be considered an indicator of the number of cyclists in Newcastle, rather than a count. However, this indicator can be used to examine trends in cycle prevalence over time. Figure 3 shows the slight upward trend in cycles counted during the 2005-2014 period.

Because sensor data cannot offer a city-level base estimate of cyclist numbers, nor any information about who the cyclists are, or where they are from, Census data on commuter cycling have been used to generate many of the estimates in this report. However the sensors offer high-quality cycle flow data, which are useful for estimating path-specific base estimates, to calculate collision rates for specific paths (as we have done in section 5).

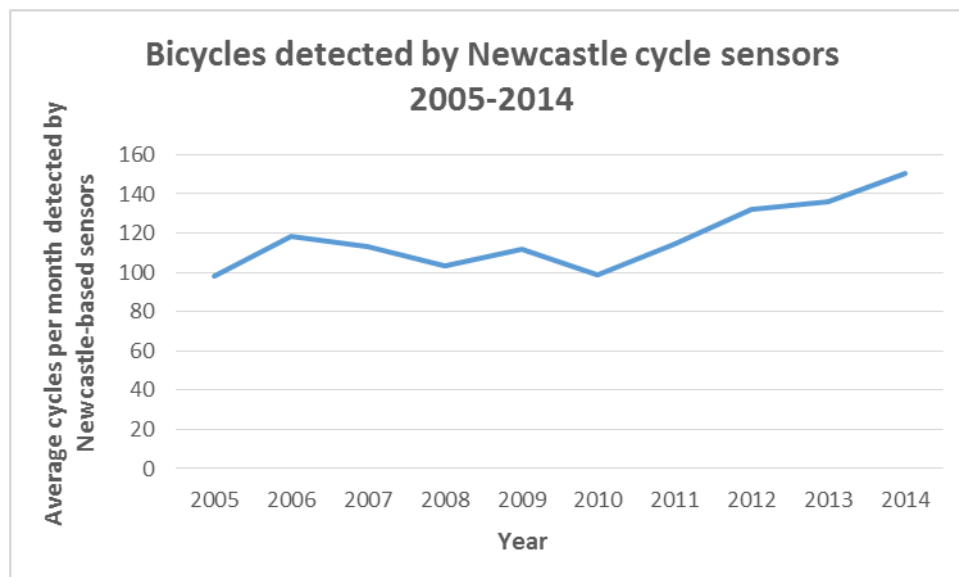


Figure 3. The average number of bicycles detected per month from 2005-2014, by cycle sensors within the Newcastle upon Tyne local authority area.

### The cycle collision data

Cycle collision data for the past decade (2005-2014) were examined. The basic findings are summarized here, as well as their relevance to routes used by CITC participants.

There were 864 cycle collisions in the period examined. Of these, 1 was fatal, 131 were serious and 732 were slight, meaning that over 80% of collisions did not entail serious injuries (Figure 4, definitions of serious and slight can be found [here](#)).

Of the cycle accidents that were recorded, 15% occurred in 2014 – a larger proportion than in previous years (Figure 5). This may be due to an increase in the number of cyclists in Newcastle (as indicated by the TADU estimates, Figure 3). Indeed, the number of cyclists who reported cycling to work at the 2011 Census (3,308, or 2.9% of the commuter population) was substantially greater than that reported at the 2001 Census (1,781, or 1.9% of the commuter population).

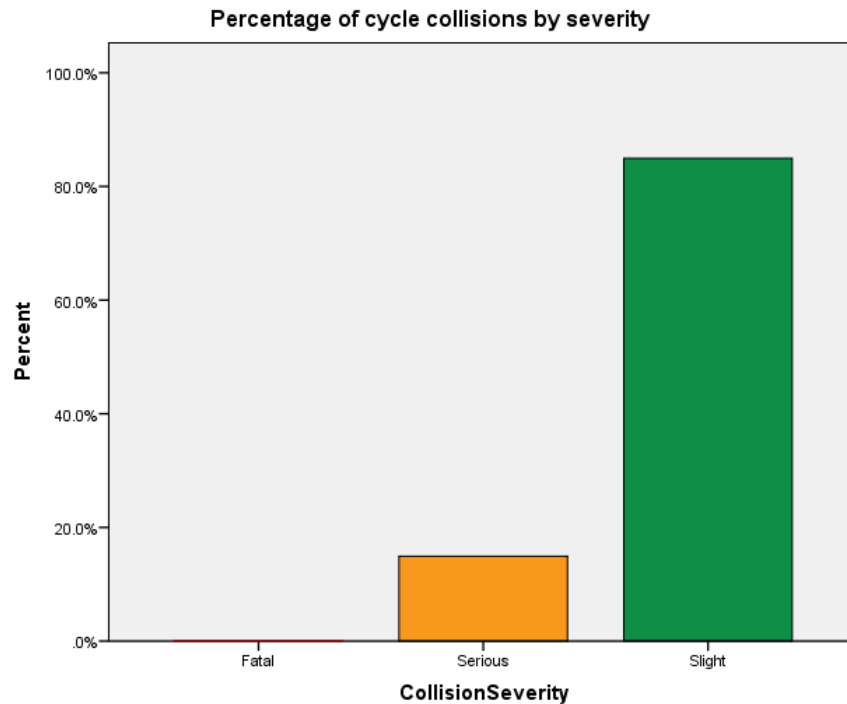


Figure 4. Collisions involving bicycles in Newcastle upon Tyne, by severity of accident, for the period between 2005 and 2014. (There was only one cyclist fatality during this time.)

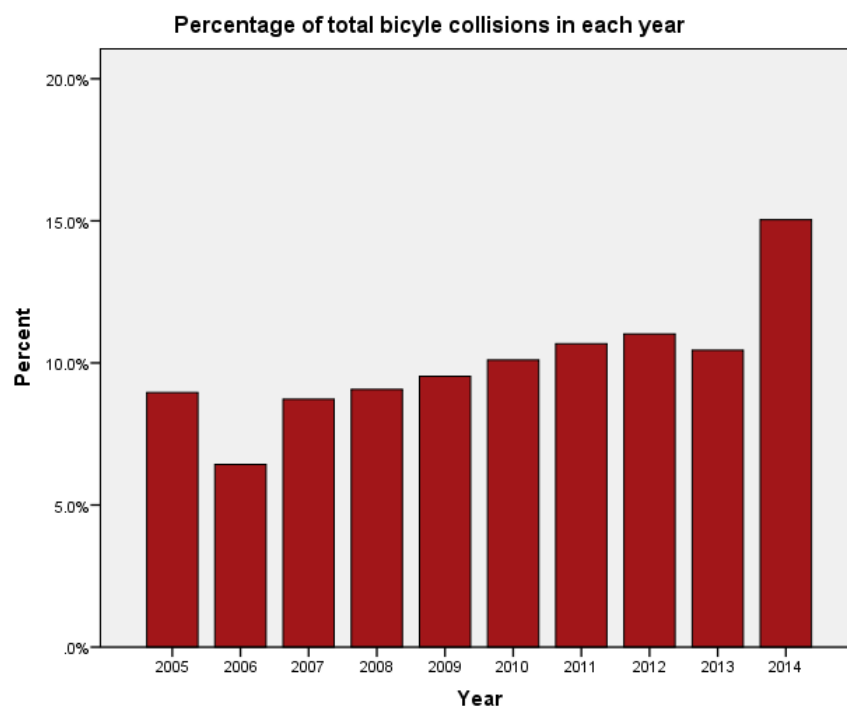


Figure 5. Percentage of the bicycles collisions in Newcastle occurring in each year (2005-2014).

The proportion of total reported cycle collisions was lower in the winter months (Figure 6), and at weekends (Figure 7), presumably because people are less likely to cycle in winter weather conditions, and commuter cyclists are less common at weekends. However, many of those cyclists who were involved in collisions did not report commuting as the purpose of

their journey. Indeed, 60% of collisions involved cyclists who reported their journey purpose as “other”, and these riders represented a large proportion of the collisions occurring both on weekdays, and at weekends (Figure 8).

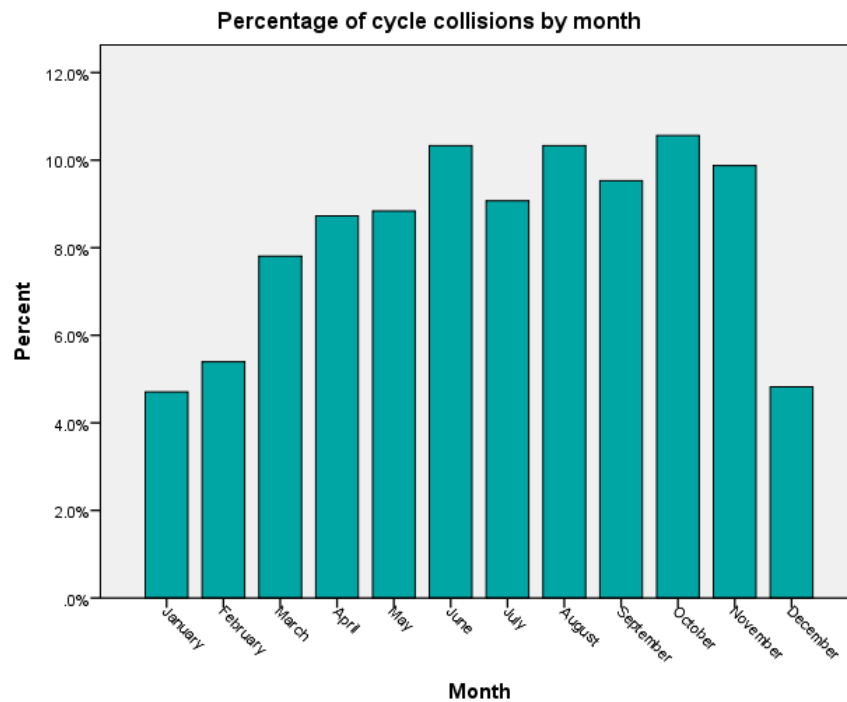


Figure 6. Proportion of total collisions involving bicycles in Newcastle upon Tyne between 2005 and 2014 that occurred in each month.

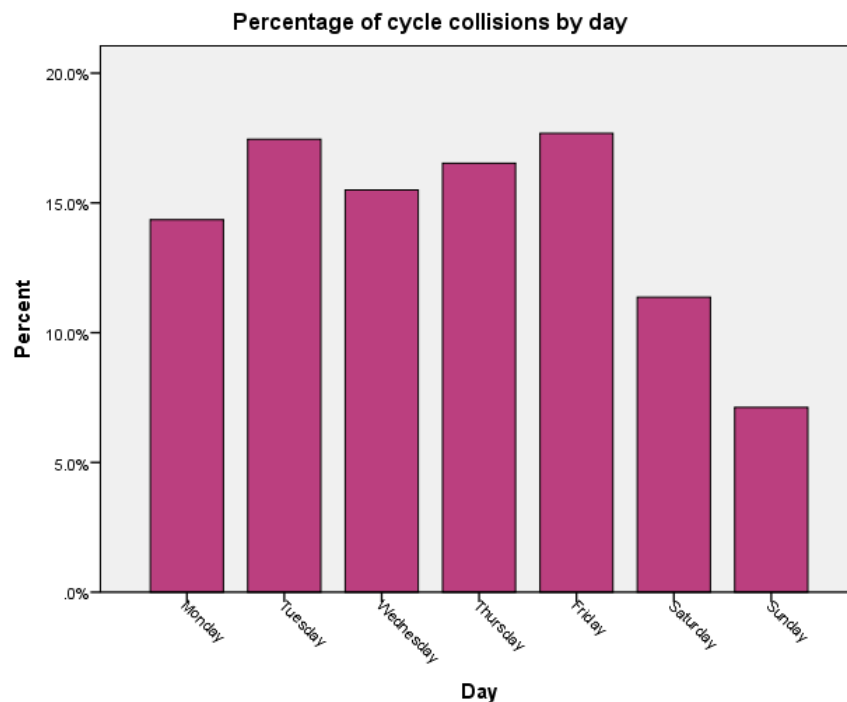


Figure 7. Proportion of total bicycle collisions in Newcastle upon Tyne between 2005 and 2014 that occurred in each day of the week.

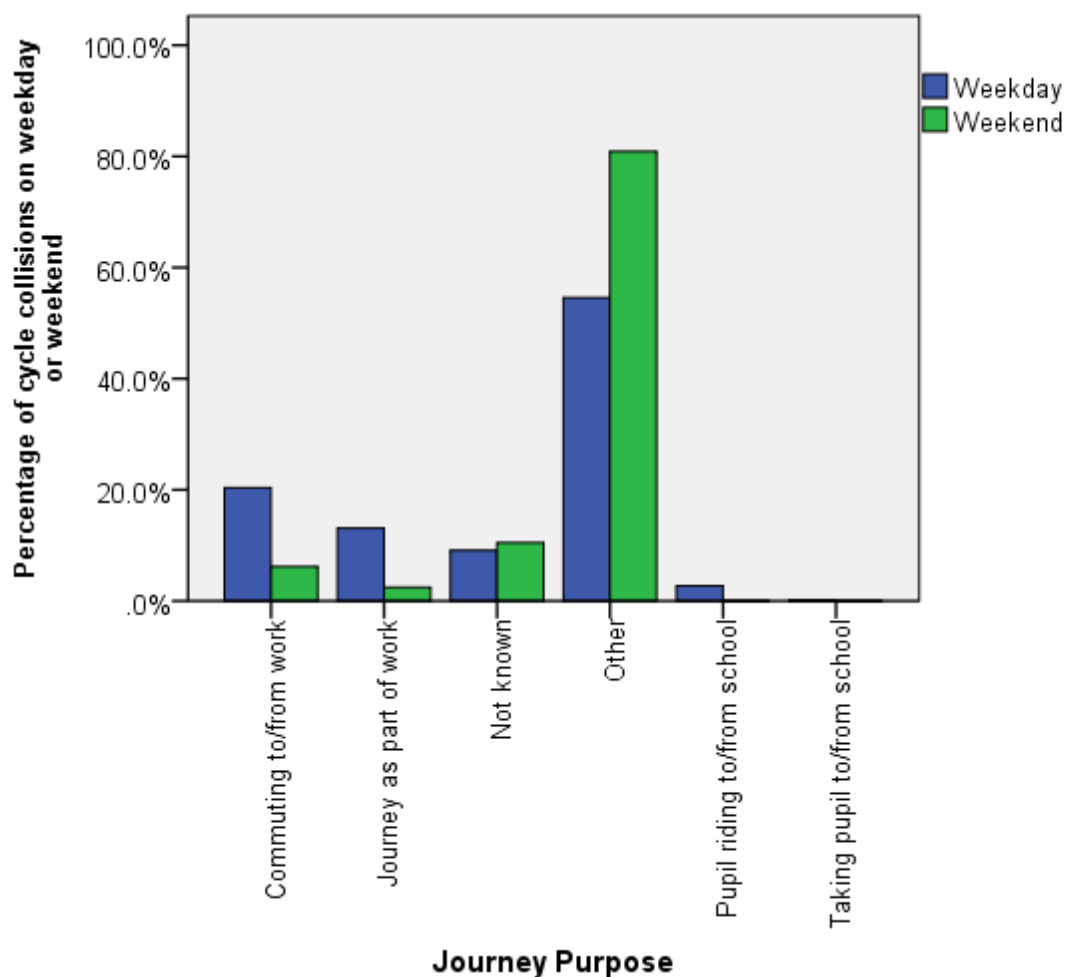


Figure 8. Proportion of total bicycle collisions in Newcastle upon Tyne between 2005 and 2014 that occurred on weekdays, and weekends, by journey purpose.

Collisions involving cyclists were most common in the city centre, and in Byker, Heaton and Gosforth (Figure 9, click [here](#) to use the interactive map online). Many of these collisions occurred on hot spots at roundabouts and awkward junctions (Figure 10, click [here](#) to view the interactive map online). In the 2011 Census, 3,308 Newcastle residents reported cycling to work. During 2011, there were 91 recorded collisions involving cyclists in Newcastle upon Tyne. Of these, 79 resulted in slight injuries, 11 resulted in serious injuries and 1 was fatal. The fatal injury in 2011 was the only one recorded in the 2005-2014 period.

Of the 91 collisions recorded in 2011, 65 involved people whose home postcodes were within the Newcastle upon Tyne local authority boundary. Thus we can estimate that, of the Newcastle 3,308 residents who reported cycling to work in 2011, 2% experienced collisions in within the Newcastle upon Tyne area within the same year. However, this estimate should be used with caution as, of the collisions recorded in 2011, only 14 were reported as being for a work-related journey. The majority (49) of the collisions were for a journey purpose recorded as “other”. This indicates that Census travel-to-work data may not provide a robust base indicator for examining the risks of cycling in Newcastle.

In 2011, there were 115,347 Newcastle-based respondents who reported commuting to work via means other than cycling. Of these people, 676 were involved in collisions. This represents a 0.6% collision rate for non-cyclist commuters in 2011. This indicates that commuter cyclists in Newcastle have an elevated risk of collision, relative to Newcastle residents who commute by other means. The relative risk of a being involved in a collision for cyclists, versus all other commuters was 3.24 (CI = 2.50 – 4.18,  $p = 0.0001$ ). It is possible that this elevated risk is offset by the advantages of increased daily physical activity. We have piloted an investigation of this idea, the results of which are reported in section 5.

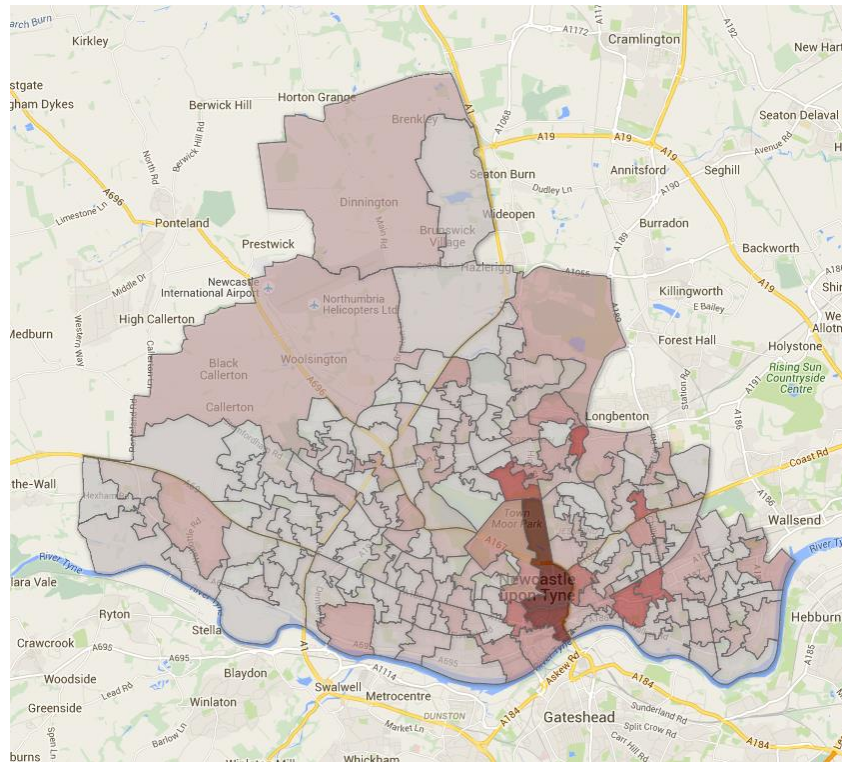


Figure 9. Collisions involving bicycles in Newcastle upon Tyne, during the period between 2005 and 2014, mapped by Lower Layer Super Output area. Click [here](#) to use the interactive map online.

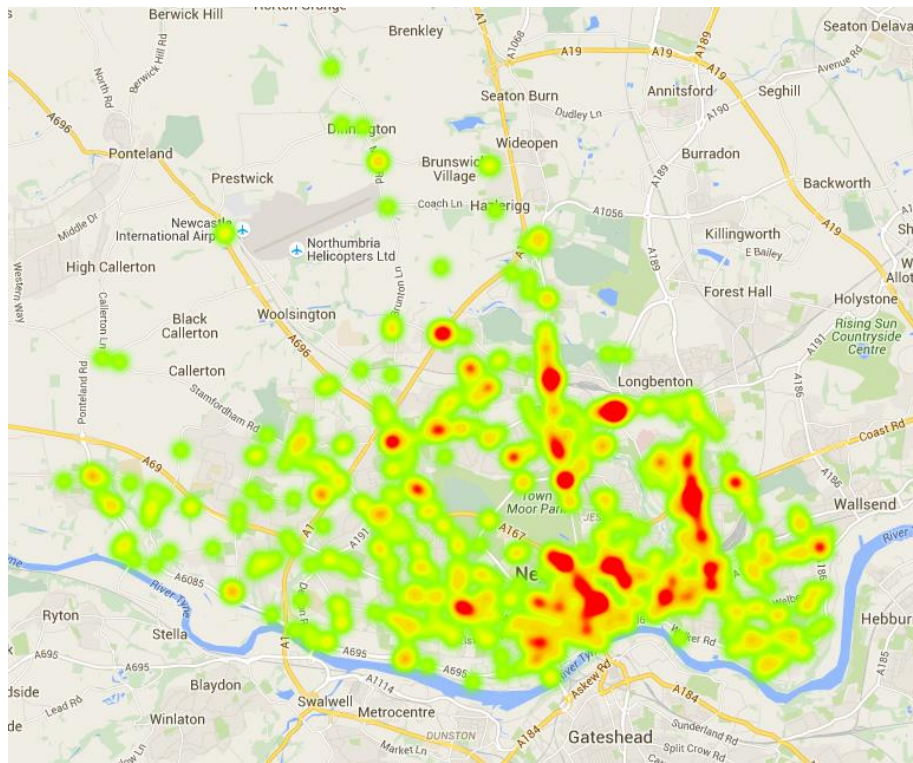


Figure 10. A heat map of collisions involving bicycles in Newcastle upon Tyne, during the period between 2005 and 2014. Click [here](#) to use the interactive map online.

The majority (85%) of the collisions recorded between 2005 and 2014 involved male cyclists. This was not entirely driven by the fact that male cyclists are more common than female ones. In the 2011 Census, 2,521 male Newcastle residents declared cycling to be their main mode of travel to work, while 708 female residents reported cycling as their main method of travel. Of the 91 cycle collisions recorded in Newcastle in 2011, 82 involved male cyclists, and 9 involved female cyclists. Thus, we estimate that the incident rate for male cyclists in Newcastle was 3.25%, compared with 1.27% for female cyclists: a relative risk of 2.56 for male cyclists being involved in collisions, compared with female cyclists (this is a statistically significant difference at  $p = 0.007$ , confidence intervals = 1.29 – 5.07). This finding is consistent with evidence from the Royal Society for Prevention of Accidents, which suggests that four out of five cyclist casualties are male (*Road Safety Information: Cycling Accidents - a report by The Royal Society for the Prevention of Accidents, 2014*) and with research that shows male cyclists and drivers to be more prone to risk taking (Cobey, Stulp, Laan, Buunk, & Pollet, 2013; Turner & McClure, 2003).

Examining the data on ages of cyclists showed that a relatively large proportion of the cycle collisions between 2005 and 2014 involved younger cyclists (Figure 11). It was not possible to look at the rates of collisions, given the base number of cyclists in each age group, because the age brackets used for published Census data are different to those used to organise the accident data. However, future work could involve obtaining Census data in a single-year-of-age format, in order to calculate the relative risks for each age group.



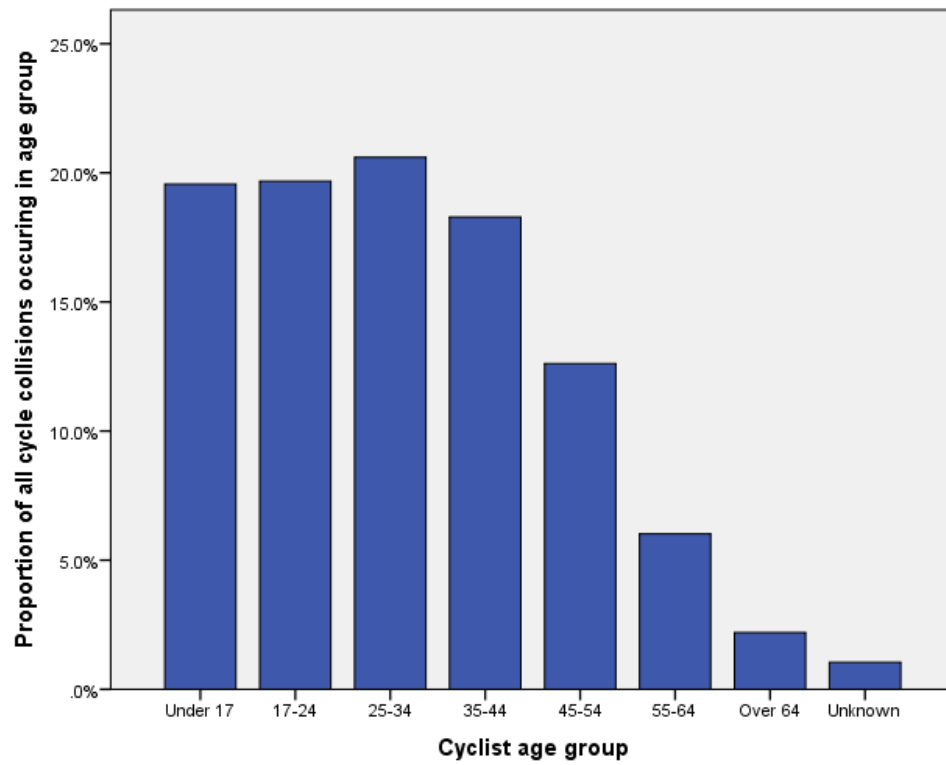


Figure 11. Proportion of total bicycle collisions in Newcastle upon Tyne between 2005 and 2014 that involved cyclists in each age bracket.

#### 4. Cycle routes used by CITC participant groups

As part of the focus group interviews, reported in section 6, CITC participants were asked to plot the cycle routes they had used onto a paper copy of the Newcastle upon Tyne Cycle Map (Fourth Edition – available to download [here](#)). These routes were electronically transcribed for study. The groups we interviewed were:

1. **Members of the Early Intervention Psychosis cycling group** – recruited to CITC through the Early Intervention in Psychosis Team from Northumberland, Tyne and Wear NHS Foundation Trust. All interviewees were younger males.
2. **Members of the This Girl Can cycling group** – recruited to CITC as part of a national campaign, called [This Girl Can](#), designed to encourage more women to do sports. There is some cross-over with this group and the Weight Management group: keen cyclists from the Weight Management group joined led rides with the This Girl Can group. Interviewees were all female, from a range of age groups.
3. **Members of the Weight Management group** – recruited to CITC through Active Newcastle's Why Weight (weight management), and LiveWell (exercise referral) programmes. Enthusiastic female members from this group also cycled with the This Girl Can group, however, there was no individual was interviewed twice (i.e. as a part of both focus groups). Interviewees were older, and a mixture of males and females.

Of the above groups, the This Girl Can group reported using the greatest variation of routes, covering the most distance (141.96 km, Table 2). This represents a lower limit of the group's cycling as many participants verbally reported cycling on paths that were not on the map. This included rides to the coast from Newcastle city centre, and rides in Kielder Forest and other more distant locations.

The maps of routes used by the groups were overlaid with a map of the locations of cycle accidents, so that collisions on each route could be counted. There were 137 documented cycle collisions on the combined routes used by the This Girl Can group over the 2005-2014 period. This was a much greater number of collisions than those on the paths used by the Early Intervention Psychosis group, who reported cycling roughly a third of the distance (46.54km, Figure 12), but on paths for which only 7 collisions had been reported in 10 years (Table 2). This is likely to be because the This Girl Can group contained more commuter cyclists, using roads shared with motor vehicles. By contrast, the Early Intervention Psychosis group members tended to go for leisure rides along the river Tyne – mostly on dedicated cycle paths, without motor vehicles present. However, there was one exception in that one member of the Early Intervention Psychosis group denoted a general region (of Inner-West Newcastle), around which he tends to cycle (Figure 12). 117 collisions were recorded in this general region over the 2005-2014 period (Table 1).

The Weight Management group covered comparatively less distance than the other groups (Figure 14), though records were similarly limited by the area covered by the map (Newcastle upon Tyne cycle map, 4<sup>th</sup> edition). They reported using 14.51km of path, on which only 2 collisions had occurred in the 2005-2014 period (Table 2).

Table 2. Distances covered by paths used by members of the three focus groups outline [above](#), with the number of collisions occurring on those paths in the 2005-2014 period.

	Minimum km cycled per route use	Collisions on paths used (2005-2014)	Collisions in general use regions
<b>Early Intervention Psychosis</b>	46.54	7	117
<b>This Girl Can</b>	141.96	137	Not applicable
<b>Weight Management</b>	14.51	2	Not applicable



Figure 12. Cycle path use reported by members of the Early Intervention Psychosis cycling group. The blue paths, and regions, denote areas where 1 or more group members cycled. The white line denotes the boundary of Newcastle upon Tyne local authority.



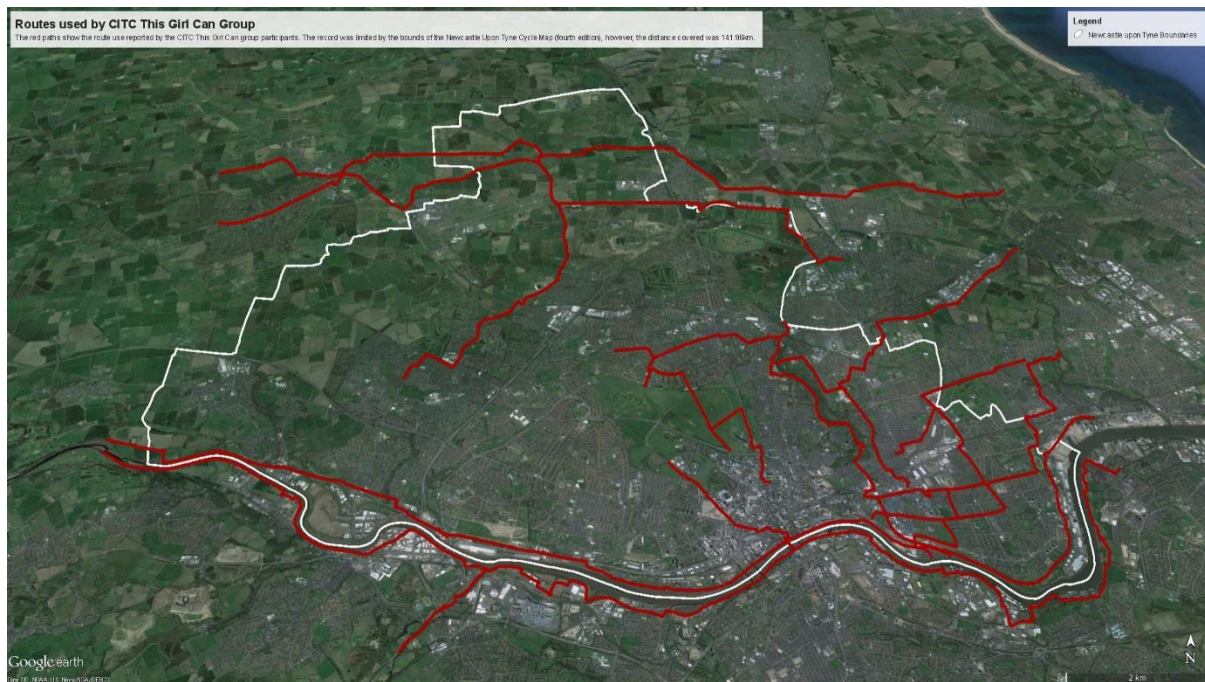


Figure 13. Cycle path use reported by members of the This Girl Can cycling group. The red paths denote routes which 1 or more group members cycled on. The white line denotes the boundary of Newcastle upon Tyne local authority.

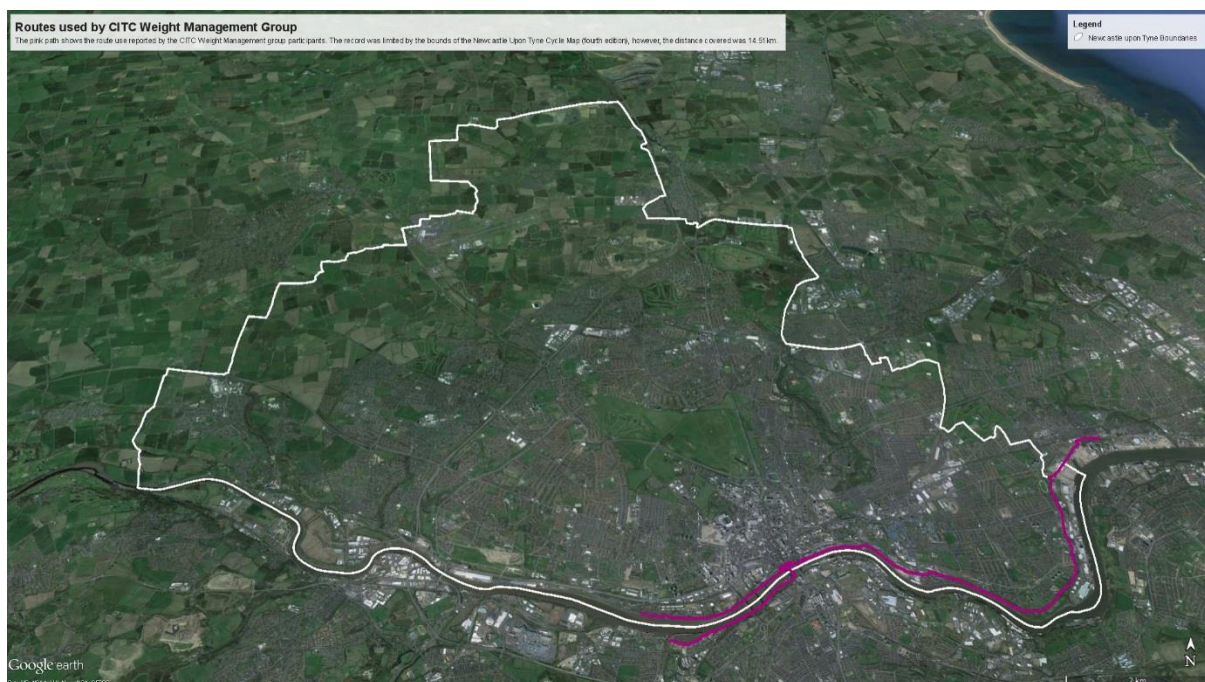


Figure 14. Cycle path use reported by members of the Weight Management cycling group. The pink paths denote routes which all group members cycled on. The white line denotes the boundary of Newcastle upon Tyne local authority.

## 5. A comparison between chosen leisure and commuter routes

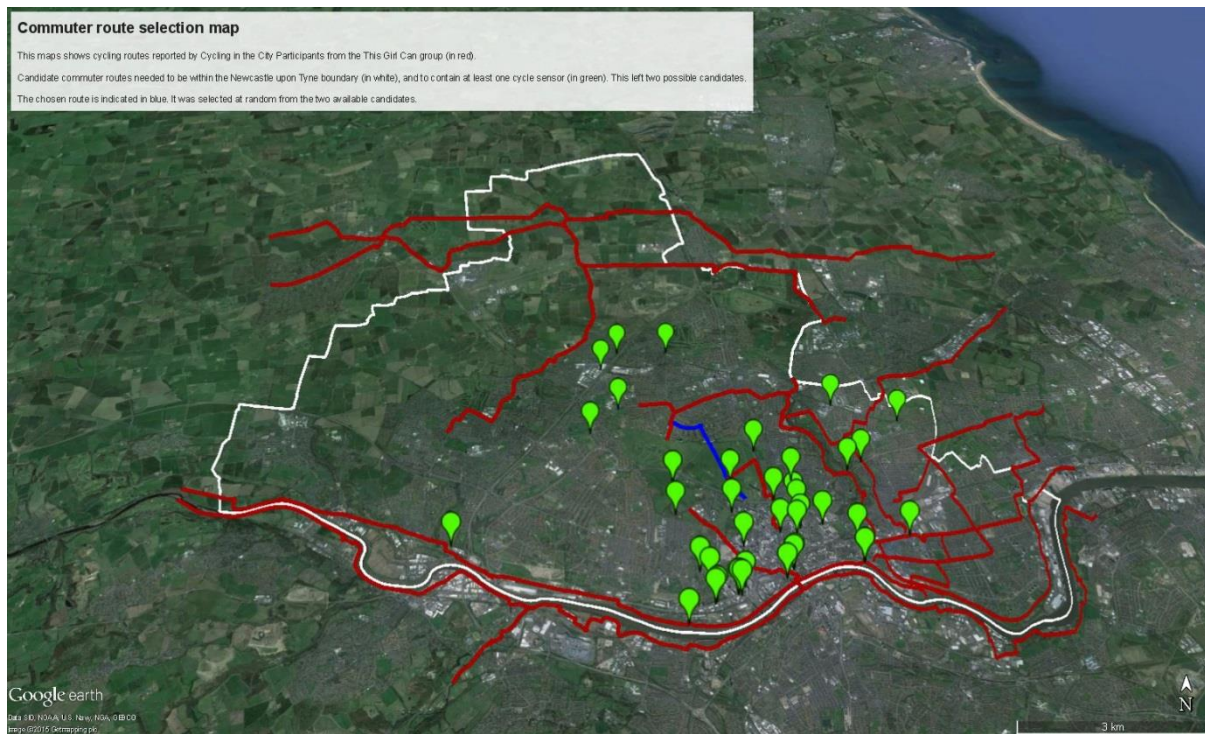
The CITC programme aims to increase cycling as a mode of transport, because it should embed physical activity in daily life, thereby helping more people to meet their recommended daily levels of exercise. However, there may be unintended health consequences of encouraging cycling, especially for commuting – if commuter cyclists are exposed to greater risks due to traffic accidents and pollution exposure. Indeed, as reported in section 3, there were more cycle collisions in 2011, per commuter cyclist reported in the Census (2%), than there were collisions per commuter for all other modes of transport (0.6%). This indicates a potentially elevated risk of collisions for commuter cyclists. However, the city-level estimate may be inflated because the Census base estimate does not include all cyclists – only those who cycle as a main method of travelling to work. An alternative, and potentially more accurate, approach to assessing cyclist risk is a route-specific analysis. To pilot this, we adapted methods from previous research (Ainsworth et al., 2000; de Hartog, Boogaard, Nijland, & Hoek, 2010; Miller & Hurley, 2003) in order to compare the projected health risks and benefits of cycling on two types of route used by CITC participants; a leisure route, and a commuter route.

In order to compare the risks and benefits of cycling for CITC participants in a way that was specific to their cycling patterns, we examined the routes that they reported using. Details of these routes were collected on paper maps, as reported in section 4. We were unable to examine all routes, because not all routes contained cycle sensors (which provided the base estimate of cyclist prevalence) and not all routes were within the Newcastle upon Tyne local authority area (the area for which we had processed cycle collision data). We therefore chose representative commuter and leisure cycling routes that fulfilled these criteria.

The chosen leisure route was a 4.98 km ride along the banks of the Tyne, from the Cycle Hub, to Scotswood Road Business Park. This was a route that all CITC participants reported using and it included a cycle sensor, which had been active for the 2005-2014 period (required to calculate accident rates, given cyclist flow, for the 10-year period). It was also one of the only reported leisure routes that did not stretch beyond the Newcastle upon Tyne local authority boundary.

Of the groups we interviewed, the only group to report commuting by bicycle were the This Girl Can group. As with the leisure route, the commuter route was chosen from all reported routes, based on it being inside the Newcastle upon Tyne boundary, with a cycle sensor that had been active for the 2005-2014 period. This left two candidate commuter routes and our chosen route was selected at random (by a coin toss) from these. The chosen route can be seen in blue in Figure 15. It is a 2.59 km route, from Kenton to Claremont Road, via the Town Moor.





*Figure 15. This maps shows cycling routes reported by Cycling in the City Participants from the This Girl Can group. Candidate commuter routes needed to be within the Newcastle upon Tyne boundary, and to contain at least one cycle sensor. This left two possible candidates. The chosen route is indicated in blue. It was selected at random from the two available candidates.*

The cycle sensor on our representative leisure route recorded 211,773 bicycles during our 10-year period (2005-2014). Assuming that the majority of cycle journeys are return journeys, this indicates that roughly 105,887 cyclists used the route in this time. This equates to an estimate of 882 cyclists using the leisure route per month. During the 10-year period we examined, no cycle collisions were reported on this leisure route. This indicates that the leisure route is an extremely low-risk one, which is perhaps unsurprising, given that the route is a dedicated pedestrian and cycle route along the banks of the Tyne.

The cycle sensor on our representative commuter route recorded 618,967 bicycles in the 2005-2014 period. Again, assuming each cyclist makes a return journey, this indicates 309,483 cyclist users – an average of 2579 per month. If these are commuter journeys, made 5 days per week, then we can assume they represent a minimum of 129 regular cyclists. During the 2005-2014 period, 9 collisions were recorded on our commuter route, indicating an extremely low collision rate of 0.000015 per cycle counted (per one-way journey). The relative risk of a collision on the commuter route, versus the leisure route was 6.50, but this was not a statistically significant effect ( $p = 0.20$ , confidence intervals = 0.38 – 111.69).

To estimate the health benefits gained by our leisure and commuter cyclists, we assumed that each route reported represented a return journey. This made the total distanced cycled per cycling day 9.96km for our leisure cyclists, and 5.18km for our commuter cyclists. We then made some assumptions about the frequency with which the routes were used. For the leisure cyclists, we assumed that the route was used once a week, and for the commuter cyclists, we assumed that the route was used 5 days per week. For both routes, we assumed



that the route was used for 35 weeks of the year. We chose not to assume that the route would be used all year round, as cycling activity is likely to drop off in the winter months and people will take time off their cycling routine due to holidays, sickness, and other factors.

For all cyclists, we assumed a cycling speed of 16kph – the speed suggested for leisure and commuter cycling in Ainsworth et al. (2000). This gave us an activity estimate of 4 metabolic equivalents (METs). The speed assumption also allowed us to calculate the approximate amount of time per week spent cycling, and the number of MET hours per week (MET-h/wk), as an indicator of the energy expenditure for commuter and leisure cyclists on our candidate routes. Thus, on our leisure route, cyclists were calculated to spend 37 minutes (2.48 MET-h) per week cycling, whilst our commuter cyclists were estimated to spend 97 minutes (6.44 MET-h) per week cycling. Assuming that they do this for 35 weeks of the year, this equates to an average of 1.67 MET-h/week for our leisure cyclists and 4.33 MET-h/week for our commuter cyclists. According to estimates from prior research (Moore et al., 2012), this level of activity, if maintained, could increase the life expectancies of our leisure cyclists by 1.8 years (confidence intervals, 1.6 - 2.0), and the life expectancies of our commuter cyclists by 2.5 years (confidence intervals, 2.2 - 2.7). Details of this calculation are presented in Table 3.

In conclusion, for cyclists on the routes we examined, the estimated health benefits gained from the additional physical activity are large, relative to the additional risk of being involved in a collision. In future, more routes could be examined, and models of pollution exposure could be combined with collision-risk estimates, to estimate predicted life years lost (using a life tables approach e.g. Miller & Hurley, 2003). The predicted life-years lost could then be offset against the predicted life-years gained from physical activity, and the net benefits calculated.

*Table 3. The estimated benefits of the exercise taken by cyclists on our chosen leisure and commuter routes. Speed and MET assumptions are based on Ainsworth et al. (2000). The estimated life-years gained from physical activity are based on Moore et al. (2012).*

<b>Route</b>	<b>Leisure</b>	<b>Commuter</b>
Return journey distance (km)	9.96	5.18
Speed assumed (kph)	16.09	16.09
Cycling per day (mins)	37.13	19.31
Cycling per week (days)	1.00	5.00
Cycling per week (mins)	37.13	96.56
MET-mins/week	148.53	386.25
MET-hrs/week	2.48	6.44
Weeks of cycling per year	35.00	35.00
MET-hrs/year	86.64	225.31
Mean MET-hrs/week	1.67	4.33
<b>Life years gained</b>	<b>1.8 (CI; 1.6 - 2.0)</b>	<b>2.5 (CI; 2.2 - 2.7)</b>

## 6. The focus group interviews

To complement the quantitative investigations of the benefits of CITC participation, summarised above, we conducted qualitative analyses, based on interviews with the focus groups outlined in section 4. These groups were comprised of some of the more engaged and outgoing CITC participants, so they are not necessarily representative of the participant group as a whole. However, the discussions generate useful insights.

Most of the themes that emerged in the focus group discussions cut across all groups and can be summarised as follows (click on the hyperlinks to go to the report section for each theme):

1. [\*\*Barriers and access\*\*](#) – about barriers to cycling and difficulties with accessing training and/or equipment. This included various subthemes, such as:
  - a. Bike availability
  - b. Financial costs
  - c. Opportunities
2. [\*\*Benefits of CITC training\*\*](#) – about the consequences of CITC participation for health, wellbeing, skills, independence, confidence and social networks.
3. [\*\*Change in cycling habit\*\*](#) – about whether participants' cycling habits had changed as a result of their participation in the CITC programme. Includes a subtheme on prior cycling experience.
4. [\*\*Experience of CITC\*\*](#) – many of the themes which came out in our focus group discussions were around the subjective experience of participating in CITC training. Subthemes included:
  - a. Competition – about competitiveness in cycle training (overlaps with the gender and social themes).
  - b. Confidence – about confidence in cycling, and changes in confidence due to CITC training.
  - c. Emotions – about feelings associated with cycling – from anxiety about learning, to excitement experienced during rides.
  - d. Enjoyment – about participants' subjective enjoyment of cycling.
  - e. Identity – about how taking up cycling has changed participants' identities.
  - f. Motivation – about the factors that motivate participants to cycle.
5. [\*\*Environment and infrastructure\*\*](#) – about the effects of the environment and infrastructure on motivations to cycle, and enjoyment of cycling.
6. [\*\*Equipment\*\*](#) – about the equipment provided by CITC, and participants' independent access to equipment. (Some elements of this theme overlap with the barriers and access theme.)
7. [\*\*Gender\*\*](#) – this theme covers parts of the discussion which made explicit reference to gender-specific elements of the CITC experience.
8. [\*\*Goals and challenges\*\*](#) – about the cycling-related goals and challenges of CITC participants.
9. [\*\*Organisation of the CITC programme\*\*](#) – covers discussions that contained explicit feedback about how the programme was run, including how participants were

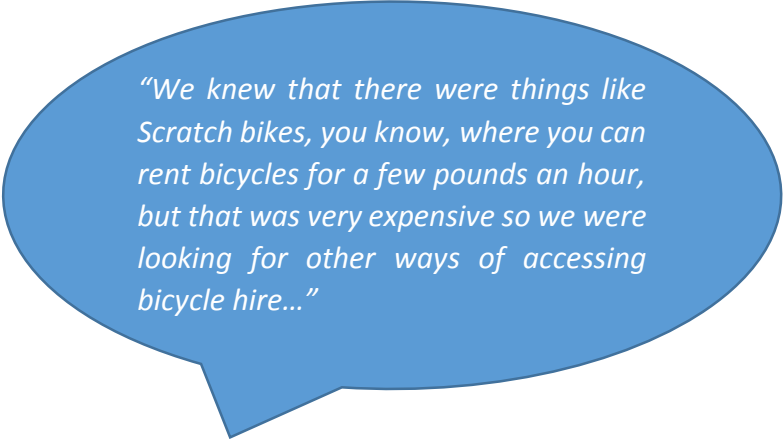
recruited to the CITC programme, what participants liked about CITC, and how the programme could be improved. Subthemes include:

- a. Strengths of CITC & how the programme could be improved.
  - b. Route into CITC – about how participants were recruited to CITC.
10. **Skills and level of training** – about the types of training that participants received and the knowledge and skills they gained as a result.
  11. **Legacy** – about the wider consequences of participants' CITC training – including the social transmission of cycling habits and changes in participants' independence.
  12. **Social** – about social aspects of cycling - as a motivating factor and, occasionally, as a barrier. (Overlaps with other themes, but was dominant in all of the discussions.)

To avoid repetition, key quotes from the thirteen themes are reported below, with all subthemes included under each theme. Quotes are colour-coded, with those from the **Early Intervention Psychosis Group in blue**, those from the **This Girl Can group in green**, and those from the **Weight Management group in orange**.

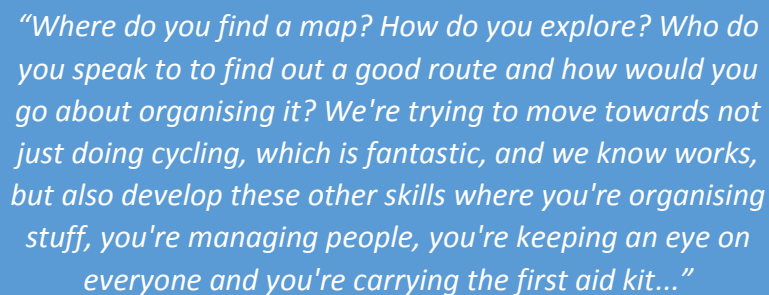
## Barriers and access

For the Early Intervention Psychosis group participants, access to the CITC programme was a key theme. The issues ranged from the cost of accessing cycling through other means, to the challenges of accessing route information. For example, one participant said;



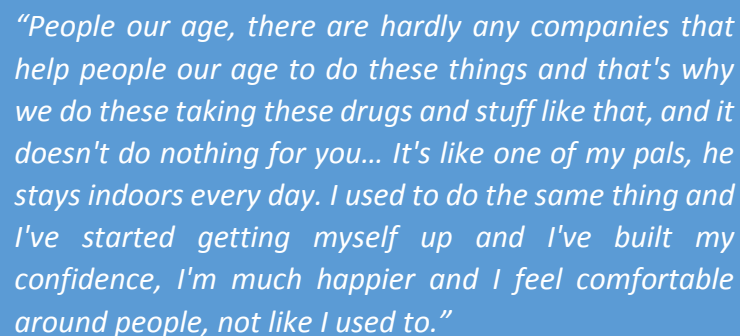
*"We knew that there were things like Scratch bikes, you know, where you can rent bicycles for a few pounds an hour, but that was very expensive so we were looking for other ways of accessing bicycle hire..."*

Other Early Intervention Psychosis group participants had questions around access to knowledge about routes and ride planning – something which the group already planned to address with ride leader training. This is an important confidence-boosting development for members of this group, many of whom suffer from anxiety and low confidence;



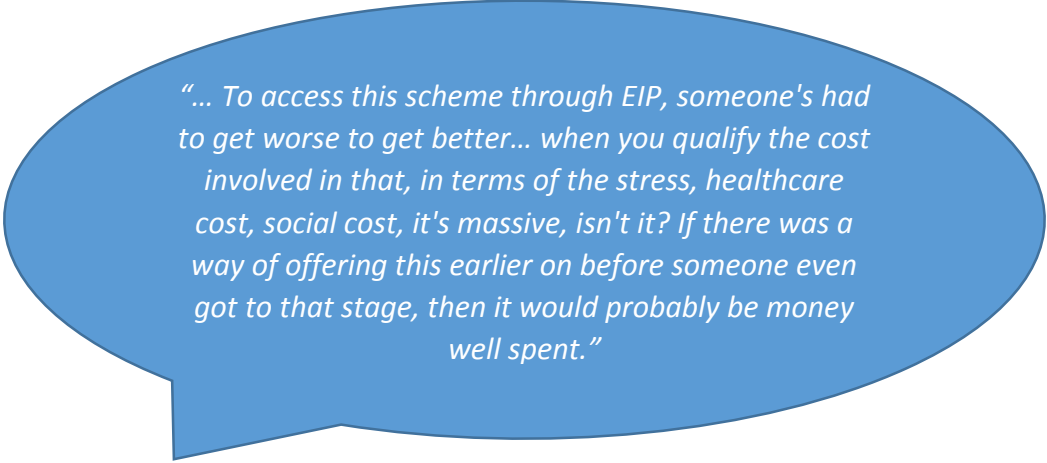
*"Where do you find a map? How do you explore? Who do you speak to to find out a good route and how would you go about organising it? We're trying to move towards not just doing cycling, which is fantastic, and we know works, but also develop these other skills where you're organising stuff, you're managing people, you're keeping an eye on everyone and you're carrying the first aid kit..."*

Members of the Early Intervention Psychosis group also expressed feelings that there aren't sufficient opportunities for younger people in Newcastle to engage with physical activity, suggesting that more programmes like CITC were needed;



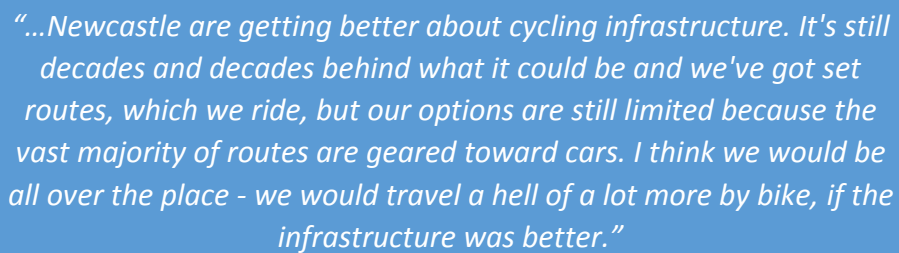
*"People our age, there are hardly any companies that help people our age to do these things and that's why we do these taking these drugs and stuff like that, and it doesn't do nothing for you... It's like one of my pals, he stays indoors every day. I used to do the same thing and I've started getting myself up and I've built my confidence, I'm much happier and I feel comfortable around people, not like I used to."*

The Early Intervention Psychosis group worker also had some comments about the difficulties his group faced in accessing opportunities for physical activity more generally;



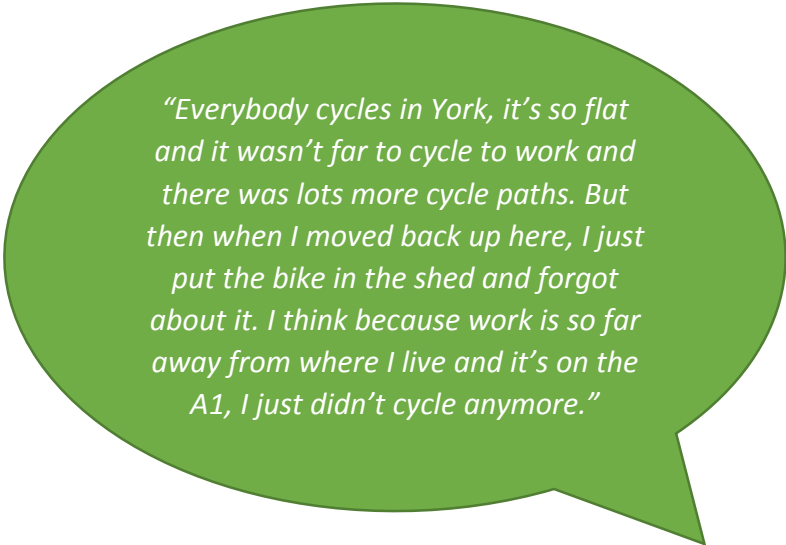
*"... To access this scheme through EIP, someone's had to get worse to get better... when you qualify the cost involved in that, in terms of the stress, healthcare cost, social cost, it's massive, isn't it? If there was a way of offering this earlier on before someone even got to that stage, then it would probably be money well spent."*

Finally, the Early Intervention Psychosis group perceived local infrastructure to be a barrier to cycling;



*"...Newcastle are getting better about cycling infrastructure. It's still decades and decades behind what it could be and we've got set routes, which we ride, but our options are still limited because the vast majority of routes are geared toward cars. I think we would be all over the place - we would travel a hell of a lot more by bike, if the infrastructure was better."*

For members of the This Girl Can group, similar barriers were discussed – including those around infrastructure and environment;



*"Everybody cycles in York, it's so flat and it wasn't far to cycle to work and there was lots more cycle paths. But then when I moved back up here, I just put the bike in the shed and forgot about it. I think because work is so far away from where I live and it's on the A1, I just didn't cycle anymore."*

Some participants found that lack of access to a bike was a barrier for them, but CITC training had motivated them to push to remove the barrier;

*"I'm just in the process of bullying my employers to get the Cycle to Work scheme so I can get a bike through that."*

Other participants had health conditions that prevented them from cycling – until CITC helped them to get back into it;

*"With my back injury, I got told that probably I couldn't do it again. I couldn't find a bike I could sit on. Then when I met Liz, she brought me down here and they changed the shape of the handlebars, introduced me to the electric bike. So for me, I thought my life had ended when I had my spine problem, but actually it just started again. All because of this."*

*"I've got lymphedema in my legs... I couldn't even lift my leg in and out of the car... and now I can get in my seat and get out of it, no bother. I can't climb on a high bike, I have to have a step-through one, but I can lift my leg, I can lift my knee and I can walk a bit more now... I couldn't at one time."*

Other This Girl Can group participants found that the timing of training sessions was a barrier to access;

*"I do find if you work full time Monday to Friday you're restricted. There were a lot of things I wanted to do and I couldn't."*

*"It's been while so I would benefit from it [cycle training], but it didn't fit in with my work, I couldn't make some of them because they were in the day... but I'm leaving work soon, I'm taking early retirement."*

However, several This Girl Can participants agreed that CITC training providers had helped by being flexible about timing;

*"Betty, that does her cycle rides here, she worked around us..."*

*"Barry did exactly the same for me. He worked around when I could come, he was lovely."*



Participants from the Weight Management group mentioned weather as an additional barrier to those discussed by the other groups;

*"I'd lost a bit of confidence, it needs building up again. So now I realise with the bad weather and that, that it [getting back to cycling] probably will be next year now when the weather breaks."*

Like the other groups, the Weight Management groups discussed traffic, roads and infrastructure as barriers;

*"I don't drive, so I've no road awareness from the start. So I could do it, but I'd do it on the path and there are some cycling paths, but then I've got to go out of my way to get on them and I've got to work out which is best."*

*"I'm not really happy about going out on busy roads."*

Like the other groups, the Weight Management group reported that not owning their own bikes was a barrier;

*"I don't think I can do it [cycle to work] without my own bike..."*

*"Yes, we've not got our own bikes..."*

*"We hire the bikes from here [The Cycle Hub]."*

However, some group members suggested that they were more likely to think about getting their own bikes, after having taken part in the CITC programme;

*"We're more likely [to get a bike] now than not."*

### Benefits of CITC training

For all groups, especially the Early Intervention Psychosis group, the benefits of cycling for physical and mental health were a main motivator;

*"I like cycling. I think it's good fun. It's interesting and it gets you up. You work your whole body and at the end you feel good about yourself."*

*"I think the critical thing about cycling is that it doesn't feel like exercise... As you're cycling, you're talking to people... it feels like, as the lads were saying, like a day out. Like you just happen to be on a bike and it's great that a side effect of that is that we are doing exercise, cardio stuff... If you're not into exercise, if you're not a fitness freak, then you can jump on board and it doesn't feel like hard work."*

*"I've had mental health problems and I know that physical health is important for, well, for everyone, but it can help people with mental health problems, so I have tried to actually go to the gym and things like that, but I found I couldn't stick to that. I find by coming on the bike rides that the extra social element of it is motivating for me. I found going to the gym lonely and boring, basically. This is more like getting out with friends and also you're getting exercise."*

*"I wouldn't say unhealthy, but certainly, I was very unfit before I started doing the activities and coming cycling. I've never been a particularly physically active person. When I was working, I've always worked at desk jobs, basically. I've never found it easy to motivate myself to exercise. I've never really been part of sports teams or anything like that."*

*"It's been good, not just in terms of physical fitness, but in terms of helping me keep healthier routines. I've had to force myself out of bed this morning to come to this, otherwise I might have just rolled over and gone back to sleep. So it provides some structure, as well, something to look forward to and get up for."*

*"I think the obvious thing is that it's improving physical health... but there's something much bigger about feeling like you're reconnecting with the community and the effect that has on your well-being."*

*"I've had mental health problems for years and... you can tend to withdraw yourself and shut yourself in. So as well as the physical health kind of benefits which can improve your mental health, there's just the social aspect of bringing people out from their cocoons."*

*"That's another thing I've found with mental health problems, is that... you don't really get to talk to many people because you shut yourself in, and the only time you get to talk to people is when it's about your mental health problems. So it's actually nice to have contact with people who aren't within that circle, as well, just be able to have a general chat."*

For This Girl Can group, the health and wellbeing benefits of cycling were also a prominent theme. Benefits included weight loss, discontinuation of anti-depressant use and lessening of lymphedema symptoms;

*"One of the reasons I did it [CITC training] was my mum had a brain haemorrhage in January this year. She's fine, she wanted to get more fit and active. So I brought her along to do this. So she does this, or was doing it until she went back to work, but to help push her into doing some exercise and getting fit and healthy really, just health and wellbeing. Like everyone said, that feeling of finishing work and coming out and relaxation and meeting new people, and doing something to keep fit at the same time."*

*"To be quite honest, I wouldn't have even thought about a bike a few months ago because I couldn't get on it and I couldn't bend my leg enough to do it because it swells up so much. Where now it still swells, yes it's still there, but I can bend my knees and I can move my legs and I can cycle, which I couldn't possibly do before. So it's a massive, massive benefit for me."*

*"I was told that I'd never be able to get on a bike because of the position and everything. Then, when I lost my hearing about two months ago, all my balance was off and I got really depressed. Then Liz introduced me to this and then I went out and about, so I'm not on the antidepressants anymore. I've lost a stone, four pound."*

*"I'm probably quite fit and healthy, but that being outside meeting other people and the de-stress factor when you're working 60-hour weeks and needing somewhere to go where you know you can forget. I really feel like you can forget about everything else, or think about what's going on but in a nice environment, it's nice."*

This Girl Can group participants also described their discovery of new areas of the City as a benefit of taking up cycling;

*"I've lived in Newcastle all my life and found that, and I'm still finding new cycle paths."*

*"Plus we've been to places I didn't know were in Newcastle. When we went up to the Billy farm, I never knew they were there."*

Participants from the This Girl Can group also expressed the benefit of having a new, non-sedentary, leisure activity available to them;

*"Yes and it gives you mental health as well because you just sit there and vegetate, you just sit in the house and think, 'I can't do these things' and now when you can, you want to do more."*

*"I'm never in the house now. I haven't done my housework or anything, I'm going here, I'm going there."*

*"But we now take our bikes and do a cycle before we do the open water swimming and to be out in the fresh air all day it's absolutely... You feel good, you get a buzz and it gets to the stage that if you're not doing something outside, you're pulling your hair out."*

Participants from the Weight Management group reported increased physical fitness, mental wellbeing and independence as perceived benefits of CITC training;

*"...my husband takes me all over, but obviously he's at work. It would just give me such independence that I haven't got..."*

*"...when I went on holiday I had much more energy. I just felt - it sounds daft, but I felt stronger. I felt that I could like climb up that big flight of stairs or, you know, run for that bus or whatever, whereas before I did it, I wasn't running for the bus, I wasn't running."*

*"It definitely makes me feel emotionally better, because I had in the past struggled with bad anxiety... And it's - it's just what I've been looking for. I think it's just - I'm not really an independent person. I like doing a lot of things with my husband, or with my mam. I'm not one of these that likes doing things on her own, you know. So it's been really nice that I've come to something on my own, something for me and I've met some nice friends and it's something that I love."*

Participants from the Weight Management group also felt that taking part in CITC had boosted their confidence in their ability to get fit;

*"...I'm confident in some areas, like meeting new people and that - I'm not confident in my own abilities. So it's made me feel like, "Yes. I can get fit." It's reinforced - it's not just a desire anymore or anything like that. I actually believe I can now, whereas I didn't believe I could before..."*

### Change in cycling habit

Members of the Early Intervention Psychosis group had a range of prior cycling experience, and differed in the extent to which their cycling habits had changed;

*"I used to borrow my dad's bike to go places, but the only thing I could do was ride it in second gear..."*

*"I cycled occasionally just for leisure, maybe once a month or something, but now I cycle weekly with these guys, but also... Yes, multiple times a week now. I cycle to work, sometimes I cycle on a weekend, so I cycle a lot more."*

*"I didn't used to cycle at all. I don't have a bike. I've never had any confidence in riding a bike before I started doing these sessions. In fact, I'm sort of still learning, really, but improving..."*

*"I cycle to work, which I never would have done before."*

Members of the Early Intervention Psychosis group had progressed from introductory leisure rides, to relatively long ones;

*"We started doing tiny 2-mile rides round the quayside and tried to ramp it up to big rides, 20, 30 miles."*

*"We did 40 last time."*



For some members of the This Girl Can group, there had only been modest increases in cycling. Others had become sufficiently enthusiastic about cycling, to take on roles as ride leaders, to book cycling holidays, and to set themselves cycling-related goals and challenges;

*"I did the cycling here, the training here and then became a Breeze leader."*

*"...even though I've only done it for three weeks, at the weekend I went out on my own and a couple of nights, because I thought, "Oh I'm back into it now". But it took that [CITC led rides] to give us the shove. A group, I wouldn't have done it on my own."*

*"We went down Wales and I got the electric bikes on here, so we went down Wales and before we went, we looked on the internet and planned where the cycle routes were. I never would have done that, ever."*

*"We had our first biking holiday this year."*

*"I'm even looking at the Skedaddle holidays, abroad."*

*"I haven't been yet because I've just got a bike today, I've just taken it home tonight. So I will be [cycling more] after this."*

*"I did 18 [miles] but I cycled to my mother's because I pledged them, it was that pledge today, Cycle to Work pledge thing."*

Members of the Weight Management group had not done much cycling outside of the CITC programme. However, one couple had been inspired to rent some bikes and go cycling whilst on holiday;

*"It's just the lessons – Yvette's. Because there's the lesson and then she takes us out and along the Quayside."*

*"Yes, we haven't done any long distance or anything, to see how really fit we are..."*

*"We were just away for a week in Norfolk. And we found somewhere where you could hire bikes and go on a ride, which would never have occurred to us before. But we did actually hire bikes and go on a ride. I won't bore you with the details of it, but we were far too ambitious and we went up some blooming forest track with tree stumps and rocks and everything. So to be honest... it was too hard. It was really just too difficult for us... So it was a bit much, but we'd certainly do it again."*

## Experience of CITC

There were a number of subthemes which revolved around participants' feelings about the subjective experience of taking part in CITC training. The first of these was about competitiveness – a theme which only arose from discussions with the This Girl Can group, and was partly linked to the theme around gender. This highlights the fact that, for many of the women in the This Girl Can group, having a friendly, non-competitive atmosphere was important.

*"I think everyone is so encouraging as well, it's really supportive. Even if you can't do something you don't feel like anybody is looking at you thinking, 'Oh god-'"*

*"It's that sense that there is no competitiveness in it and if there is any, it's in a very friendly way."*

*"I think if there were men in our group, that we've started with, I think the men bring in the competitiveness... I'm not saying I wouldn't cycle with men, I have and I have done mixed groups, but the competitiveness is there..."*

Many members of the Early Intervention Psychosis group suffered from anxiety, making confidence an important issue;

*"...my confidence has built now that I would be quite happy to go and do activities with people from wider circles."*

*"...the Cycling in the City bike rides, are so accessible and so welcoming because we're working with a vulnerable population of people, people who might be adults but have never learnt to ride or people who might have experienced health problems, which makes anxiety more likely."*

*"Whereas before, you might feel anxious, or a bit more aware, paranoid... it just disappears, doesn't it? When you're on your bike. It's a very powerful thing... it's not something somebody sat down and said, 'Let's do this because it's definitely going to help my anxiety.'"*

*"Personally, if I was walking, I think I'd be more prone to that [anxiety]. Because I'm on a bike, what is it about being on a bike that makes you feel more confident?"*

For the This Girl Can Group, confidence issues were more likely to be related to having the confidence to cycle on roads, or confidence in their own physical fitness;

*"I had no confidence to go out on the roads - nothing."*

*"The guy who works here came to my house and helped me cycle the route to work. So I got the confidence... He took us two different routes so I felt comfortable going to work, so that was great."*

*"I enjoyed the one to one as well, with Barry, when I first did my training because I had no confidence and I thought, 'If I can't get up the hills, nobody is going to see that I can't get up the hills'".*

*"Again, it's all about confidence building... We call it the walk of shame if you've got to get off and walk up that hill, but there are a good few of us that do the walk of shame."*

*"We cheer on the ladies that are coming behind... when you see them on the same ride and they've conquered a little hill, it's an achievement, you're really pleased for them, it's not you need to get in a certain time, is it."*

For the Weight Management group, the theme of confidence involved both their lack of confidence about cycling on roads, and the feeling of confidence which they had gained from the CITC training – including the confidence instilled in them by the CITC training providers;

*"I want to be able to do it [cycle to work] properly, and I'm not confident on the roads. But that's my aim."*

*"I'll wait until I get the confidence to do it [cycle to work]. But, yes, I need the road training first."*

*"I'm still nervous, very nervous. Being out on the road is scary."*

*"It's good that we started off in the car park, at the top there, and you gradually build confidence."*

*"She makes you feel confident actually doesn't she? [Yvette] She does make you feel confident."*

*"So it's [CITC training] made me feel more independent, yes, and confident in that area of my life."*

As a subtheme of the CITC experience, emotions were commonly discussed. These ranged from negative emotions such as anxiety, nervousness, and shame (around not being able to cycle), to positive experiences of joy and excitement;

For example, the Early Intervention Psychosis Group discussed embarrassment and nervousness around learning to ride;

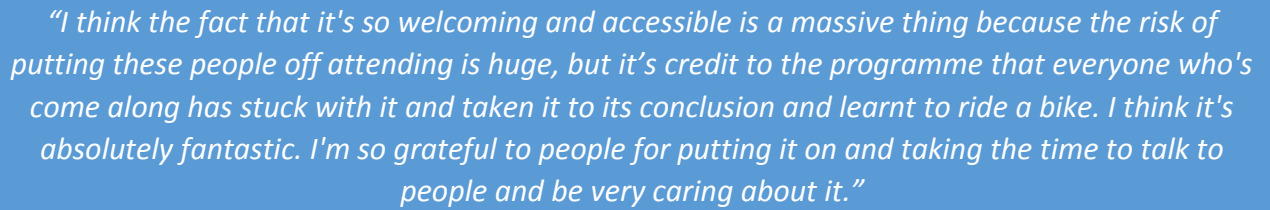
*"There's lots of people who feel a bit embarrassed about not being able to ride or whatever, but if you come along, you'll get used to it."*

*"I don't know, maybe they're in their late 20s and just never ridden a bike and they just feel a bit like - It's like not being able to tie your shoelaces or something."*

*"I was quite nervous at first, but I found that everyone was very patient and helpful... that helped a lot... It was just well supported and I didn't feel nervous about it."*

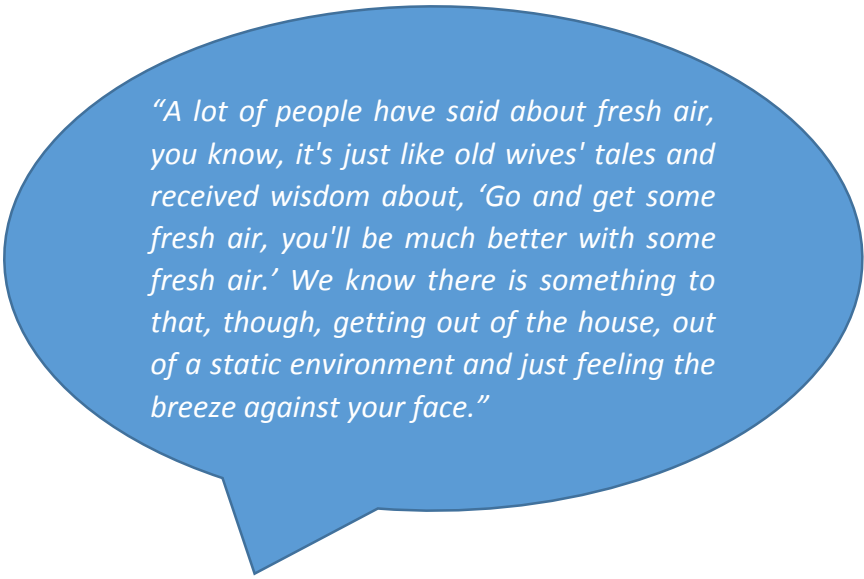
*"I cannot sing its praises enough. I think there's a lot of other programmes to teach people new skills, like riding a motorbike or driving a car and stuff like that, they're very formal, very... There's a lot of anxiety attached to them and I think people associate it with risk..."*

Members of the Early Intervention Psychosis Group also expressed gratitude towards the CITC staff for providing a caring environment;



*"I think the fact that it's so welcoming and accessible is a massive thing because the risk of putting these people off attending is huge, but it's credit to the programme that everyone who's come along has stuck with it and taken it to its conclusion and learnt to ride a bike. I think it's absolutely fantastic. I'm so grateful to people for putting it on and taking the time to talk to people and be very caring about it."*

Early Intervention Psychosis group participants also discussed the positive sensory aspects of cycling;



*"A lot of people have said about fresh air, you know, it's just like old wives' tales and received wisdom about, 'Go and get some fresh air, you'll be much better with some fresh air.' We know there is something to that, though, getting out of the house, out of a static environment and just feeling the breeze against your face."*



For the Early Intervention Psychosis group members, using high-quality cycling equipment, and visiting an interesting social environment (The Cycle Hub), was part of what made the experience of cycling appealing;

*"I think part of the attraction, especially for the younger lads, is that we are using high-spec equipment and it's like a treat, so it's another draw."*

*"...on days when it's chilly, on days when people get up and think, 'Shall I go to my club?' I think little things like a practical meeting space like this where it's nice facilities, it's got food and coffee, things like that, and we're using high quality bikes, these little things add up to people thinking, 'You know what, I'm going to do it today. I'll come along.'"*

*"...we're cycling, but we're trying out new experiences, we're eating new things, we're spending money on the local economy, we're meeting people."*

*"One of the reasons I've kept coming is it feels like a day out sort of thing. It doesn't just feel like an activity for the sake of an activity. We generally cycle out somewhere and go to a cafe and have lunch and before we set off in the morning we'll have a coffee or a cake or whatever at the cycle hub. It... feels like a day out."*

For the This Girl Can group, their enjoyment of CITC training was due to the social aspects, the opportunity to be outdoors, and a sense of feeling free and child-like;

*"...I just love being outdoors."*

*"Yes and we've all met new people through it. It's amazing..."*

*"You suddenly feel like a 12 year old, when you're going down a hill on the bike, really fast, you just feel – 'Wheee!'"*

*"I was screaming with excitement. The first time I got on... from the car park to the other car park, I was laughing like that. I said, 'I can't believe I'm laughing so much,' and I'm only on a bike. So happy and exciting. All these years I've missed out on it, it was just like being a little girl again."*

Members of the Weight Management group expressed surprise having enjoyed cycling, as many of them had initially joined the programme to aid weight loss, rather than for fun;

*"I really thought I'd try it and I'd not like it and that would be the end of it, but I've enjoyed it much more than I thought I would."*

For members of the Early Intervention Psychosis group, there was an important theme around identity, which was not prominent in the other groups. Early Intervention Psychosis group members felt that being a cyclist, and part of a cycling community, was an important shift in identity – away from being someone with mental health problems, and towards a more positive identity;

*“So coming to a place like this [The Cycle Hub], it's clear that we're here as cyclists. We are not here because we're taking part in some grim activity. Whereas when we met at Elswick Pool, it felt much more like you are taking part in a designed activity on some crappy hardware. This is part of the experience, meeting in a place like this and I think all adds up to make a difference and make it a much more attractive proposition.”*

*“We're going out into the countryside and out into populated areas and if it was just one of us doing that, or a couple of us doing that, it might feel uncomfortable, or anxiety-provoking... when we are going out as a team, as a team of cyclists, we just do it without asking any questions... It's like therapy by yourself. You're getting out there in busy places and you feel totally fine because you're on two wheels, it just feels normal. It's a massive, massive benefit in terms of mental health...”*

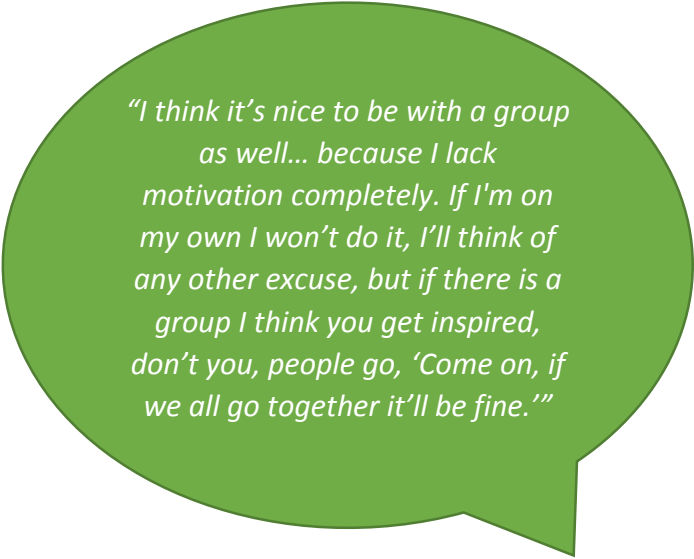
*“We come here as cyclists, it's a by-product of a community health team, but we come here as cyclists. We're not here as service users, or patients, or anything that like that. On this day, we're here as cyclists and I think it's a really important distinction to make because if you start to stigmatise and say, ‘We're patients on a day out,’ ...it feels incredibly destructive and pejorative.”*

*“I think, critically, you don't want to make... a massive campaign for a mental health cycling group, who's going to want to identify as being part of a mental health cycling group?”*

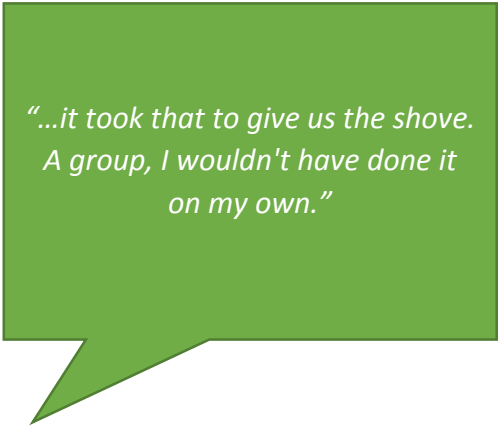
The final subtheme from the experience theme, was motivation. Participants from all groups discussed the factors that motivated them to cycle.

For members of the Early Intervention Psychosis focus group, the motivating factors included the equipment provided (covered under [equipment](#)), the social factors, such as identity (covered above), the supportive attitude of CITC staff, and the health and wellbeing benefits of cycling (covered under [benefits of CITC training](#)).

Similarly, members of the This Girl Can focus group, were motivated by social factors, and the health and wellbeing benefits of cycling (covered under [benefits of CITC training](#));



*"I think it's nice to be with a group as well... because I lack motivation completely. If I'm on my own I won't do it, I'll think of any other excuse, but if there is a group I think you get inspired, don't you, people go, 'Come on, if we all go together it'll be fine.'"*



*"...it took that to give us the shove. A group, I wouldn't have done it on my own."*

For the Weight Management focus group, motivation was mainly inspired by their confidence after having succeeded at cycle training;



*"Yes. I can get fit."*

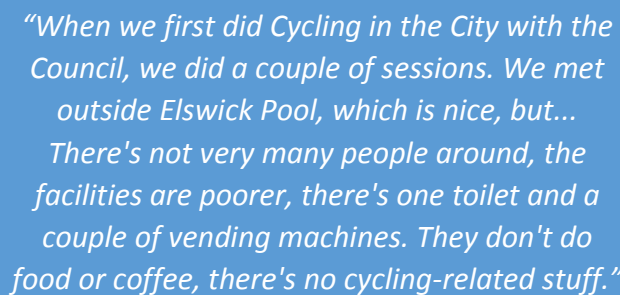


*"I don't intend giving up."*


## Environment and infrastructure

For all focus groups, the theme of environment and infrastructure was important. Most participants enjoyed being outdoors (see [experience of CITC](#)), but were nervous about cycling on roads with traffic (see [barriers and access](#) and [experience of CITC](#)). Poor weather and hills were cited as deterrents to cycling, and visiting interesting places, such as farms and cafes provided a draw (see [experience of CITC](#)).

For example, members of the Early Intervention Psychosis group highlighted the fact that The Cycle Hub provided an appealing base from which to go cycling, which made a difference to their motivation when weather was poor;

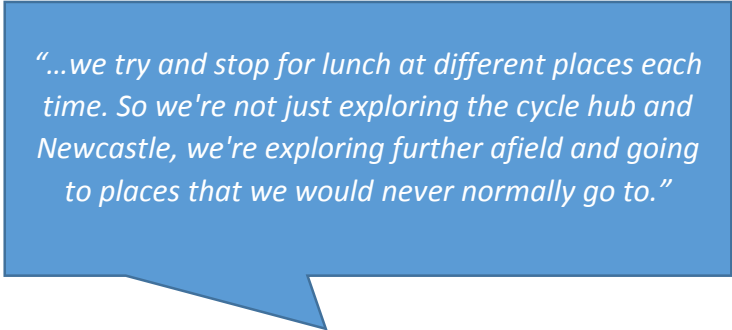


*"When we first did Cycling in the City with the Council, we did a couple of sessions. We met outside Elswick Pool, which is nice, but... There's not very many people around, the facilities are poorer, there's one toilet and a couple of vending machines. They don't do food or coffee, there's no cycling-related stuff."*



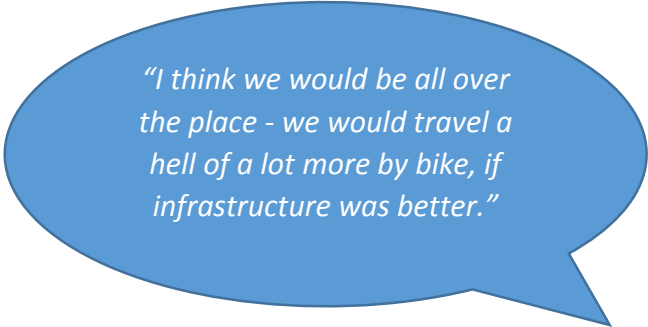
*"...and little things like meeting Les and Yvette, meeting you, people who we're going to come into contact again with in the future. If it wasn't at a venue like this, those social connections would never be made."*

The Early Intervention Psychosis group also enjoyed the opportunity to explore Newcastle by bicycle, which they cited as an important part of the "feeling of a day out" (see [experience of CITC](#));



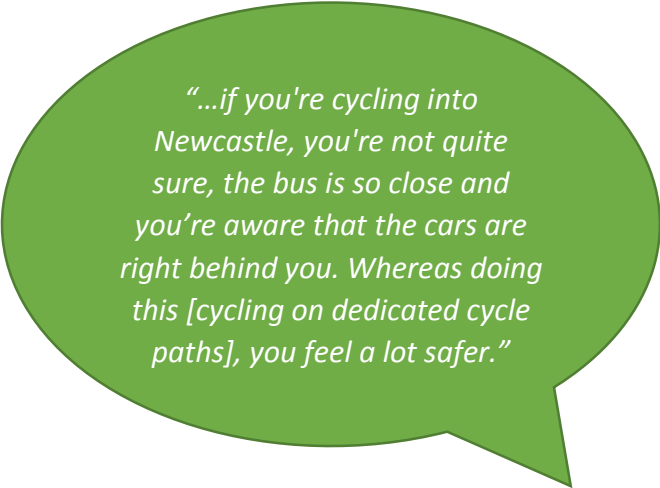
*"...we try and stop for lunch at different places each time. So we're not just exploring the cycle hub and Newcastle, we're exploring further afield and going to places that we would never normally go to."*

As mentioned in the section on [barriers and access](#), the Early Intervention Psychosis group felt that they would cycle more, if there were better infrastructure;

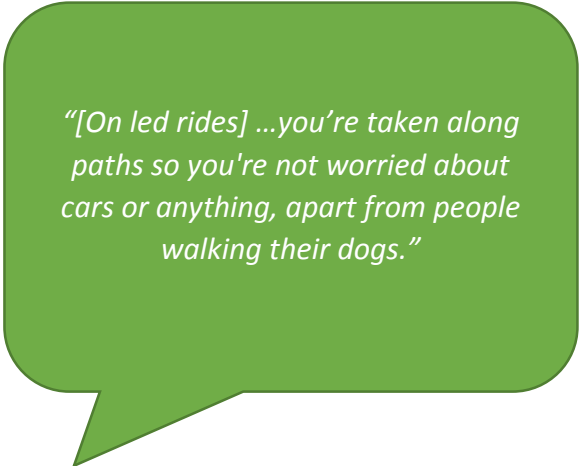


*"I think we would be all over the place - we would travel a hell of a lot more by bike, if infrastructure was better."*

Members of the This Girl Can group reported preferring their leisure rides along the Tyne from The Cycle Hub, to riding in traffic;



*"...if you're cycling into Newcastle, you're not quite sure, the bus is so close and you're aware that the cars are right behind you. Whereas doing this [cycling on dedicated cycle paths], you feel a lot safer."*



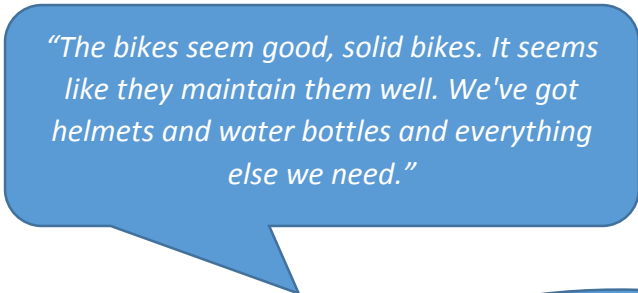
*"[On led rides] ...you're taken along paths so you're not worried about cars or anything, apart from people walking their dogs."*

As reported in the section on confidence ([experience of CITC](#)), the main environmental and infrastructural issues reported by the Weight Management group were about weather and lack of confidence to cycle on the roads.

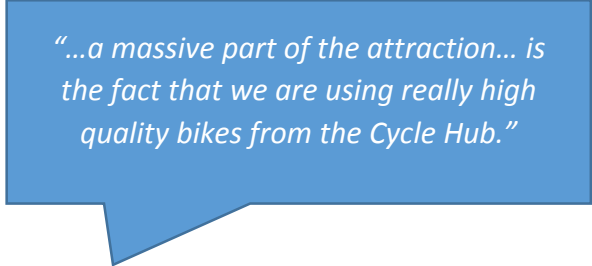
## Equipment

Participants from all focus groups reported that the equipment provided by The Cycle Hub had been excellent. Topics of discussion ranged from the quality of the equipment being a motivational factor (this topic overlaps with [experience of CITC](#)), to the need to be prepared for punctures, injuries, or dehydration.

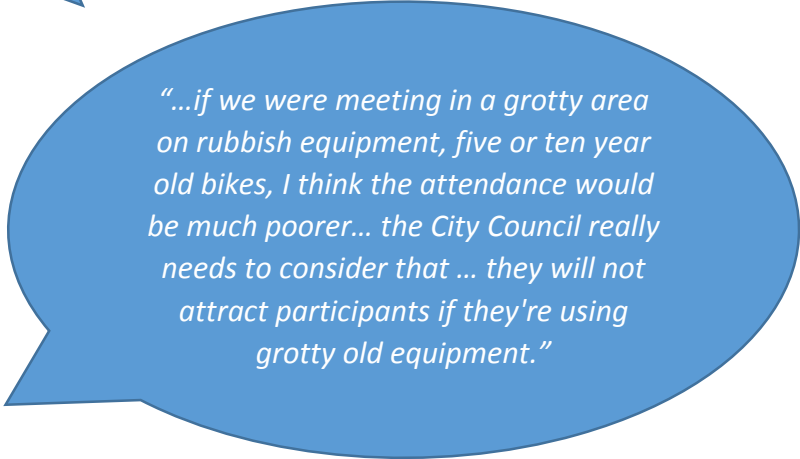
For members of the Early Intervention Psychosis Group, more so than for members of the other groups, the quality of the equipment was an important part of the appeal of the programme;



*"The bikes seem good, solid bikes. It seems like they maintain them well. We've got helmets and water bottles and everything else we need."*



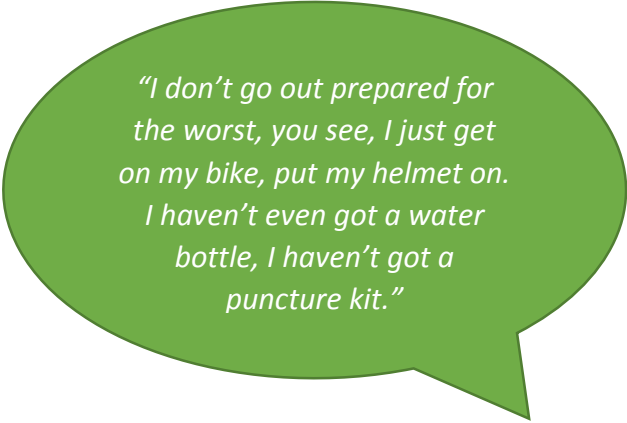
*"...a massive part of the attraction... is the fact that we are using really high quality bikes from the Cycle Hub."*



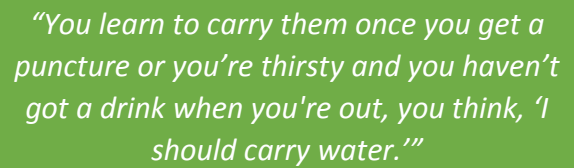
*"...if we were meeting in a grotty area on rubbish equipment, five or ten year old bikes, I think the attendance would be much poorer... the City Council really needs to consider that ... they will not attract participants if they're using grotty old equipment."*



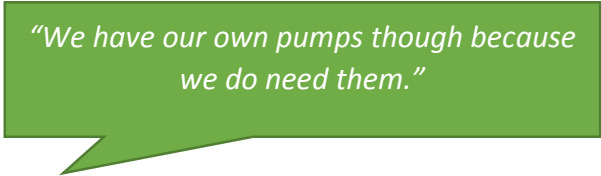
For members of the This Girl Can group, their concerns about equipment were largely related to being properly prepared for their journeys;



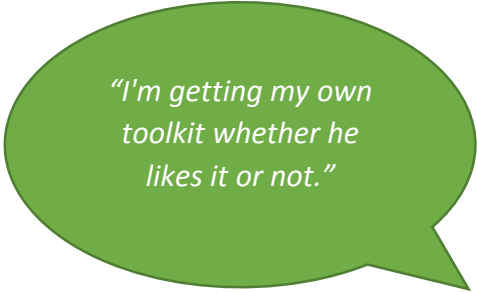
*"I don't go out prepared for the worst, you see, I just get on my bike, put my helmet on. I haven't even got a water bottle, I haven't got a puncture kit."*



*"You learn to carry them once you get a puncture or you're thirsty and you haven't got a drink when you're out, you think, 'I should carry water.'"*



*"We have our own pumps though because we do need them."*



*"I'm getting my own toolkit whether he likes it or not."*

Members of the Weight Management group were simply impressed with the quality of the equipment provided through CITC;



*"It's been superb."*



*"It's been excellent."*

## Gender

Issues concerning gender were only raised in discussions from the This Girl Can group, for whom cycling in an all-female group was an important part of the appeal of the led rides. Many of these gender-relevant discussions are covered in the sections on competition and confidence (under [experience of CITC](#)). One woman also discussed her experience of her son telling her that she shouldn't buy a toolkit for her bike;

*"It's funny talking about men today, I was with my friend inside Lidl... they had total repair kits. So, as I'm coming from my house, I see my son on his bike, shooting up the bank...he says, 'Where are you going?' I said, 'I'm going to Lidl to buy blah, blah, blah'. He was going, 'You don't need them, don't be spending money, don't be doing this'. I thought, 'Who does he think I am? I know what I want.' I know I want that toolkit because I need it... He's just been to town to buy himself a new backpack and something else for the bike he's got. I don't need them, but he does. It's a man thing, isn't it?"*

## Goals and challenges

Members of all focus groups reported setting themselves cycling-related goals and challenges.

For members of the Early Intervention Psychosis group, the goals were to ride the Coast-to-Coast together, and to get members of the group trained as ride leaders. They also suggested that setting such goals was a key motivator for them to continue cycling;

*"The aim is to do coast-to-coast, so we're aiming for 50 miles a day, to do coast-to-coast in three days. That's the plan."*

*"The aim over the coming months is to encourage people who haven't led the ride to do the training and then lead the ride. At the moment, we do kind of mix it up, don't we?"*


*"...it was a sort of challenge because I've never been an able cyclist and so on. I hadn't even attempted to get on a bike for years. It was something to get me out the house, basically, as well. It was good to push myself and get some more physical exercise."*

Similarly, members of the This Girl Can group had set themselves cycling-related challenges, to help to maintain their fitness and motivation;

*"I've just signed up to cycle across the Maasai Mara."*

*"...I'll have a goal to work towards or something that I'm trying to achieve, so I when I saw this I thought, 'I'll give cycling a go'. I hadn't been on a bike since I was a kid and it was just to get confidence."*

For members of the Weight Management group, goals were often related to their motivation for cycling (e.g. to lose weight, or get to work), but they also set specific targets;



*"It started off with fitness and now it's just for work... So my target shifted..."*



*"My new target is to cycle to Tynemouth..."*



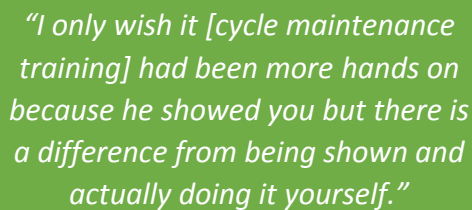
*"Just to be a bit fitter, that was my aim really..."*

### Organisation of the CITC programme

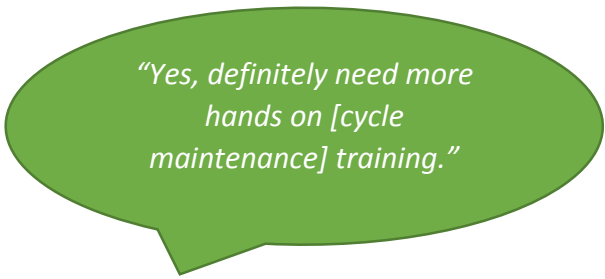
Participants from all groups made comments about the strengths of the CITC programme, and ways in which it could be improved.

For the Early Intervention Psychosis Group, these comments were mainly around access to the programme (see [barriers and access](#)), and about the quality of the environment and infrastructure (see [environment and infrastructure](#)), and equipment provided (see [equipment](#)).

For the This Girl Can group, comments about programme organisation were mainly about the timing of sessions (see [barriers and access](#)), which made access to training difficult for participants with busy lives. However, comments also indicated that CITC providers had been flexible in order to accommodate participants' schedules. This Girl Can group members also indicated that they would have liked the bike maintenance training to be more "hands on";



*"I only wish it [cycle maintenance training] had been more hands on because he showed you but there is a difference from being shown and actually doing it yourself."*



*"Yes, definitely need more hands on [cycle maintenance] training."*

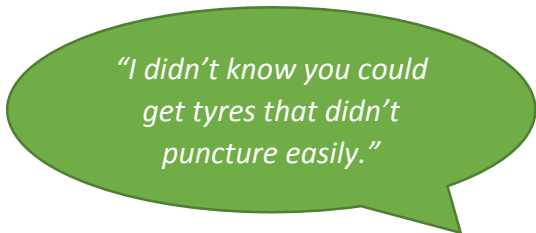
A subtheme under [organisation of the CITC programme](#), was about routes into training. This discussion revealed that, as could be expected, members of the Early Intervention Psychosis and Weight Management groups had been referred to the programme by their group leaders, or by Liz Jackson, the CITC coordinator. However, members of the This Girl Can group had joined CITC through a range of routes. These included;

- Via the Weight Management group
- Through a digital workshop
- Via Twitter

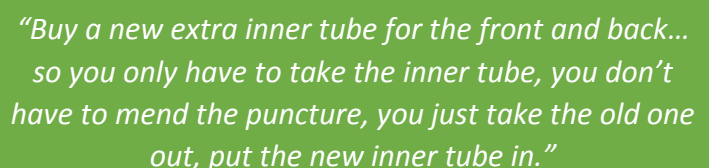
### Skills and level of training

Members of all three focus groups had varying levels of skills and training. Some had taken only basic cycle training and participated in short led rides. Others had taken all the available training and had gone on to become ride leaders.

For the This Girl Can group, one of the benefits of going on led rides, was the opportunity to exchange hints and tips. Indeed, members of the group began exchanging cycle repair tips during the interview;



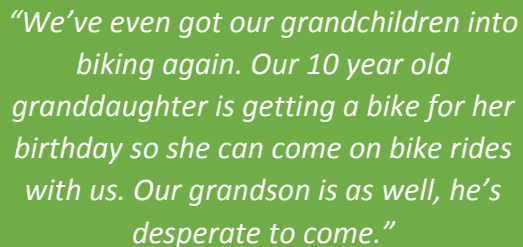
*"I didn't know you could get tyres that didn't puncture easily."*



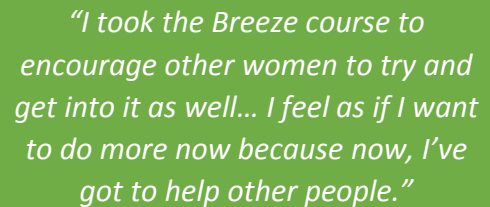
*"Buy a new extra inner tube for the front and back... so you only have to take the inner tube, you don't have to mend the puncture, you just take the old one out, put the new inner tube in."*

## Legacy

Members of all groups talked about benefits of CITC participation for their confidence, skills, and health and wellbeing. These things are likely to have a legacy in terms of the longer-term benefits to those individuals, if they continue cycling. However, This Girl Can interviewees also made comments which suggested that they were helping others to get into cycling;



*"We've even got our grandchildren into biking again. Our 10 year old granddaughter is getting a bike for her birthday so she can come on bike rides with us. Our grandson is as well, he's desperate to come."*



*"I took the Breeze course to encourage other women to try and get into it as well... I feel as if I want to do more now because now, I've got to help other people."*

## Social

Social factors were a dominant theme in discussions with all focus groups. Though social factors were an important subject, many of the issues covered are not discussed here, because they overlap with previous sections on competition, identity, emotions, and motivation (see [experience of CITC](#)). For all groups, cycling as part of a group, and forming relationships with CITC providers were important factors in motivating them to continue cycling. For the This Girl Can group, the friendly, non-competitive atmosphere of an all-female group was important to them (see, [gender](#) and [experience of CITC](#)). For all groups, the welcoming nature of the training sessions, and the supportiveness of CITC staff was important for their success in completing training (see the section on confidence, under [experience of CITC](#)). When the participants gave feedback on the marketing materials (see marketing feedback reports), it was also clear that they felt that the social element of cycling should be emphasised in order to make the marketing materials more appealing.



## 7. The CITC survey pilot

A pilot survey was carried out between September and November 2015. However, response rates were poor, with only 11 participants returning completed questionnaires. Four of these responses were collected online and 7 via post. The majority (8) of the respondents were white British. Many (8) of the respondents were female, and ages ranged from 28 to 66. Those participants who did respond to the survey, gave relatively complete information and 10 of the 11 agreed to be contacted for follow-up purposes. As a method of gathering relevant feedback from CITC participants, the survey was not as successful as the focus group approach.

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## 9. Appendix

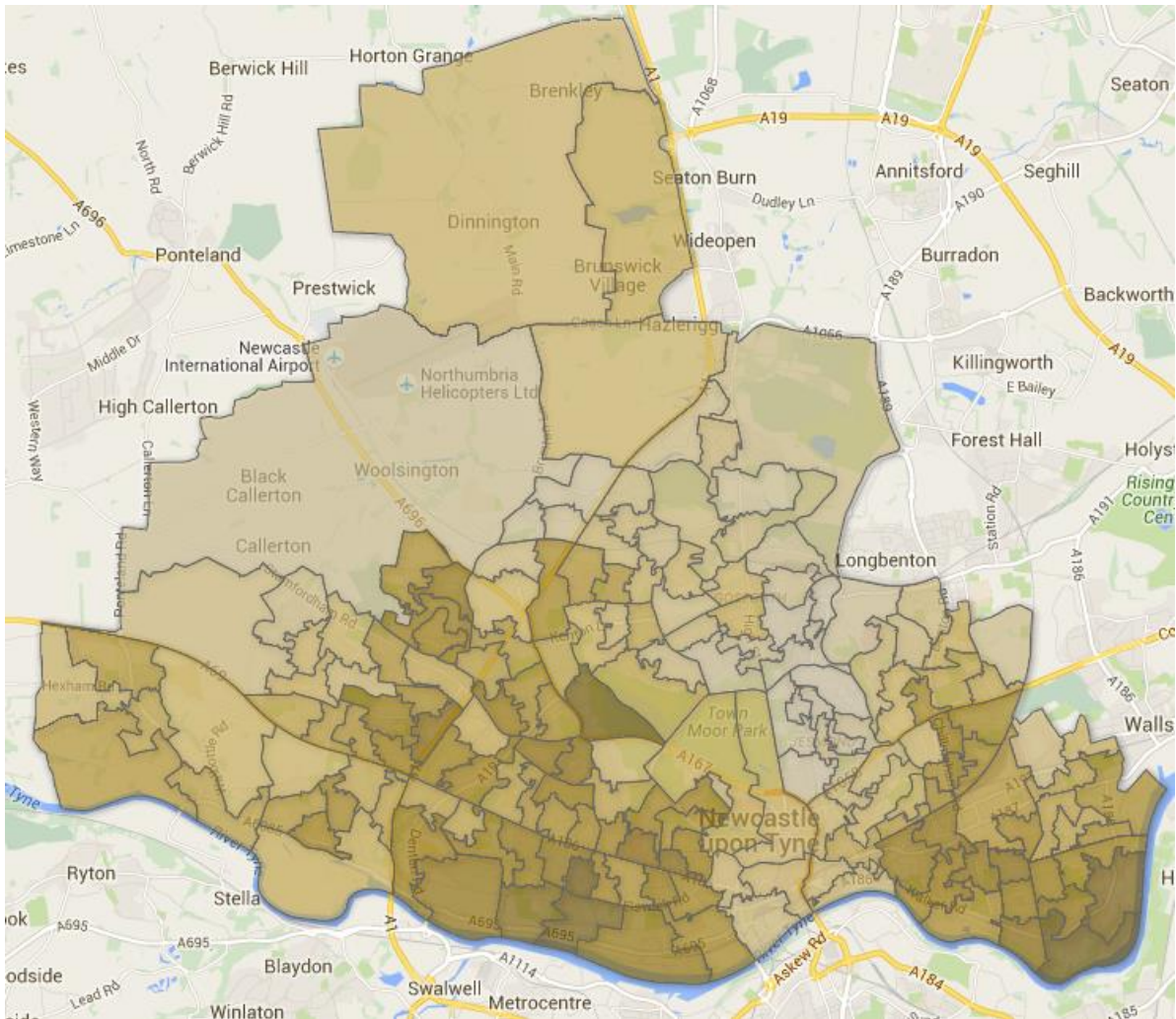


Figure 16. A map of the proportion of Newcastle upon Tyne residents who reported taking the bus to work at the 2011 Census, by lower layer super output area. Click on the image, or use [this link](#), to view an interactive version of the map.

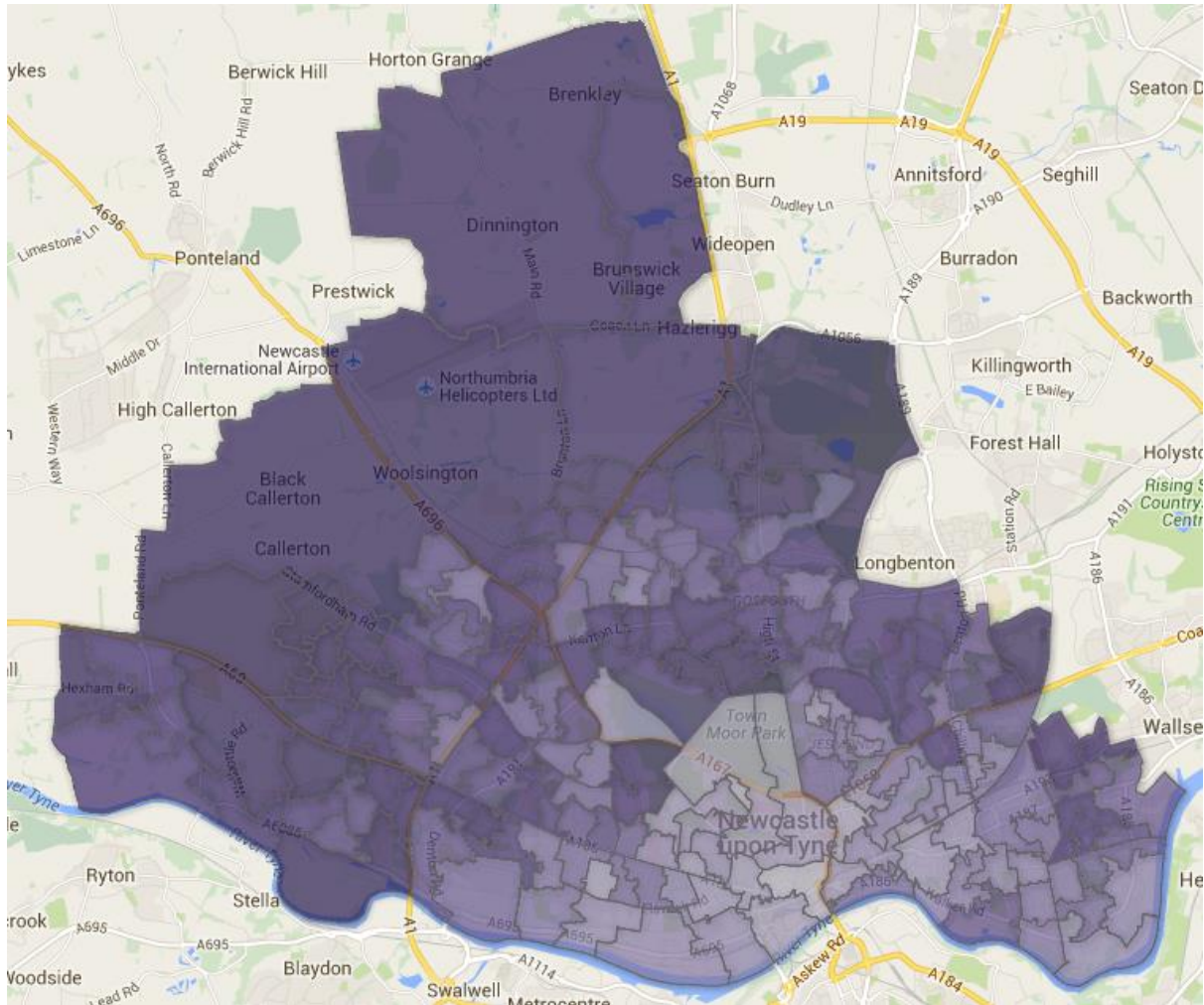


Figure 17. A map of the proportion of Newcastle upon Tyne residents who reported to work at the 2011 Census, by lower layer super output area. Click on the image, or use [this link](#), to view an interactive version of the map.



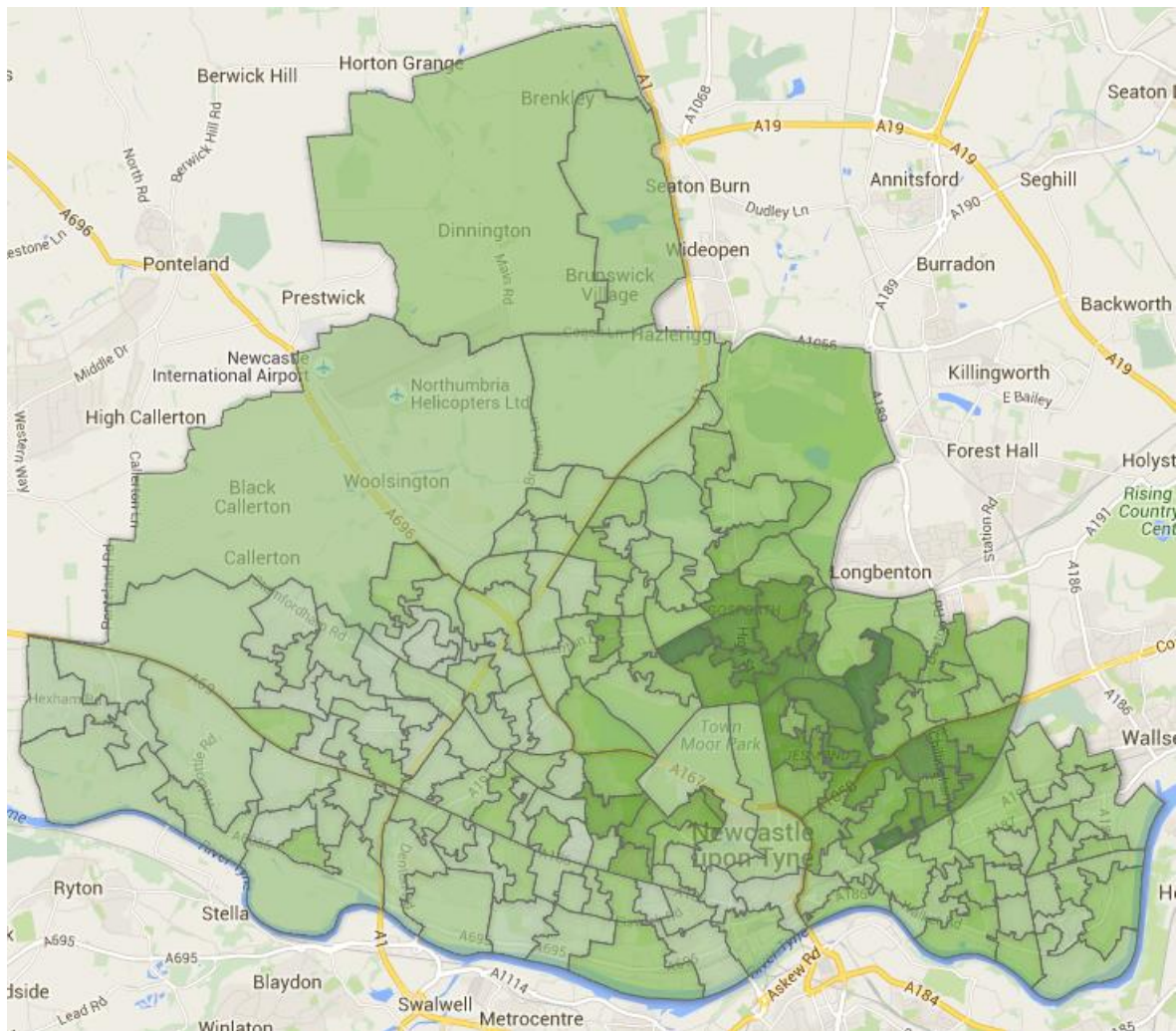


Figure 18. A map of the proportion of Newcastle upon Tyne residents who reported cycling to work at the 2011 Census, by lower layer super output area. Click on the image, or use [this link](#), to view an interactive version of the map.

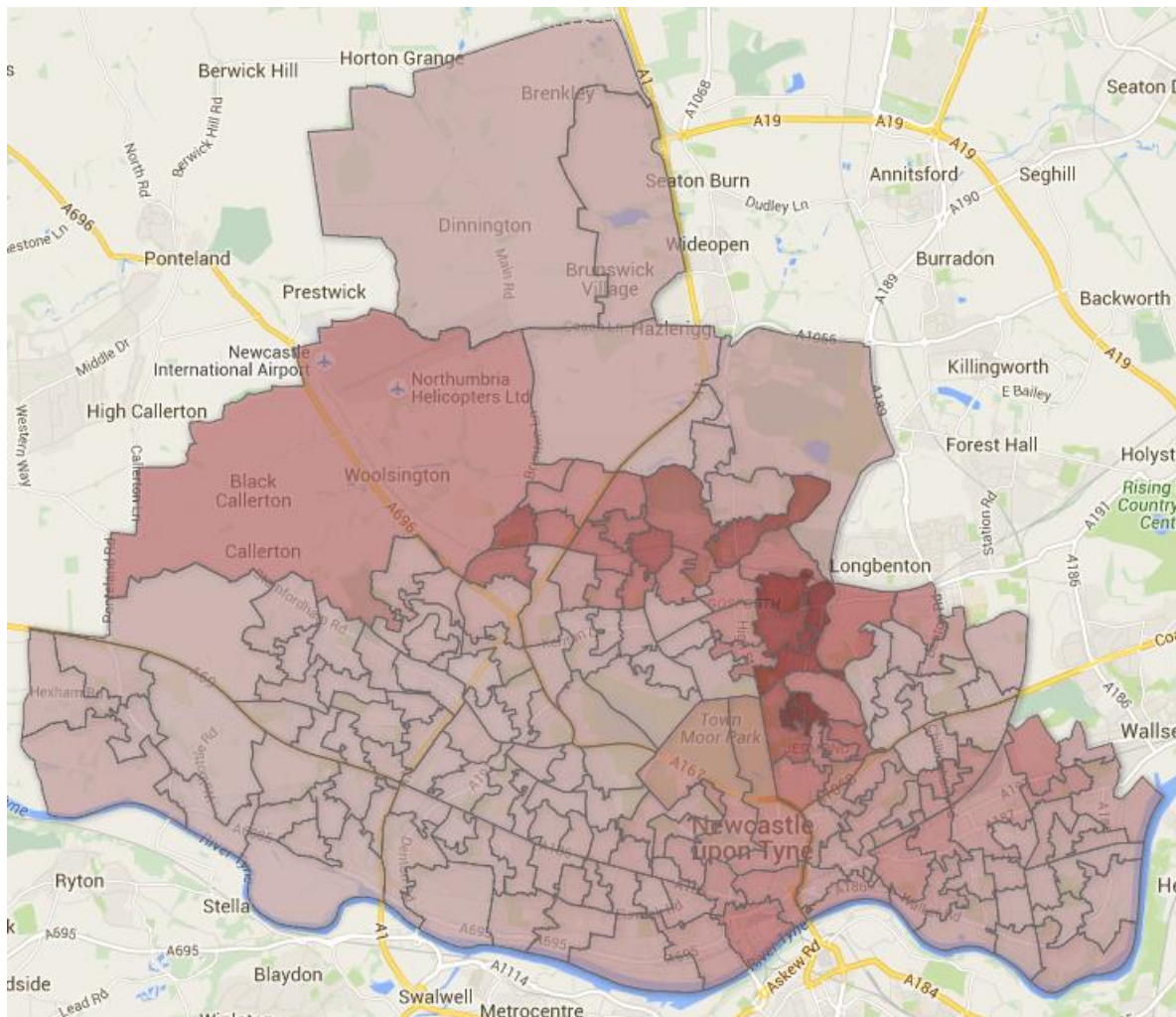


Figure 19. A map of the proportion of Newcastle upon Tyne residents who reported taking the metro to work at the 2011 Census, by lower layer super output area. Click on the image, or use [this link](#), to view an interactive version of the map.



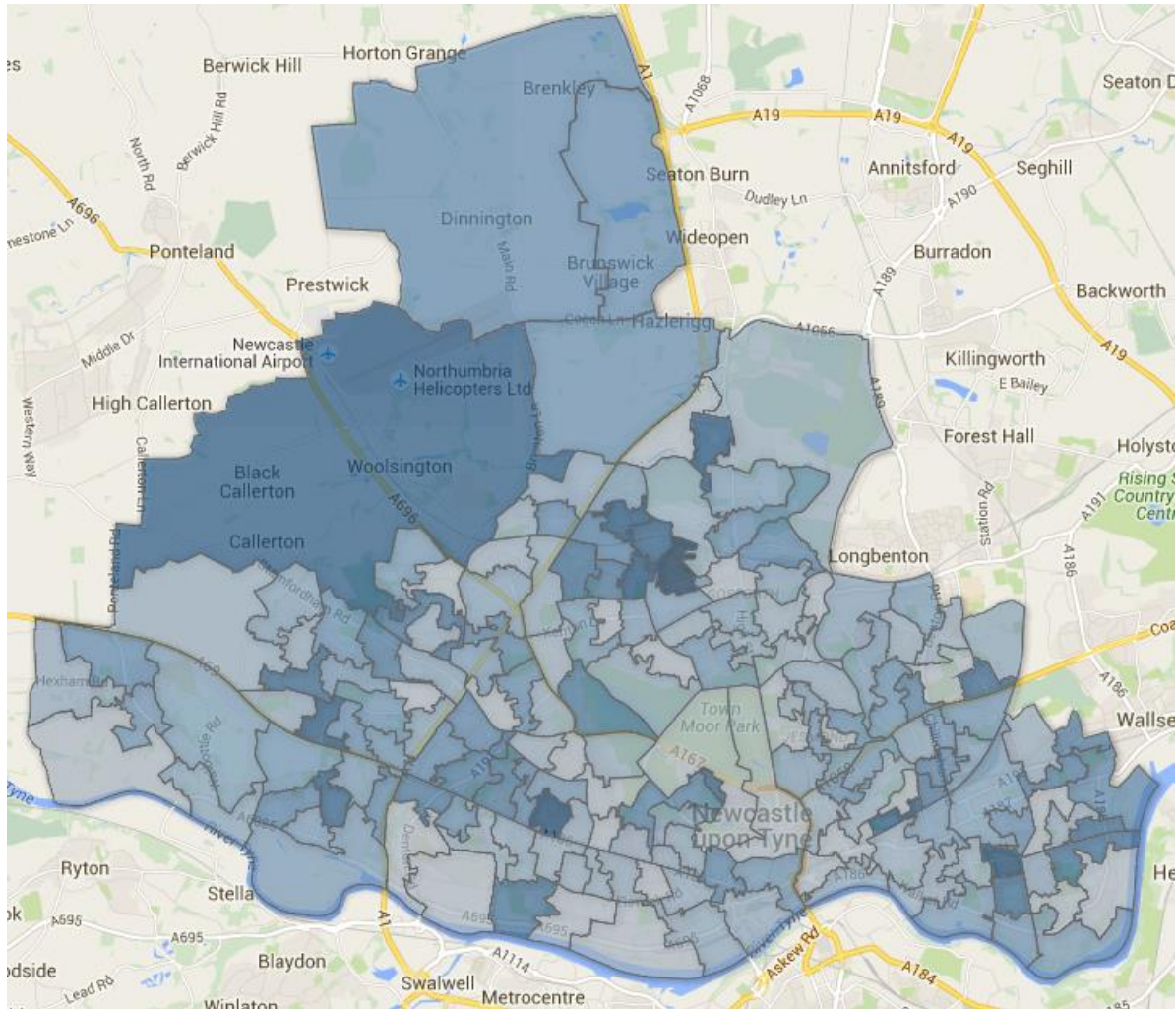


Figure 20. A map of the proportion of Newcastle upon Tyne residents who reported riding a motorcycle to work at the 2011 Census, by lower layer super output area. Click on the image, or use [this link](#), to view an interactive version of the map.

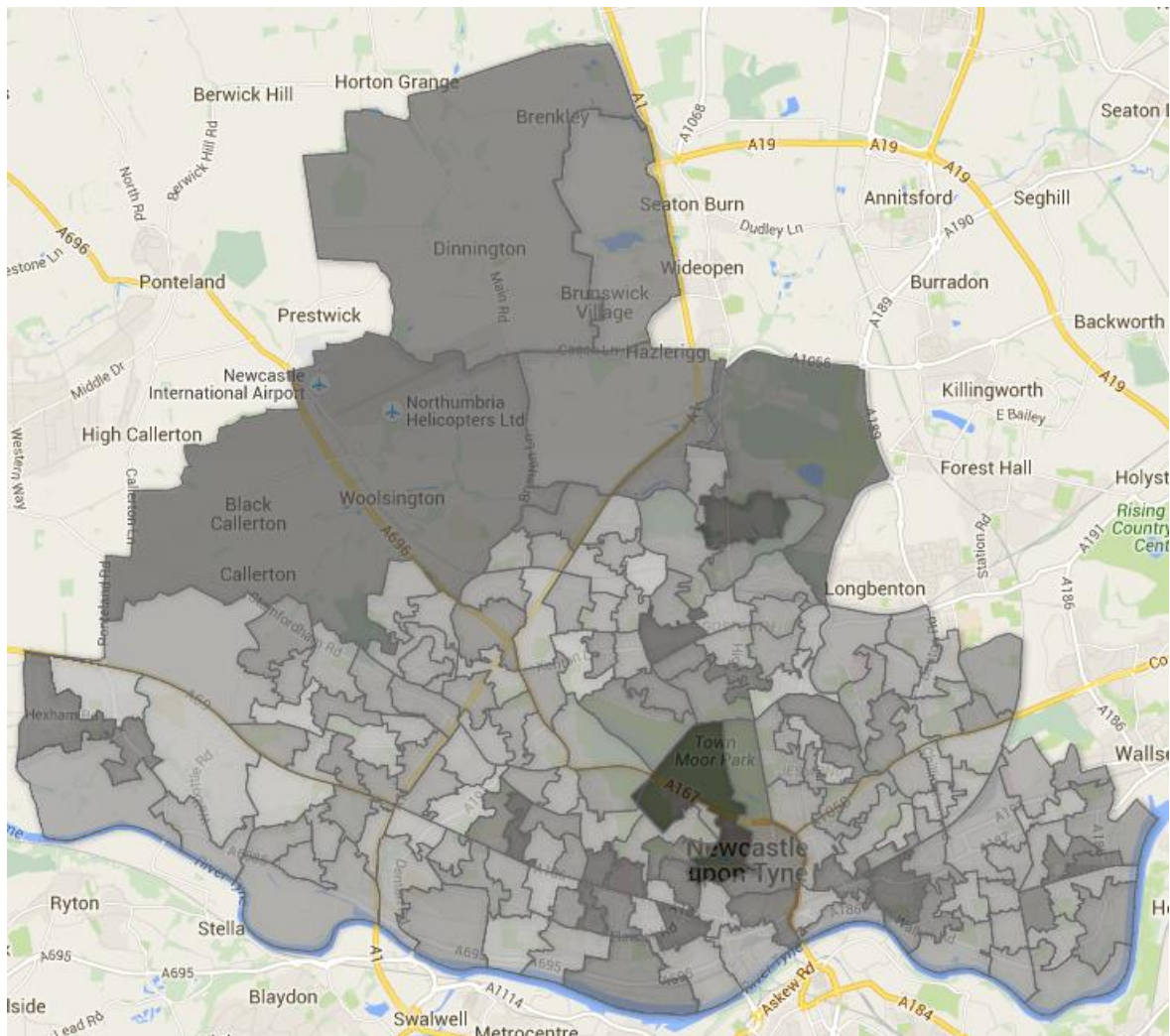


Figure 21. A map of the proportion of Newcastle upon Tyne residents who reported using “other” modes of transport to get to work at the 2011 Census, by lower layer super output area. Click on the image, or use [this link](#), to view an interactive version of the map.



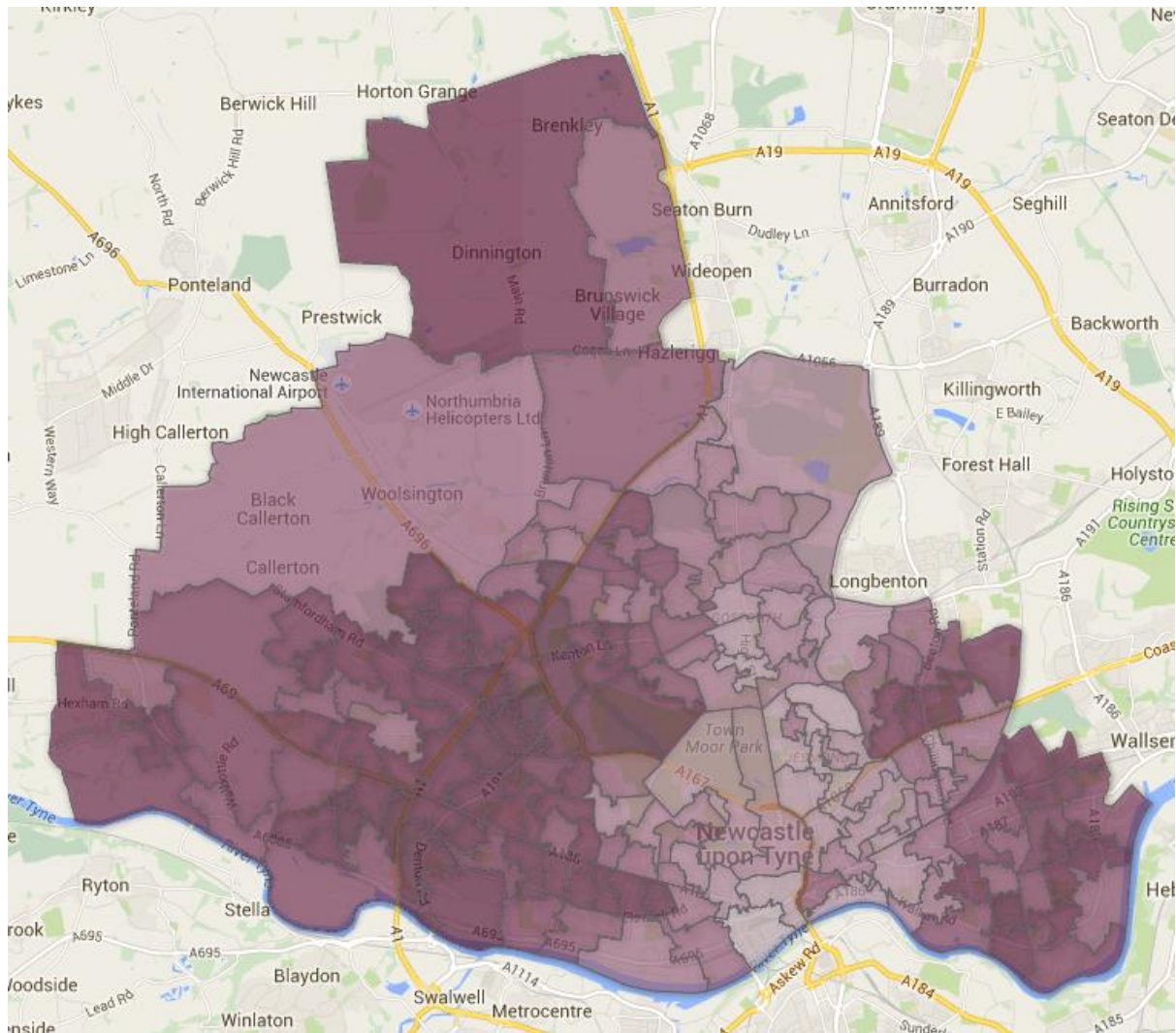


Figure 22. A map of the proportion of Newcastle upon Tyne residents who reported getting to work as passengers in someone else's car or van at the 2011 Census, by lower layer super output area. Click on the image, or use [this link](#), to view an interactive version of the map.

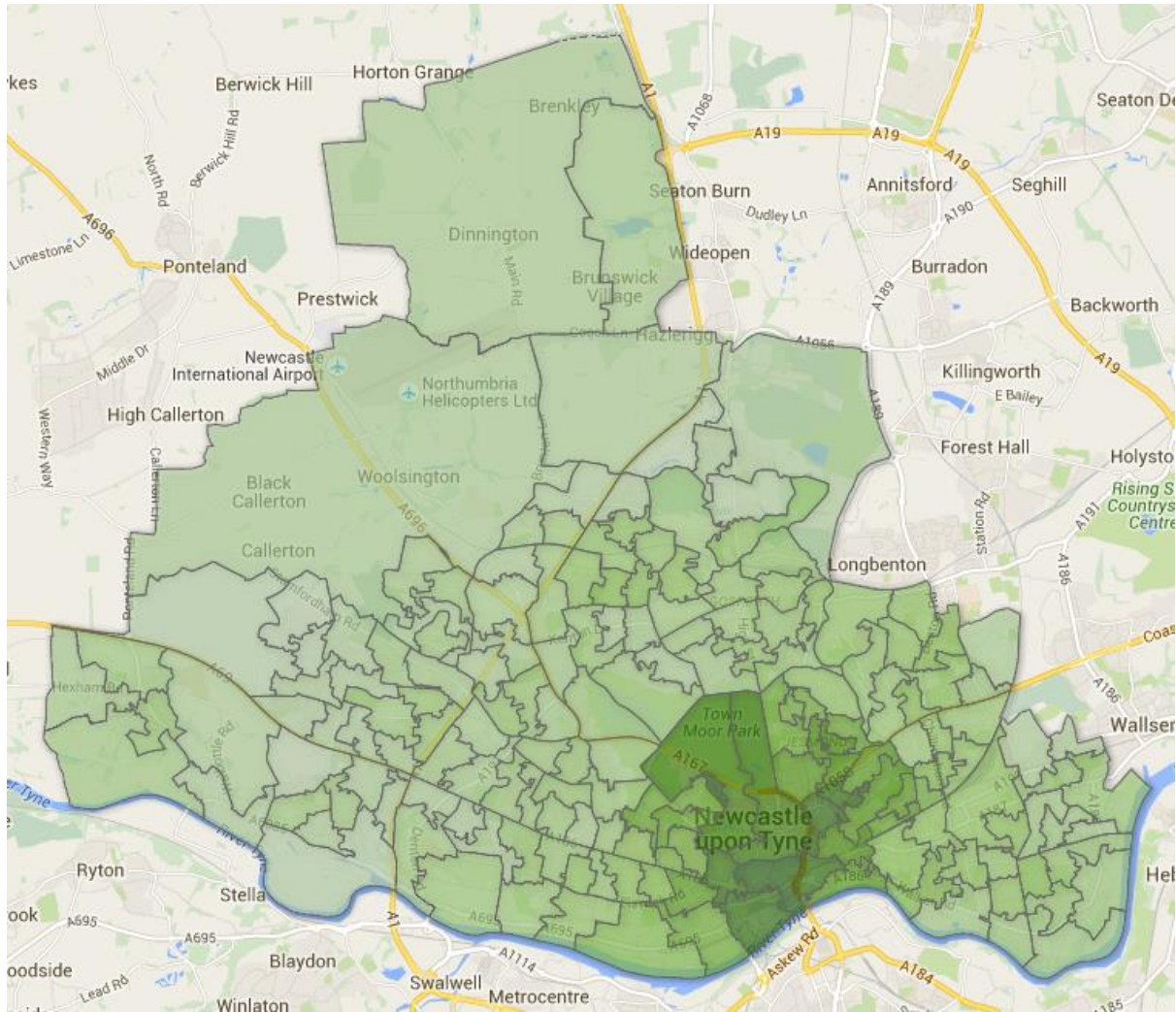


Figure 23. A map of the proportion of Newcastle upon Tyne residents who reported walking to work at the 2011 Census, by lower layer super output area. Click on the image, or use [this link](#), to view an interactive version of the map.



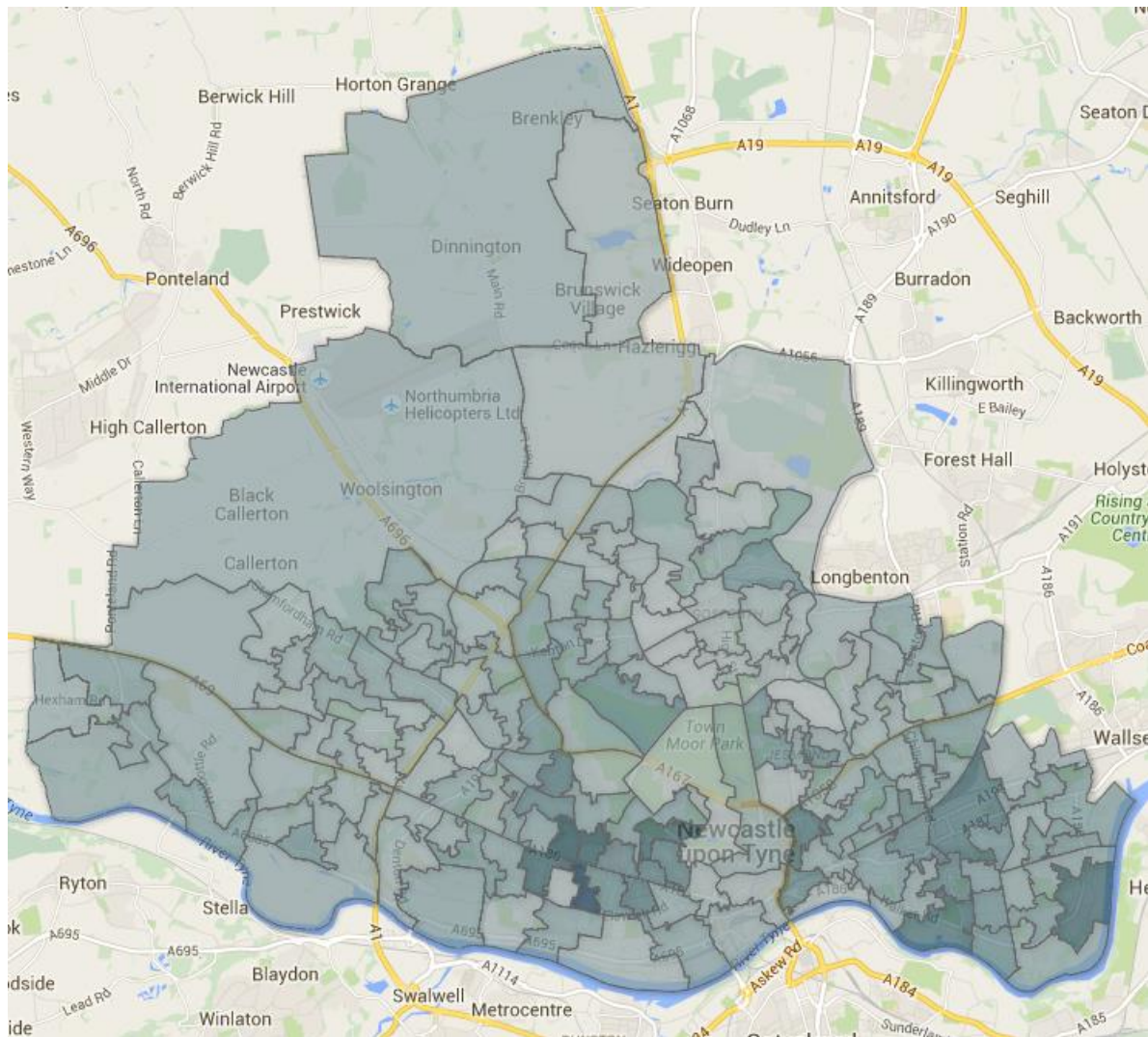


Figure 24. A map of the proportion of Newcastle upon Tyne residents who reported taking taxi to work at the 2011 Census, by lower layer super output area. Click on the image, or use [this link](#), to view an interactive version of the map.

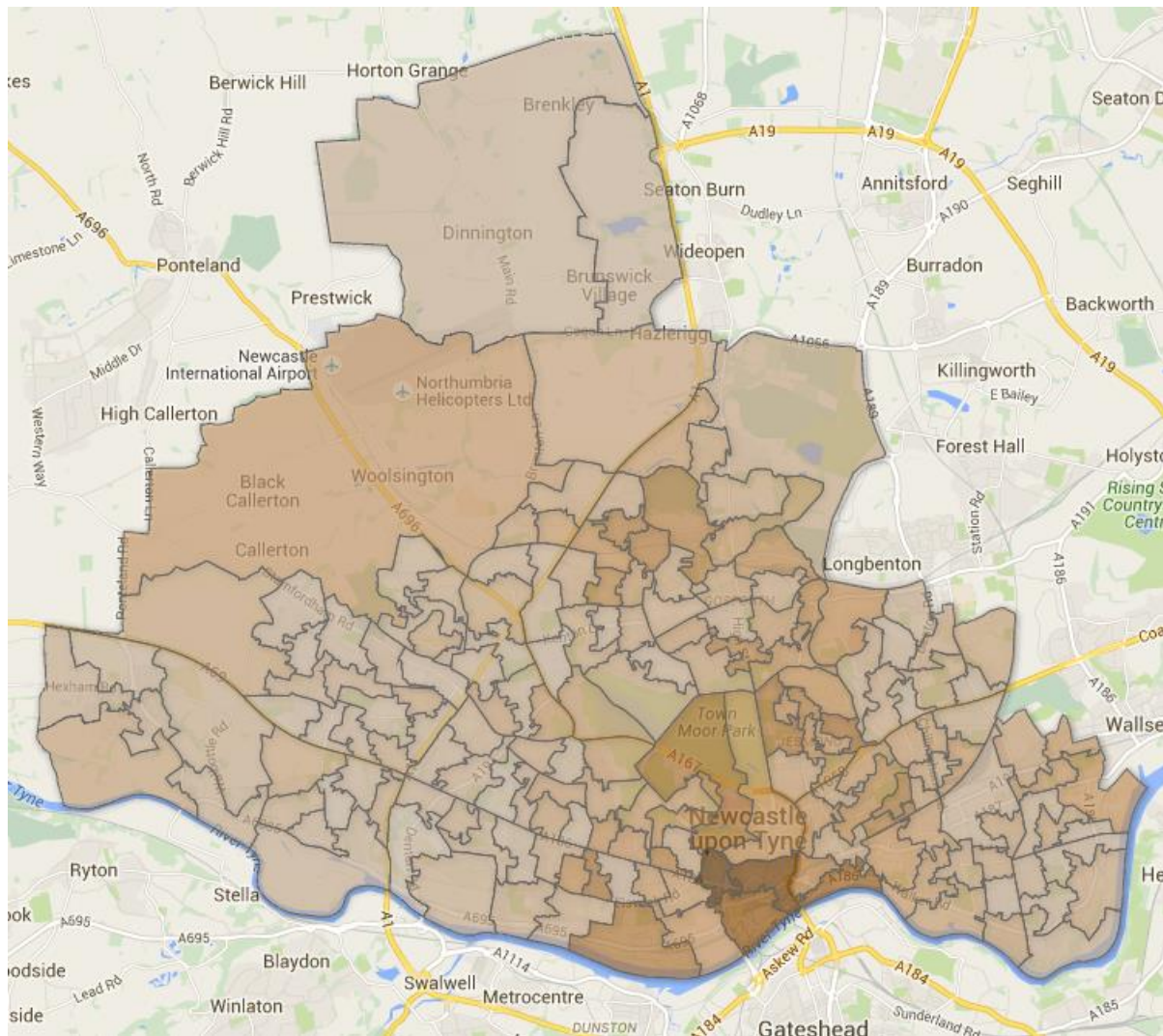


Figure 25. A map of the proportion of Newcastle upon Tyne residents who reported taking a train to work at the 2011 Census, by lower layer super output area. Click on the image, or use [this link](#), to view an interactive version of the map.