cycling **england**

Cycling Demonstration Towns
Surveys of cycling and physical activity 2006 to 2009

Acknowledgements

Contents

Executive Summary

Headline finding:
- In the first three years of the CDT programme, there have been encouraging increases in cycling observed at a population level in the CDTs, that were not seen in other (non-CDT) towns. The CDTs have also seen significant and important reductions in sedentary behaviour, that are likely to be associated with benefits to public health.

Detailed results
- This report presents data from two surveys of cycling in the Cycling Demonstration Towns (CDTs): Secondary analysis of Sport England's Active People Survey (2005/6 and 2007/8); and ICM surveys commissioned by Cycling England conducted in the CDTs in 2006 and 2009.

- The Active People Survey showed that between 2006 and 2008 there was an increase in cycling (for at least 30 minutes, once a month and three times a week) in local authorities with a CDT compared to local authorities without a CDT

- These increases in cycling were not observed in all other local authorities in England with no CDT or in a subset of local authorities with no CDT that were matched to the CDTs' demographic profile.

- The proportion of respondents cycling once a month in local authorities with a CDT increased by 3.3% between 2006 and 2008. This equates to approximately 26,000 people in the local authorities with a CDT who have increased their cycling since the CDT programme began.

- The ICM surveys showed that the mean length of time spent cycling in a typical week increased in the CDTs from 1.23 hours in 2006 to 1.25 hours in 2009.

- In all the towns combined, there was a significant increase in the proportion of people doing any cycling in the last year (from 24.3% in 2006 to 27.7% in 2009).

- Analysis of physical activity data showed that there was a significant decrease in the proportion of people classed as inactive in the towns, and a corresponding increase in the proportion classed as moderately inactive and moderately active. There was no change in the proportion classed as active.

- The decrease in inactivity in the CDTs is likely to be associated with reductions in risk of all-cause mortality.

Introduction

Background to the Cycle Demonstration Towns

In October 2005, Cycling England established six Cycle Demonstration Towns (CDTs) in England. These towns were chosen following a competitive process, and were awarded funding to enable them to take a comprehensive town-wide approach to promoting cycling.

The towns (and their relevant local authorities) were:

- Aylesbury (Buckinghamshire County Council and Aylesbury Vale District Council)
- Brighton & Hove (Brighton & Hove City Council)
- Darlington (Darlington Borough Council)
- Derby (Derby City Council)
- Exeter (Devon County Council and Exeter City Council)
- Lancaster and Morecambe (Lancaster City Council)

Details of the towns and their cycle promotion programmes are available from the Cycling England website[1].

Evaluation of the impact of the CDT Programme

This report is one component in a comprehensive evaluation of the CDT programme. Overall, the evaluation is concerned with assessing the impact of the CDT programme on cycling in each town. This report presents the results from two separate studies of cycling and physical activity levels: secondary analysis of Sport England's Active People Survey; and two surveys commissioned by Cycling England, conducted among random samples of the population of each CDT in 2006 (before programme activity began), and again in 2009. The surveys focused on levels of cycling and physical activity among each sample. The surveys complemented a full monitoring programme that has been undertaken in each town. The main component of this is the use of automatic traffic counters on core parts of each town's cycle infrastructure. This is supplemented by manual counts of cyclists; surveys and additional elements such as counts of parked bikes. Full details of the monitoring programme are published separately[2].

The surveys were conducted to address two main questions:

1. Did the population prevalence of cycling change between 2006 and 2009 in the CDTs? The monitoring programme provides a wealth of data on changes in patterns of cycling along key designated routes in each town, but it is not able to assess the extent to which these patterns of cycling are representative of cycling across the whole town. As the CDT programme aimed to increase cycling at a town level, this is an important consideration.

2. If there was an increase in cycling, was this associated with an increase in physical activity, and therefore benefits to health? It is important to measure physical activity as it is possible that people who took up cycling had a corresponding decline in other aspects of their physical activity.

These surveys, combined with the monitoring programme, make a very comprehensive evaluation that will help increase understanding of the overall impact of the CDT programme.

Cavill N, Muller L, Mulhall C, Harold K, Kennedy A, Hillsdon M, Bauman A. (2009). Cycling Demonstration Towns: Surveys of cycling and physical activity 2006 to 2009. London. Cycling England.

Outline of the surveys

1. Secondary analysis of Sport England's Active People Survey 2005/2006 and 2007/2008

Background

The main aim of this part of the evaluation is to assess whether levels of cycling have increased in the Cycle Demonstration Towns (CDTs) during the first phase of activity. A simple pre-post design, measuring levels of cycling before and after the CDT programme, will describe changes in patterns of cycling in the CDTs, but will not be able to attribute that change to the CDT programme, as there is the possibility that any changes in cycling may have happened anyway. We need to be able to separate the impact of the CDT programme from the 'background noise' that might be influencing cycling levels elsewhere. The best design for this is a controlled evaluation, in which indicators in the CDTs (intervention towns) are compared with identical indicators in towns in which there was no activity by Cycling England. This is the sort of design favoured in public health, and increasingly used in transport evaluations[3]. However, this type of study was deemed to be prohibitively expensive on this occasion, as it requires surveys to be conducted in at least double the number of sites compared to a simple pre-post design.

We have, however, made use of a large dataset from a national survey of all local authorities in England. This provides data on cycling in local authorities, and enables a comparison to be made between levels of cycling in local authorities that contain a CDT town, with those that do not. The first wave of the survey was conducted before the vast majority of CDT activity took place and therefore acts as a baseline. This analysis was conducted by colleagues from the National Obesity Observatory, and has enabled us to compare changes in cycling in the CDTs with a 'control' sample. This provides extremely strong evidence of change in the CDTs, and provides more confidence in attributing observed changes in cycling prevalence to the impact of Cycling England's programme.

Introduction to the Active People Survey

The Active People Survey (APS) is a telephone survey conducted by Ipsos MORI on behalf of Sport England. It aims to measure the number of adults living in England (aged 16 and over) participating in various types of sport and recreational physical activity. This paper uses data from APS1 (conducted between October 2005 and October 2006) and APS2 (conducted between October 2007 and October 2008[4]). The survey is to be repeated in 2008/9 (APS3) and 2009/10 (APS4). It is conducted across every local authority in England and collects self-reported participation levels in the 4 weeks prior to interview. The survey uses random digit dialling to generate a representative sample of telephone numbers and uses computer- assisted telephone interviewing (CATI).

There were 363,724 interviews conducted in APS1 with a minimum of 1,000 interviews per local authority. For APS2, 191,325 interviews were conducted with a minimum of 500 interviews per local authority.

One of the main outcomes of the APS (as defined in the APS Technical Report[5]) was the percentage of the population participating in at least 30 minutes of sport and active recreation of at least moderate intensity at least 3 times per week. These percentages for each local authority have been published by Sport England[6]. As part of this, APS collects data on participation in cycling, and on the number of days in the past four weeks spent cycling 30 minutes or more. The full cycling questions are in the appendix and the full questionnaire available from the data archive.

Cavill N, Muller L, Mulhall C, Harold K, Kennedy A, Hillsdon M, Bauman A. (2009). Cycling Demonstration Towns: Surveys of cycling and physical activity 2006 to 2009. London. Cycling England.

Methods

Using the data collected on "number of days in the past four weeks spent cycling 30 minutes or more", we calculated the percentage that participated in cycling for the following frequencies for 2006 and 2008 data:

- 30 minutes or more at least once per month
- 30 minutes or more at least 12 times per month

This included cycling for all purposes i.e. for sport and recreation as well as transport. Percentages were calculated using weighted totals, excluding respondents with a "don't know" code.

For the six CDTs: Aylesbury, Brighton and Hove, Darlington, Derby, Exeter and Lancaster, the relevant local authorities were identified. Data from these local authorities containing the CDTs were aggregated to calculate an overall percentage participating in cycling for once and for 12 times a month. This figure was then compared to the average from all other local authorities in England that did not have a CDT. Comparisons were made between data for the whole local authority area, not just the urban part of the local authority.

There is the possibility of confounding due to differences in the demographic profiles of local authorities. For example, if the local authorities with CDTs had a higher than average proportion of young people, then this difference in age distribution could account for any difference observed in cycling (as younger people are more likely to cycle). In order to address the possibility of confounding due to differences in the demographic profiles of local authorities a matched analysis was conducted. The National Statistics 2001 Area Classification[7] groups together geographic areas according to key characteristics common to the population in that grouping. The method uses data on demographic, household and socio-economic data.

For every local authority the National Statistics 2001 Area Classification gives up to four other corresponding local authorities that are categorised as extremely similar; very similar; similar or somewhat similar. Using these data the most similar corresponding local authorities were identified for the six local authorities with a CDT.

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2. ICM Surveys commissioned by Cycling England

Survey design
ICM was commissioned to conduct surveys in the CDTs in 2006 and 2009. In each town, ICM interviewed a random and representative quota sample of residents by telephone. As cycling varies greatly by season, the surveys were conducted at the same time each year: March/early April.

Sample
1,500 residents were interviewed in each town in each wave of research (total sample size approx 9,000 per wave). This sample size was chosen to provide the smallest possible confidence intervals around the data, for the resources available. The sample size means that estimates for all the towns combined are correct to within +/-1.03%. Data at town level are correct to within +/-2.53% at the 95% confidence level. Specific confidence intervals for the data are given in the appropriate tables in the report. Data were weighted to the profile of all adults in each town. Analysis of the ICM data used traditional significance testing, which may not be directly applicable to the quota sampling method used in this survey. Reported significance tests (such as p values) should therefore be treated as indicative of a difference between reported data.

Questionnaire
EPIC Physical activity module
The core of the questionnaire was the physical activity measure taken from the European Prospective Investigation into Cancer (EPIC) study[8]. This is a simple, pragmatic, validated questionnaire feasible for use in clinical and public health practice and short enough to include in questionnaires alongside a range of other measures. It assesses habitual physical activity using two questions referring to activity during the past year at work and during leisure time. The responses to these questions are used to create four categories:

- inactive
- moderately inactive
- moderately active
- active

Full details of the validation studies conducted on the EPIC questionnaire are in Appendix Two and explanation of the creation of the activity categories is in the results section.

Detailed questions on cycling
Those people who said they had done some cycling in the past year were asked more detailed questions about their cycling frequency, duration and purpose. These questions were created specifically for this survey.

Awareness
In the 2009 survey, some additional questions were added asking about awareness of publicity about cycling in general (unprompted awareness) and the CDT programme in particular (prompted recall).

Each wave of research was undertaken in exactly the same way, using exactly the same core questions, apart from the additional publicity awareness questions in 2009.

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Control survey

As noted above, when conducting evaluations using before and after surveys, there is always the possibility that any change measured might have happened anyway, as a result of secular trends. It is therefore desirable to conduct a survey in a control population, where there was no intervention. In 2006, there was insufficient funding available to conduct any interviews with a control sample, but we were able to conduct a control survey in 2009. This was conducted among 1,656 adults in England, using the ICM telephone omnibus[9]. This will be particularly valuable when the survey is repeated in 2011, and will add to any further analysis of the Sport England data that we may be able to do at that time.

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Results 1: Active People Survey

Figure 1 and table 1 show that for local authorities with a CDT the percentage participating in cycling for at least 30 minutes once or more per month increased by 3.3% in local authorities with a CDT compared to an increase of 0.52% in the non-CDT local authorities.

Figure 1

Percentage of Active People Survey respondents participating in cycling for at least 30 minutes, once or more per month, 2006 and 2008

Table 1. Percentage of Active People Survey respondents participating in cycling for at least 30 minutes once or more per month, 2006 and 2008

	2006	2008	Difference (and 95% CIs)	P-value for difference
Local Authorities with a Cycle Demonstration Town	11.77%	15.07%	3.30% (1.79-4.81)	**0.0000***
Local Authorities with no Cycle Demonstration Town	11.33%	11.85%	0.52% (0.34-0.70)	**0.0000***

*significant at the 95% level

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Figure 2 and table 2 show that for local authorities with a CDT the percentage participating in cycling for at least 30 minutes 12 or more per month increased by almost 1% between 2006 and 2008, compared to no change in the non-CDT authorities.

Figure 2

Percentage of Active People Survey respondents participating in cycling for at least 30 minutes 12 times or more per month, 2006 and 2008

Table 2 Percentage of Active People Survey respondents participating in cycling for at least 30 minutes 12 times or more per month, 2006 and 2008

	2006	2008	Difference (95% CI)	P-value for difference
Local Authorities with a Cycle Demonstration Town	2.58%	3.53%	0.95% (0.18 to 1.72)	**0.0108***
Local Authorities with no Cycle Demonstration Town	2.47%	2.45%	-0.02% (-0.1 to 0.06)	0.6670

*significant at the 95% level. Note that although the CIs in the figure overlap, the p-value is less than 0.05 so can be said to be significant

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Matched analysis

Table 3. Local authorities with a CDT and the corresponding local authorities that are considered most similar using the National Statistics 2001 Area Classification

Local Authorities with a Cycle Demonstration Town	Most similar LA with no Cycle Demonstration Town	Similarity
Aylesbury Vale	West Berkshire	extremely similar
Brighton and Hove	Bournemouth	Similar
Darlington	Stockton-on-tees	extremely similar
Derby	Bolton	extremely similar
Exeter	York	very similar
Lancaster	Canterbury	extremely similar

Table 4 and figure 3 shows that there is no evidence of a significant increase in the percentage of participating in cycling for at least 30 minutes once or more per month between 2006 and 2008 in local authorities with no CDT and are considered to be most similar to local authorities with a CDT. There is a significant increase in cycling in local authorities with a CDT, 3.3% (95% CI 1.79 to 4.81).
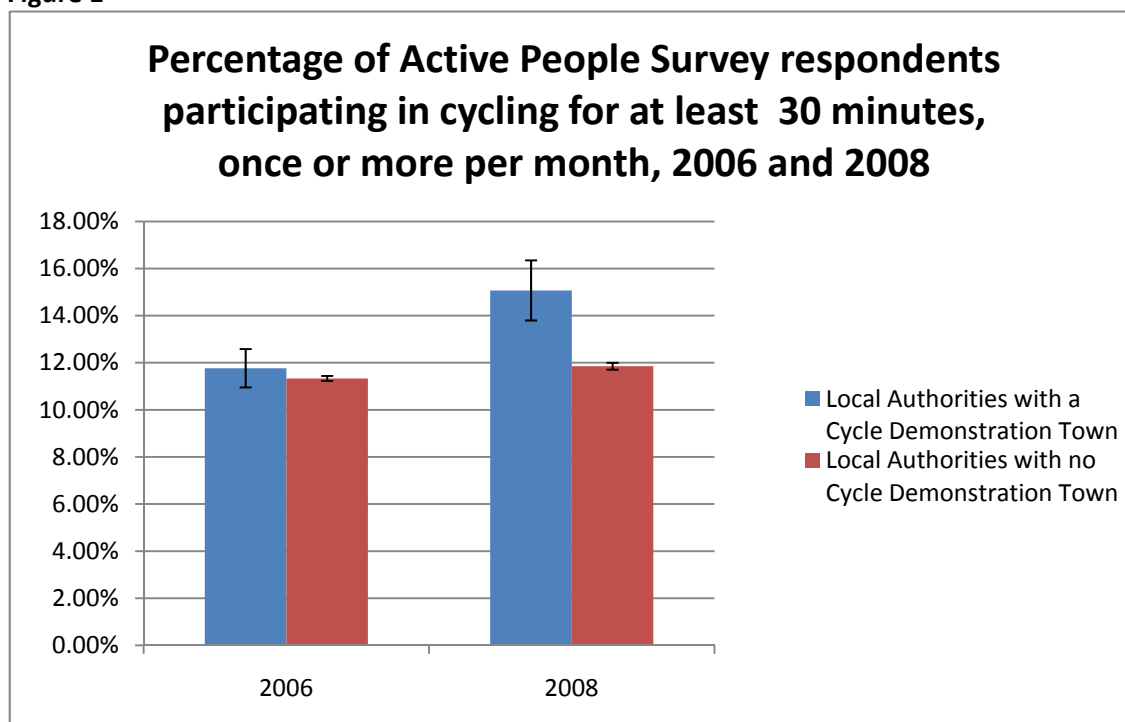
Table 4.

Percentage of Active People Survey respondents participating in cycling* for at least 30 minutes 1 time or more per month, 2006 and 2008, in CDTs and matched local authorities with no CDTs

	2006	2008	Difference (and 95% CIs)	P-value for difference
Local Authorities with a Cycle Demonstration Town	11.77%	15.07%	3.30% (1.79 to 4.81)	**0.0000***
Local Authorities with no Cycle Demonstration Town and considered most similar to local authorities with a CDT	12.39%	13.80%	1.41% (-2.66 to 5.48)	0.4917

 *significant at the 95% level

Cavill N, Muller L, Mulhall C, Harold K, Kennedy A, Hillsdon M, Bauman A. (2009). Cycling Demonstration Towns: Surveys of cycling and physical activity 2006 to 2009. London. Cycling England.

Figure 3
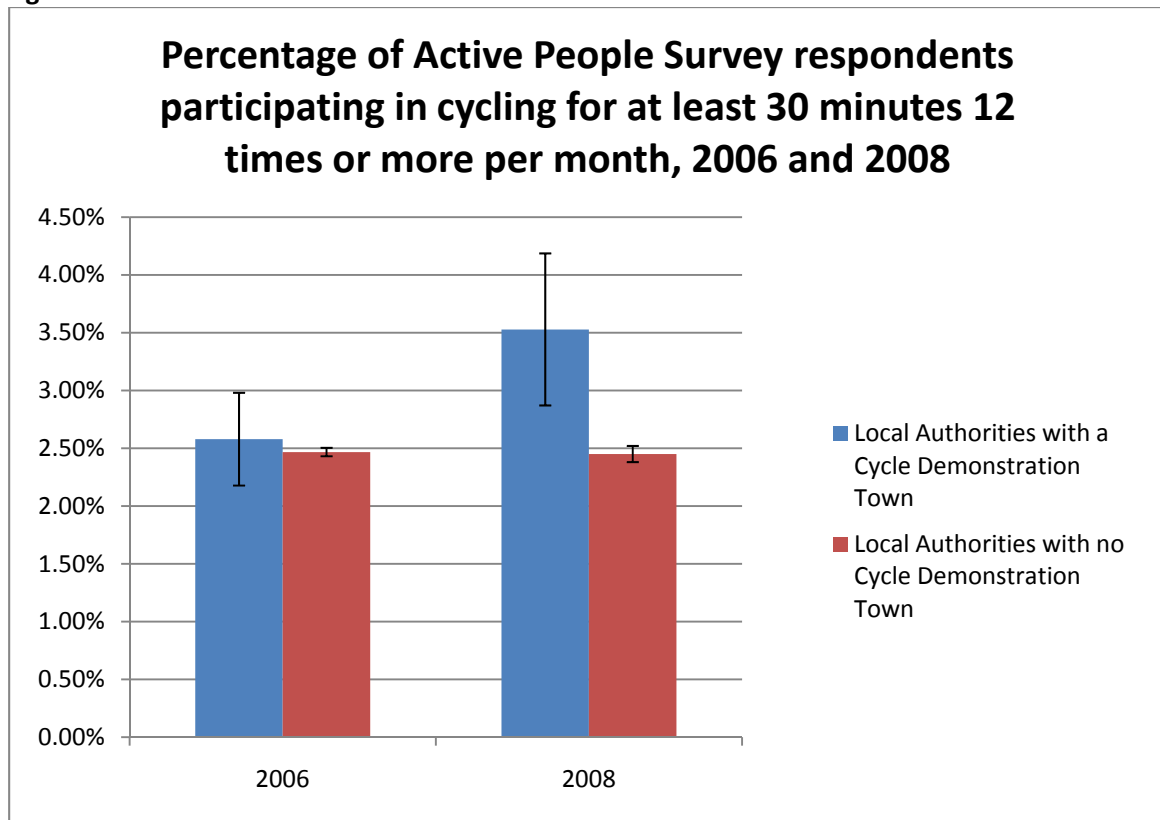

Percentage of Active People Survey respondents participating in cycling for at least 30 minutes, once or more per month, 2006 and 2008

Table 5 and figure 4 repeat this analysis for 12 times a month (three times a week). They show that that there is no evidence of a significant increase in the percentage of participating in cycling for at least 30 minutes three times or more per week month between 2006 and 2008 in local authorities with no CDT and are considered to be most similar to local authorities with a CDT. There is a significant increase in cycling in local authorities with a CDT, 0.95% (95% CIs 0.18 to 1.72).

Cavill N, Muller L, Mulhall C, Harold K, Kennedy A, Hillsdon M, Bauman A. (2009). Cycling Demonstration Towns: Surveys of cycling and physical activity 2006 to 2009. London. Cycling England.

Table 5

Percentage of Active People Survey respondents participating in cycling* for at least 30 minutes 12 time or more per month, 2006 and 2008, in CDTs and matched local authorities with no CDTs

	2006	2008	Difference (and 95% CIs)	P-value for difference
Local Authorities with a Cycle Demonstration Town	2.58%	3.53%	0.95% (0.18 to 1.72)	**0.0111***
Local Authorities with no Cycle Demonstration Town and considered most similar to local authorities with a CDT	3.51%	2.81%	-0.70% (-0.05 to 1.45)	0.0766

*significant at the 95% level

Figure 4

Percentage of Active People Survey respondents participating in cycling for at least 30 minutes, 12 times or more per month, 2006 and 2008
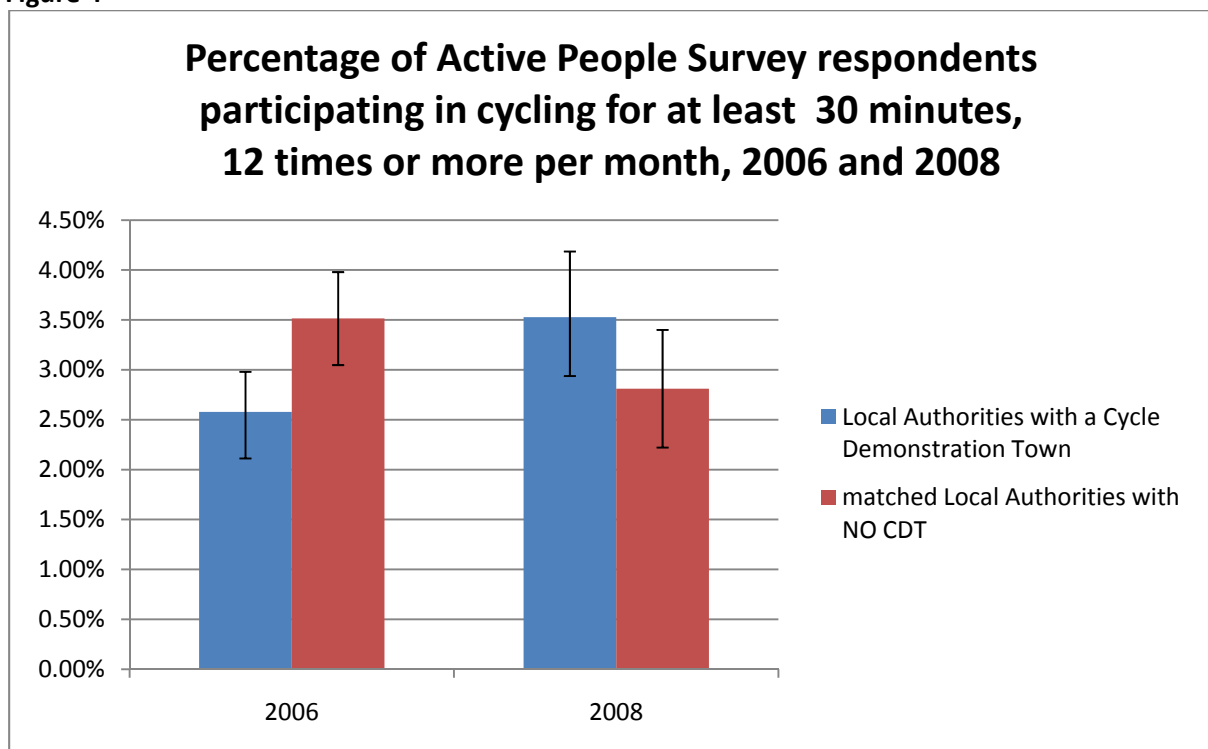
These results indicate that the observed increase in cycling between 2006 and 2008 in local authorities with a CDT compared to local authorities with no CDT is unlikely to be due to demographic differences in local authority populations, and is more likely to be due to their status as a CDT.

Cavill N, Muller L, Mulhall C, Harold K, Kennedy A, Hillsdon M, Bauman A. (2009). Cycling Demonstration Towns: Surveys of cycling and physical activity 2006 to 2009. London. Cycling England.

Conclusions

Between 2006 and 2008 there was an increase in cycling (for at least 30 minutes, once a month and three times a week) in local authorities with a CDT compared to the non-CDT authorities. These increases were not observed in all other local authorities in England with no CDT or in a subset of local authorities with no CDT that were most similar to local authorities with a CDT.

The proportion of respondents cycling once a month in local authorities with a CDT increased by 3.3% between 2006 and 2008. This equates to approximately 26,000 people in the local authorities with a CDT who have increased their cycling since the CDT programme began.

Limitations

As with most surveys, the data are of self-reported levels of physical activity and cycling, so there may be some degree of error, although this is likely to be similar across the years. The data are not age-standardised. One way to account for any differences in the age distribution of local authorities is to analyse local authorities that have similar demographic profiles, as was done in this analysis.

The measure only captures cycling of 30 minutes plus. Subjectively, this is quite a long duration, especially for people who may have recently started cycling as a result of CDT activity. This may therefore underestimate the true (actual) increase in cycling levels, although this would apply to both CDTs and non-CDTs.

Fieldwork for the second survey was conducted up to October 2008. It is therefore possible that there have been further changes in cycling to the end of the CDT phase one (March 2009) that were not captured in this analysis. This will however be analysed in the follow-up survey in 2011.

Cavill N, Muller L, Mulhall C, Harold K, Kennedy A, Hillsdon M, Bauman A. (2009). Cycling Demonstration Towns: Surveys of cycling and physical activity 2006 to 2009. London. Cycling England.

Results 2: ICM Survey.

Key indicators – Physical activity

Percentage doing any cycling in a typical week

The first indicator was of any cycling in a typical week. This came from the EPIC question, in which respondents were asked about cycling in a typical week, alongside other types of activity.

Table 6 shows the data for respondents who say they do any cycling in a typical week, with changes between 2006 and 2009 (with 95% confidence intervals).

The mean length of time spent cycling in a typical week increased from 1.23 hours in 2006 to 1.25 hours in 2009.

In all the towns combined, there was a significant increase in the proportion of people doing any cycling in the last year (from 24.3% in 2006 to 27.7% in 2009).

The pattern of increasing cycling was repeated across all the towns but the increases were only significant in Derby, Lancaster and Exeter.

When all towns' data are combined, there was a significant increase in cycling among both men and women and in people aged 35-74. There were no clear patterns of increase in cycling by social class, employment status or ethnic group.

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Table 6. Summary of percentage of individuals who do any cycling in a typical week

	2006			2009			Any cycling % change	95% CIs	
	n (valid) Total	None %	Any cycling %	n (valid) Total	None %	Any cycling %			
All	9161	75.7	24.3	8971	72.3	27.7	**3.46**	2.18	4.73
Town %									
Derby	1530	80.5	19.5	1497	74.9	25.1	**5.51**	2.55	8.47
Darlington	1527	78.7	21.3	1495	77.5	22.5	1.26	-1.69	4.21
Brighton	1530	75.3	24.7	1494	73.6	26.4	1.67	-1.44	4.77
Lancaster	1510	74.1	25.9	1492	69.9	30.1	**4.20**	0.99	7.41
Aylesbury	1531	73.2	26.8	1496	70.7	29.3	2.57	-0.64	5.77
Exeter	1533	72.7	27.3	1497	67.1	32.9	**5.53**	2.27	8.80
ALL TOWNS									
Sex %									
Male	3999	69.3	30.7	4308	65.3	34.7	**3.99**	2.02	5.96
Female	4761	81.7	18.3	4663	78.7	21.3	**2.96**	1.35	4.57
Age Group %									
16-24	1434	63.7	36.3	1407	63.3	36.7	0.41	-3.13	3.95
25-34	1659	69.5	30.5	1626	68.1	31.9	1.42	-1.75	4.59
35-44	1675	67.2	32.8	1639	60.8	39.2	**6.40**	3.13	9.66
45-54	1447	75.8	24.2	1420	70.9	29.1	**4.90**	1.66	8.13
55-64	1137	85.2	14.8	1107	78.8	21.2	**6.45**	3.28	9.62
65-74	1054	91.5	8.5	1067	87.7	12.3	**3.74**	1.15	6.33
75+	755	95.0	5.0	706	95.8	4.2	-0.78	-2.94	1.37
Social Grade %									
A	672	65.0	35.0	621	61.8	38.2	3.19	-2.06	8.45
B	1350	69.7	30.3	1361	63.4	36.6	**6.29**	2.75	9.84
C	4162	72.8	27.2	4074	69.7	30.3	**3.09**	1.14	5.05
D	1137	75.3	24.7	1178	73.3	26.7	1.94	-1.62	5.50
E	1839	91.1	8.9	1737	88.3	11.7	**2.77**	0.77	4.76
Children in household %									
Yes	2857	69.4	30.6	2784	63.9	36.1	**5.54**	3.09	8.00
No	6304	78.6	21.4	6188	76.1	23.9	**2.55**	1.08	4.02
Employment Status %									
Working full time	3713	68.7	31.3	3638	66.8	33.2	**3.78**	1.63	5.93
Working part time	1352	74.3	25.7	1326	70.2	29.8	**4.10**	0.71	7.49
Retired	1928	92.8	7.2	1887	90.0	10.0	**2.81**	1.03	4.59
Other	2169	73.5	26.5	2121	70.4	29.6	**3.10**	0.41	5.78
Ethnicity %									
White	8247	75.5	24.5	8246	72.2	27.9	**3.31**	1.97	4.65
Non-white	723	77.5	22.5	575	73.7	26.3	3.72	-1.00	8.43

Bold figures are statistically significant at the 95% level

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Percentage in each EPIC Physical activity category
Question 1 asked about usual physical activity at work, classified as four categories: sedentary, standing (e.g. hairdresser, shop assistant, guard), physical work (e.g. plumber, cleaner, nurse), and heavy manual work (e.g. docker, construction worker, bricklayer).

Question 2 asked about the amount of time spent in hours per week in winter and summer separately in two activities: cycling, and other physical exercise (e.g. keep fit, jogging, swimming), The average time spent daily in recreational activity per day was estimated as the simple mean of the total hours spent per week in winter and summer, divided by seven. The validated physical activity index allocated individuals to four ordered categories of overall activity:

Table 7. EPIC physical activity categories

Activity level	Definition
inactive	sedentary job and no recreational activity
moderately inactive	sedentary job with <0.5 h recreational activity per day or standing job with no recreational activity
moderately active	sedentary job with 0.5–1 h recreational activity per day, or standing job with <0.5 h recreational activity per day, or physical job with no recreational activity
active	sedentary job with >1 h recreational activity per day, or standing job with >1 h recreational activity per day, or physical job with at least some recreational activity, or heavy manual job

It is important to note that the responses to question 2 referring to other modes of activity (such as DIY or gardening) are not used to derive the EPIC categories. So the amount of cycling that a respondent did (in addition to other physical exercise and activity at work) will make a difference to their activity classification (as long as it was carried out for sufficient duration).

Cavill N, Muller L, Mulhall C, Harold K, Kennedy A, Hillsdon M, Bauman A. (2009). Cycling Demonstration Towns: Surveys of cycling and physical activity 2006 to 2009. London. Cycling England.

Table 8 shows the percentage of respondents in each EPIC category in 2006 and 2009, and Table 9 shows the change, with 95% confidence intervals.

There was a significant decrease in the proportion of people classed as inactive in the towns, (-2.6%, 95% CI -3.7, -1.5) and a corresponding increase in the proportion classed as moderately inactive (3.2%, 95% CI 2.2, 4.2) and moderately active (1.3%, 95% CI 0.3, 2.3). There was no change in the proportion classed as active.

These changes are shown in Figure 5

Figure 5.
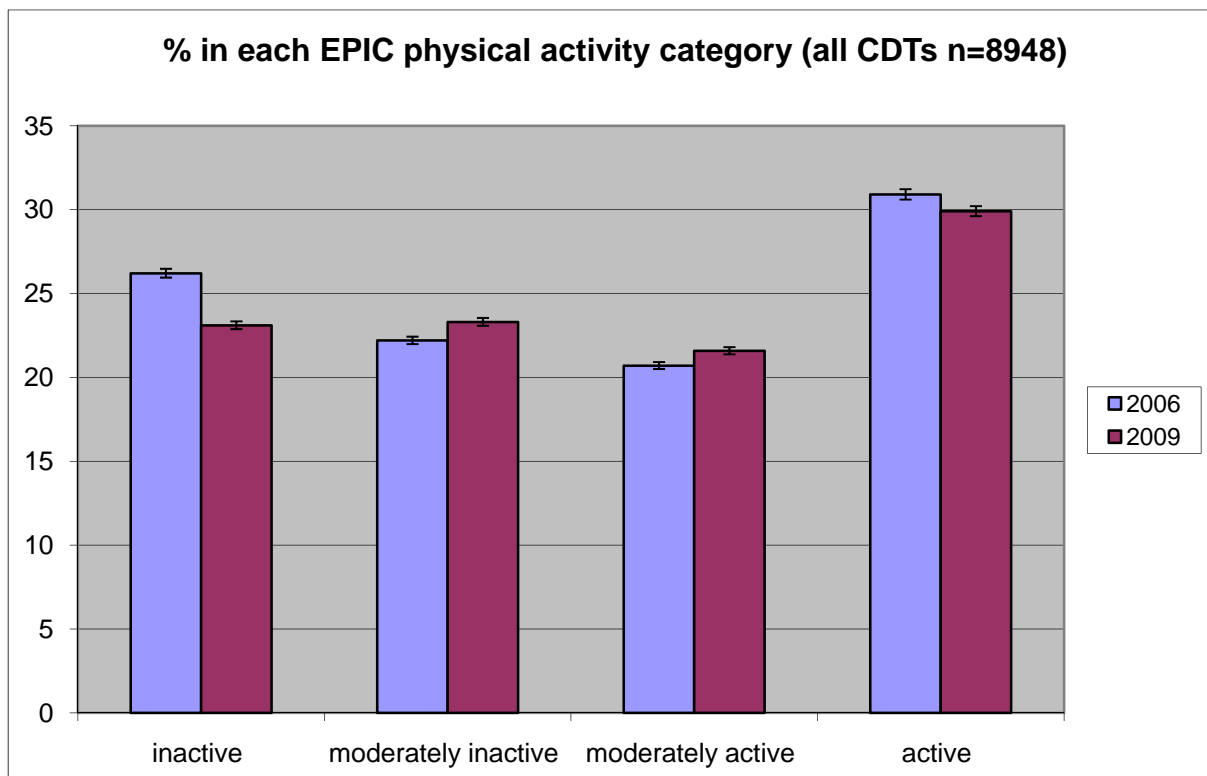
This reduction in the proportion classed as inactive is important: this is where there is the largest reduction in risk of all-cause mortality (Khaw et al, 2006). Figure 6 shows the relative risk for death of any cause for each of the EPIC categories.

Cavill N, Muller L, Mulhall C, Harold K, Kennedy A, Hillsdon M, Bauman A. (2009). Cycling Demonstration Towns: Surveys of cycling and physical activity 2006 to 2009. London. Cycling England.

Fig 6

Relative Risk of all-cause mortality for EPIC categories (Khaw et al, 2006)
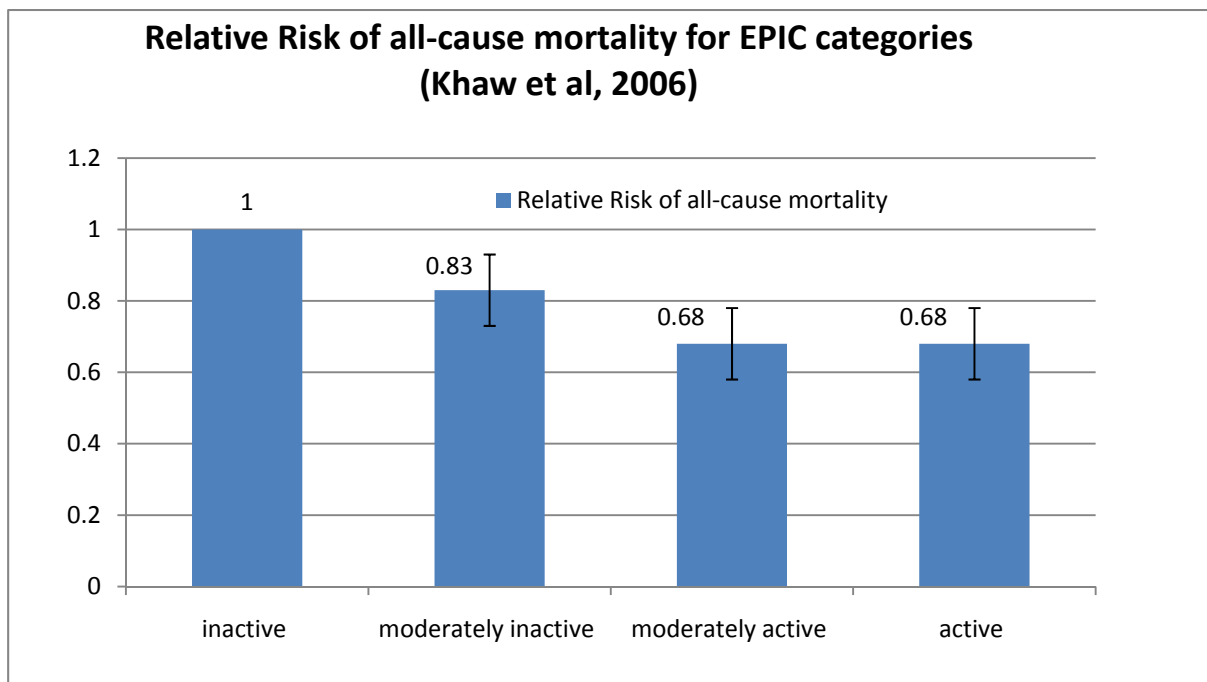
The decrease in inactivity in the CDTs is therefore likely to be associated with reductions in risk of all-cause mortality.

Physical activity levels within towns.

Table 9 also shows that there was a significant reduction in the inactive population between 2006 and 2009 in Derby, Darlington and Lancaster. In Darlington there was an increase in the proportion classed as moderately active and in Lancaster there was an increase in the proportion classed as moderately inactive.

Physical activity changes within sub-groups.

Table 9 shows that there was a higher reduction in the proportion classed as inactive in the CDTs among women, and a reduction in the proportion classed as active among men.

People aged 65+ had a significant decrease in the proportion classed as sedentary and an increase in those classed as moderately inactive (65+) and active (65-74 only).

There were significant changes in activity levels among people from social class E; among respondents with children in the household; people giving their ethnic origin as 'white'; and people who were retired or reported 'other' employment status.

Cavill N, Muller L, Mulhall C, Harold K, Kennedy A, Hillsdon M, Bauman A. (2009). Cycling Demonstration Towns: Surveys of cycling and physical activity 2006 to 2009. London. Cycling England.

Table 8. Percentage of individuals in each EPIC category 2006 and 2009

	2006					2009				
	n (valid) Total	Inactive	Moderately Inactive	Moderately Active	Active	n (valid) Total	Inactive	Moderately Inactive	Moderately Active	Active
All	9130	26.2	22.2	20.7	30.9	8948	23.6	23.9	22	30.5
Town %										
Derby	1524	29.9	21.2	20.5	28.4	1491	26.6	23.6	21.3	28.9
Darlington	1521	30.8	22.6	17.4	29.2	1493	26.9	22.1	22.2	28.9
Brighton	1521	24.7	22.9	20.3	32	1488	24.8	25.6	22.2	27.4
Lancaster	1504	28.1	20.6	19.8	31.5	1488	23.8	23.6	20.1	32.4
Aylesbury	1529	21.1	23.7	23.9	31.3	1494	19.5	25.9	24.4	30.2
Exeter	1532	22.8	22.1	22.3	32.8	1493	20.6	22.4	21.9	35.1
ALL TOWNS										
Sex %										
Male	4389	21.8	17.6	19.4	41.3	4300	21.3	19.1	20.9	38.7
Female	4741	30.4	26.5	21.9	21.2	4648	25.8	28.3	23.1	22.9
Age Group %										
16-24	1428	5.7	17.8	24.6	51.8	1400	6.2	20	23.9	49.9
25-34	1656	12.3	26.3	23.4	38	1626	10.9	26.9	26.3	36
35-44	1669	14.1	25.8	24.4	35.8	1633	13.2	25.2	26.4	35.2
45-54	1447	22.4	23.2	22.7	31.7	1417	21.5	24	24.1	30.5
55-64	1129	32.4	24.4	21.8	21.3	1104	32.7	23.7	21.9	21.7
65-74	1052	58.9	17.6	12.5	11	1065	47	24.9	14.1	14.1
75+	749	75.3	14.5	5.1	5.1	702	66.8	20	6.2	7

Social Grade %										
A	670	16.2	26.3	23.7	33.9	621	14.2	27.6	26	32.2
B	1346	16.4	26.2	24.3	33.1	1359	13.9	28.1	27.4	30.6
C	4155	16.1	22.5	23.7	37.7	4061	16.5	24.1	23.4	35.9
D	1134	17.1	22.4	22.4	38.1	1175	16.1	20.8	24	39.1
E	1824	66	17	9	8.1	1731	56.4	20.7	11.7	11.2

Children in household %										
Yes	2848	15.5	25.8	24.2	34.5	2781	12.9	26.3	24.9	35.9
No	6282	31.1	20.5	19.1	29.2	6167	28.4	22.8	20.7	28.1

Employment Status %										
Working full time	3706	8.4	22.2	25.6	43.8	3632	9.2	23	25.9	41.9
Working part time	1351	8	26.3	29.5	36.1	1322	8.7	24.7	29.3	37.2
Retired	1919	67.9	16.4	8.2	7.6	1879	58.2	22.8	9.5	9.4
Other	2155	31.1	24.7	17.9	26.1	2114	27	25.7	22	25.4

Ethnicity %										
White	8226	26.7	22.2	20.4	30.6	8228	24.1	23.7	22	30.3
Non-white	720	17.6	23.4	25.1	33.9	570	16.1	27.9	22.3	33.7

Cavill N, Muller L, Mulhall C, Harold K, Kennedy A, Hillsdon M, Bauman A. (2009). Cycling Demonstration Towns: Surveys of cycling and physical activity 2006 to 2009. London. Cycling England.

Table 9. Differences in prevalence and 95% confidence intervals (95%CI) of each EPIC category between 2006 and 2009, overall and by subgroup.

	Inactive %	95% CIs		Moderately inactive %	95% CIs		Moderately active %	95% CIs		Active %	95% CIs	
All	**-2.6**	-3.7	-1.5	**3.2**	2.2	4.2	**1.3**	0.3	2.3	-0.4	-1.6	0.8
Towns (%)												
Derby	**-3.3**	-6.1	-0.5	2.4	-0.2	5.0	0.8	-1.7	3.3	0.5	-2.3	3.3
Darlington	**-3.9**	-6.7	-1.1	-0.5	-3.1	2.1	**4.8**	2.3	7.3	-0.3	-3.1	2.5
Brighton	0.1	-2.6	2.7	2.7	0.1	5.3	1.9	-0.6	4.4	-4.6	-7.4	-1.8
Lancaster	**-4.3**	-6.9	-1.5	**3**	0.4	5.6	0.3	-2.2	2.8	0.9	-2.0	3.8
Aylesbury	-1.6	-4.1	0.8	2.2	-0.5	4.9	0.5	-2.1	3.1	-1.1	-3.9	1.7
Exeter	-2.2	-4.7	0.3	0.3	-2.3	2.9	-0.4	-2.9	2.1	2.3	-0.6	5.2
Sex (%)												
Male	-0.5	-2.0	1.0	1.5	0.1	2.9	1.5	0.0	3.0	**-2.6**	-4.4	-0.8
Female	**-4.6**	-6.2	-3.0	1.8	0.2	3.4	1.2	-0.3	2.7	1.7	0.3	3.1
Age Group (%)												
16-24	0.5	-1.0	2.0	2.2	-0.3	4.7	-0.7	-3.4	2.0	-1.9	-5.1	1.3
25-34	-1.4	-3.3	0.5	0.6	-2.0	3.2	2.9	0.4	5.4	-2	-4.8	0.8
35-44	-0.9	-2.9	1.1	-0.6	-3.2	2.0	2	-0.6	4.6	-0.6	-3.4	2.2
45-54	-0.9	-3.5	1.7	0.8	-1.9	3.5	1.4	-1.3	4.1	-1.2	-4.1	1.7
55-64	0.3	-3.1	3.7	-0.7	-3.8	2.4	0.1	-2.9	3.1	0.4	-2.5	3.3

Cavill N, Muller L, Mulhall C, Harold K, Kennedy A, Hillsdon M, Bauman A. (2009). Cycling Demonstration Towns: Surveys of cycling and physical activity 2006 to 2009. London. Cycling England.

65-74	**-11.9**	-15.5	-8.3	**7.3**	4.3	10.3	1.6	-0.9	4.1	**3.1**	0.7	5.5
75+	**-8.5**	-12.5	-4.5	**5.5**	2.1	8.9	1.1	-1.0	3.2	1.9	-0.2	4.0
Social Grade %												
A	-2	-5.4	1.4	1.3	-2.9	5.5	2.3	-1.8	6.4	-1.7	-6.1	2.7
B	-2.5	-4.8	-0.2	1.9	-1.0	4.8	3.1	0.3	5.9	-2.5	-5.5	0.5
C	0.4	-1.0	1.8	1.6	0.0	3.2	-0.3	-1.9	1.3	-1.8	-3.6	0.0
D	-1	-3.6	1.6	-1.6	-4.5	1.3	1.6	-1.4	4.6	1	-2.4	4.4
E	**-9.6**	-12.4	-6.8	**3.7**	1.5	5.9	**2.7**	1.0	4.4	**3.1**	1.4	4.8
Children in household %												
Yes	-2.6	-4.2	-1.0	0.5	-1.5	2.5	0.7	-1.2	2.6	1.4	-0.8	3.6
No	**-2.7**	-4.1	-1.3	**2.3**	1.1	3.5	**1.6**	0.4	2.8	-1.1	-2.5	0.3
Employment Status %												
Working full time	0.8	-0.3	1.9	0.8	-0.9	2.5	0.3	-1.4	2.0	-1.9	-3.9	0.1
Working part time	0.7	-1.1	2.5	-1.6	-4.4	1.2	-0.2	-3.2	2.8	1.1	-2.1	4.3
Retired	**-9.7**	-12.3	-7.1	6.4	4.2	8.6	1.3	-0.3	2.9	**1.8**	0.3	3.3
Other	**-4.1**	-6.4	-1.8	1	-1.2	3.2	**4.1**	2.0	6.2	-0.7	-3.0	1.6
Ethnicity %												
White	**-2.6%**	-3.8	-1.5	**1.5**	0.4	2.6	**1.6**	0.5	2.7	-0.3	-1.5	0.9
Non-white	-1.5%	-5.0	2.0	4.5	0.4	8.6	-2.8	-6.8	1.2	-0.2	-4.7	4.3

Bold figures are statistically significant at the 95% level

Cavill N, Muller L, Mulhall C, Harold K, Kennedy A, Hillsdon M, Bauman A. (2009). Cycling Demonstration Towns: Surveys of cycling and physical activity 2006 to 2009. London. Cycling England.

Cyclists' self-assessments

In question 9 we asked respondents who had said that they had done some cycling in the last year to pick a statement that best described them as a cyclist, from: "new to cycling"; "starting to cycle again"; "an occasional cyclist"; "a regular cyclist".

There was a significant increase in the proportion of cyclists in all the towns who said they were 'new to cycling', from 1.8% to 2.8% of all cyclists.

When those who said they were 'new to cycling' and 'starting to cycle again' were combined, the change from 2006 to 2009 was not significant.

Cycling in the last seven days

Respondents who said they cycled in a usual week in the last year were asked about their cycling in the last week.

There was a significant increase in the proportion of cyclists who had cycled in the last week, from 41.7% in 2006 to 49.4% in 2009.

However, the small number of cyclists in the study meant that many of the other differences between 2006 and 2009 were not statistically significant.

Mean days

There was no significant difference between 2006 and 2009 in the mean number of days cycled in the last week (1.5 days per week in 2009).

Time spent cycling

There was no significant difference between 2006 and 2009 in the mean time spent cycling on any one day in the last week (25 minutes in 2009).

Cycling to work in the last week

There was no significant difference between 2006 and 2009 in the proportion cycling to work in the last week, or the number of days cycled to work.

Awareness of publicity

In 2009, we asked a number of questions about awareness of campaign activity in each of the towns. Unprompted awareness was measured with the question: 'Have you seen or heard any publicity in…TOWN……. about a programme promoting cycling?'

Prompted awareness was measured by asking respondents in the relevant town whether they had heard of the following:

Aylesbury:	Cycle Aylesbury
Brighton and Hove:	Brighton and Hove Cycling Town
Darlington:	Local Motion
Derby:	Cycle Derby
Exeter:	Cycle Exeter
Lancaster:	Celebrating Cycling

Figure 7.

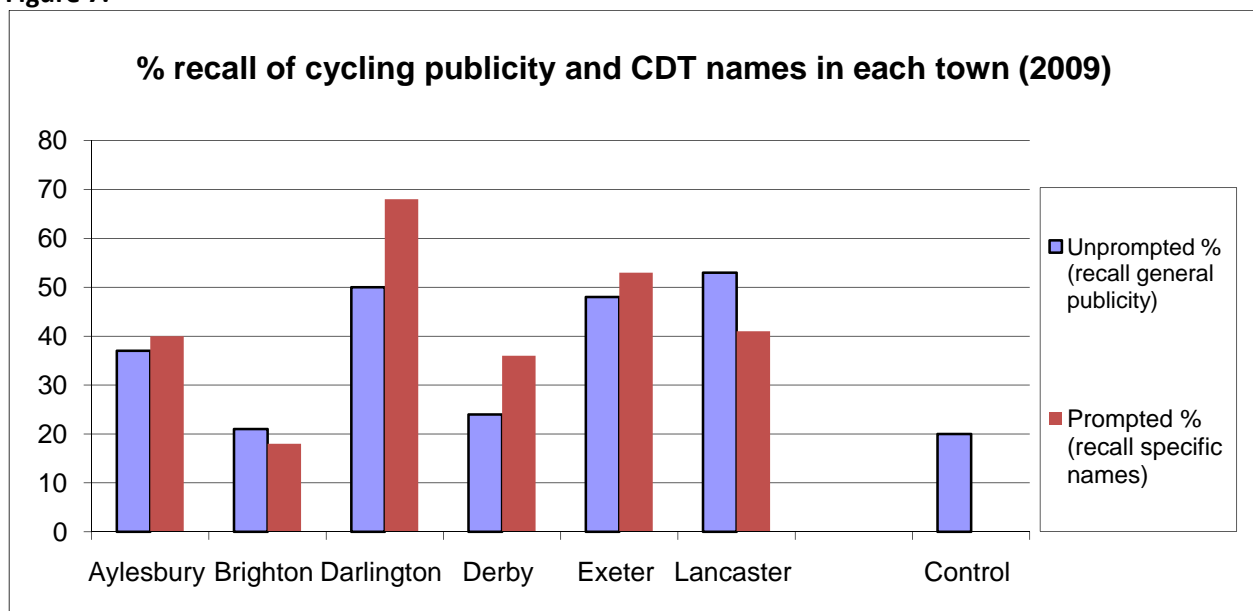% recall of cycling publicity and CDT names in each town (2009)

Figure 7 shows that unprompted awareness was highest in Darlington, Exeter and Lancaster, while prompted awareness was highest in Darlington.
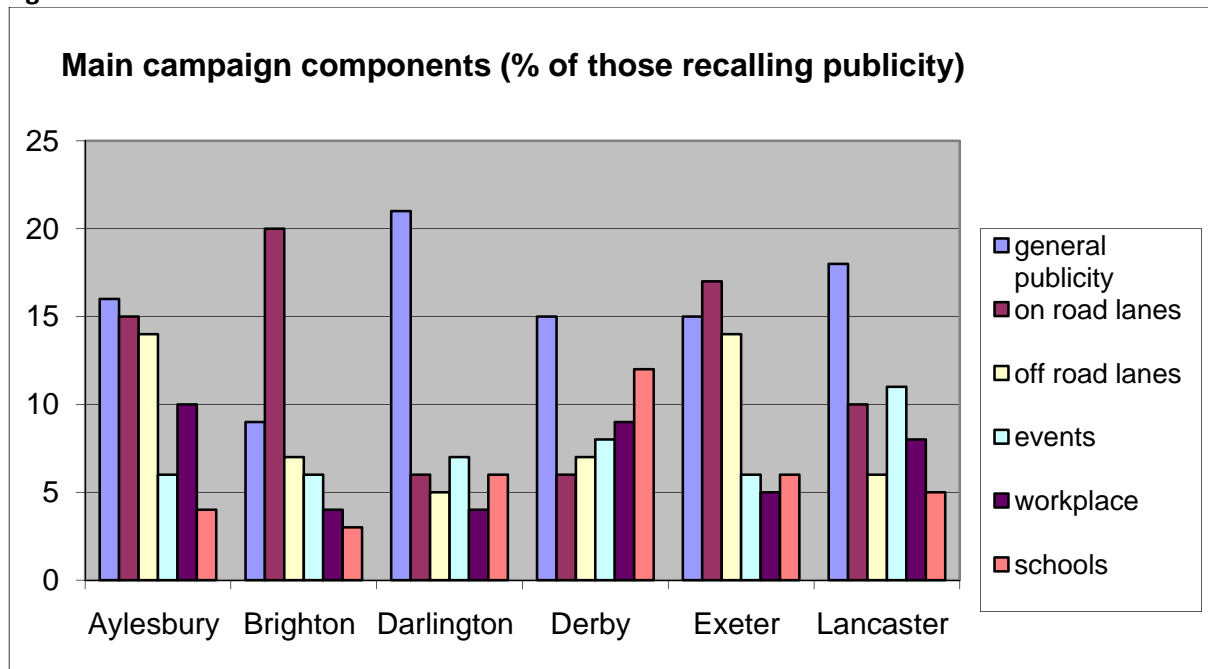
However, it is interesting to note that in the control sample (where there was no CDT-related publicity) there was 20% unprompted awareness of general publicity about cycling. This suggests that the real impact of the CDT publicity lower: in some towns there was no additional awareness compared to the control, and in others it was in the region of up to 30%.

Main campaign components

Those respondents who recalled the programme were asked 'what were the main components or events in the campaign or programme?'

Cavill N, Muller L, Mulhall C, Harold K, Kennedy A, Hillsdon M, Bauman A. (2009). Cycling Demonstration Towns: Surveys of cycling and physical activity 2006 to 2009. London. Cycling England.

Fig 8 shows that there was a lot of variation in recall of the components of the CDT activities. For example, Darlington had higher levels of recall of general publicity, while Brighton had higher awareness of on road cycle lanes.

Fig 8.

Main campaign components (% of those recalling publicity)

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Attitudes to campaign

Finally, respondents were asked what they thought of the campaign, using a set of statements.

A number of the statements presented positive views about CDT programme. Fig 9 shows the proportion of people who agreed with these positive statements. It can be seen that the programme was more likely to make people think about cycling and to see cycling from cyclists' point of view, than it was to encourage people to cycle more or give cycling a try.

Fig 9
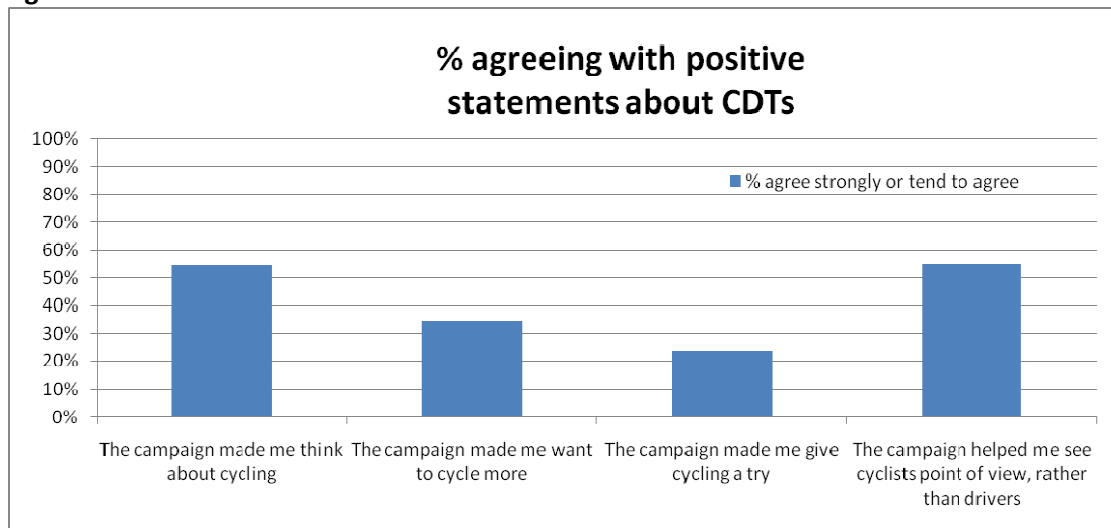
A number of the statements presented more negative views about CDT programme. Fig 10 shows the proportion of people who disagreed with these negative statements (and so can be compared with figure 9 above).

Fig 10.
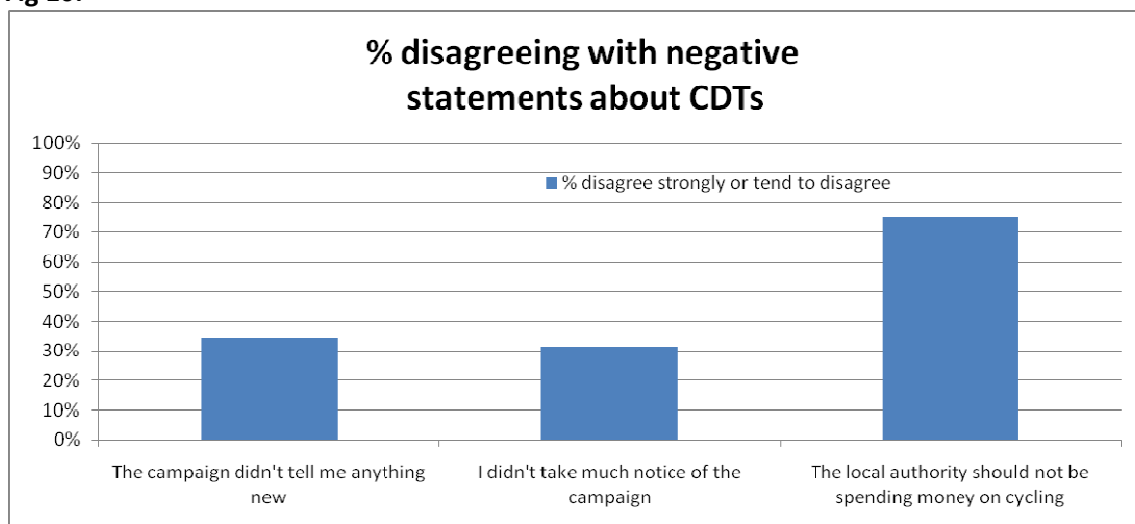
It was interesting to note that a high proportion of people did not agree that the 'local authority should not be spending money on cycling'.

Cavill N, Muller L, Mulhall C, Harold K, Kennedy A, Hillsdon M, Bauman A. (2009). Cycling Demonstration Towns: Surveys of cycling and physical activity 2006 to 2009. London. Cycling England.

Discussion and conclusions

The data from the Active People survey provide strong evidence that cycling levels have increased in the Cycling Demonstration Towns between 2006 and 2008. The proportion of people cycling for at least 30 minutes once a month and three times a week has increased in the CDTs but not in other towns. This implies that the increase can be attributed to the CDT programme.

Subjectively, thirty minutes seems quite a long duration for a bike ride for people new to cycling. Indeed data from the ICM survey found that the mean length of a ride was around 25 minutes, but this figure is the mean and so includes people who ride for considerably longer. It therefore seems likely that the increase would be even greater if the survey had asked about shorter rides.

The findings from the Active People Survey are reinforced by the detailed findings from the ICM surveys. These found that there was an increase in the mean length of cycle journey in a typical week in the CDTs, and an increase of 3.5% in the proportion of people in the CDTs who had done any cycling in the last year. This is very similar to the 3.3% increase found in the Active People Survey (between 2006 and 2008). There was also a small but significant increase in those cyclists who classified themselves as new to cycling.

One of the main reasons for conducting the ICM survey was to find out if any increases in cycling in the CDTs had translated into increases in total physical activity. The survey found a significant decrease in the proportion of people classed as inactive in the towns, and a corresponding increase in the proportion classed as moderately inactive. The reduction in inactivity was found to be significant among women and people aged 65+.

The changes in activity levels are likely to result in measurable improvements in health and reductions in mortality in the CDTs, as the changes in activity levels correspond to reductions in risk of all-cause mortality. Quantification of these impacts could be the subject of a separate study in the future.

Awareness of the CDT programmes in each town was quite variable, which may reflect the differing emphasis given to promotional activities in each town. Attitudes to CDT activities were generally positive and provide a strong platform for work in each town in the next phase of activity.

In conclusion, it appears that in the first three years of the CDT programme, there have been some encouraging increases in cycling in the towns. The towns have also seen significant and important reductions in sedentary behaviour, that are likely to be associated with benefits to public health.

Cavill N, Muller L, Mulhall C, Harold K, Kennedy A, Hillsdon M, Bauman A. (2009). Cycling Demonstration Towns: Surveys of cycling and physical activity 2006 to 2009. London. Cycling England.

Appendix One: sampling

The fundamental principle involved is that each eligible telephone number in each town has a probability of selection in proportion to population distribution. The process of telephone number selection is relatively simple. At its lowest level, the randomiser system is based on Postcode Sector information. Each Postcode Sector is matched to the relevant STD code(s) and telephone number stubs derived from information obtained from Ofcom. Household density information is also attached to each Postcode Sector and this is how the randomiser generates sample proportional to the number of households within or across the given CDTs. The sample is drawn on the basis of postal town or local authority area, depending on which better matches the defined boundaries of each CDT.

In order to draw a representative sample of adults aged 16+ ICM imposed quotas to ensure that the profile of the interviewed sample exactly matches that of the known population profile within each town (as per Census 2001). These same quotas targets were also used to post-weight the data. This yields a representative sample by a host of demographic variables, including sex, age, work status, tenure and social class.

ICM interviewed a total of 9209 people in the CDTs in 2006, followed by 9,000 interviews in 2009. Interviews were conducted across each of the CDTs and the results have been weighted to the profile of all people aged 18+ living within each.

Given this approach, the following sub-samples estimates apply, along with their associated sampling tolerances:

Table A1: Approximate sample size by activity type if N = 9000

	Aggregate level	CDT level
Total	**9000**	**1500**
Confidence interval	+/- 1.03%	+/-2.53%
N = cycled in last 4 weeks	**900**	**150**
Confidence interval	+/-3.27%	+/-8.0%
N = cycled in last week	**360**	**60**
Confidence interval	+/-5.17%	+/-12.65%
N = sedentary	**3,780**	**630**
Confidence interval	+/-1.59%	+/-3.90%

Risk level = 95%

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Assuming a standard demographic profile on a town-by town basis which is in line with national representative figures, demographic splits are approximately as follows:

Table A2: Demographic splits if N = 9000

	Aggregate level	CDT level
Men	4410	735
Women	4590	765
16-24	1245	207
25-34	1614	269
35-44	1695	284
45-54	1506	251
55-64	1200	200
65-74	957	160
75+	786	131
AB	2250	375
C1	2610	435
C2	1890	315
DE	2250	375

Cavill N, Muller L, Mulhall C, Harold K, Kennedy A, Hillsdon M, Bauman A. (2009). Cycling Demonstration Towns: Surveys of cycling and physical activity 2006 to 2009. London. Cycling England.

Appendix Two: The EPIC measure of physical activity

Physical activity was assessed using the European Prospective Investigation into Cancer and Nutrition (EPIC) study, short physical activity questionnaire. The EPIC questionnaire produces a simple 4-level index of self-reported physical activity based on time spent in a typical week in occupational physical activity, cycling, sport and active recreation.

The EPIC questionnaire has been validated in a number of studies. The first study compared a longer form of the EPIC physical activity questionnaire with a 3-day activity diary[10]. This study concluded that the questionnaire satisfactorily ranked participants according to their physical activity but was not suitable for estimating energy expenditure.

A second more rigorous approach was then used which assessed the validity and repeatability of the shortened version of the questionnaire, by comparison with objectively measured energy expenditure assessed by heart rate monitoring[11].

The repeatability of the physical activity index was high (weighted kappa = 0.6, P <0.0001). There were positive associations between the physical activity index from the questionnaire and the objective measures of the ratio of daytime energy expenditure to resting metabolic rate (P=0.003) and cardio-respiratory fitness (P=0 001). As an indirect test of validity, there was a positive association between the physical activity index and the ratio of energy intake, assessed by 7-day food diaries, to predicted basal metabolic rate.

The validation showed that the short EPIC questionnaire is useful for ranking participants in terms of their physical activity in large epidemiological studies. The index is simple and easy to comprehend, which makes it suitable for the any situations that require a concise, global index of activity – such as LEAP.

A third study[12] has provided evidence that the activity categories produced by the EPIC questionnaire are meaningful in public health terms. The study used the EPIC measure to examine the prospective relationship between usual physical activity and cardiovascular disease incidence and total mortality after an average 8 years follow-up in 22,191 community living men and women aged 45-79 years with no known cardiovascular disease or cancer at baseline.

The relative risks (95% confidence interval) for all-cause mortality (1,553 deaths) for men and women who were moderately inactive, moderately active, and active compared with those who were inactive were 0.83 (0.73-0.95), 0.68 (0.58-0.80), and 0.68 (0.57-0.81), respectively, after adjusting for age, sex, systolic blood pressure, blood cholesterol, cigarette smoking, alcohol intake, diabetes, body mass index, and social class. The relationships were also consistent for cardiovascular disease incidence (3,079 events), in subgroups stratified by age, sex, body mass index, smoking status and social class, and after excluding deaths in the first 2 years. The combined scale was more consistently associated with mortality than the individual work and leisure time components separately.

There are some potential main disadvantages of using the EPIC questionnaire in a survey such as this. Firstly, it it does not provide sufficient detail about specific modes of activity (such as cycling) in the last week. To address this, we therefore added cycling-specific questions to the core EPIC module. Another concern is that EPIC was not designed for measuring change in behaviour between

two time points and may not be sensitive enough to detect change. However, we felt that the strong results from the validation studies far outweighed this potential weakness.

Cavill N, Muller L, Mulhall C, Harold K, Kennedy A, Hillsdon M, Bauman A. (2009). Cycling Demonstration Towns: Surveys of cycling and physical activity 2006 to 2009. London. Cycling England.

Appendix three: Cycling questions in the Active People Survey

Q6. I would now like you to think about any cycling you may have done. Please include any casual cycling in your local area, any cycling in the countryside or on cycling routes, cycling to or from work or any competitive cycling.

In the *last four weeks, that is since [^INSERT^]* have you done at least one continuous cycle ride lasting

at least *30 minutes*?

1. Yes

2. No

3. Don't know

[ASK IF Q6 = 1]

Q7. On how many days in the last four weeks have you cycled for at least 30 minutes? THERE ARE 28 DAYS IN THE LAST FOUR WEEKS. SPONTANEOUS RESPONSE CODE AS BELOW

1. Every day = 28

2. Every weekday = 20

3. Every other day = 14

4. Every day at weekends = 8

5. One day every weekend = 4

6. Other (ENTER NUMBER OF DAYS – NUMBER RANGE 1 to 28)

7. Don't know / can't remember

[ASK IF Q6 = 1]

Q8. You said that you had cycled for 30 minutes on *[^INSERT FROM Q7^ IF Q7 = DK/REF/NULL INSERT*

'at least one'] day(s) in the last four weeks.

Can I ask, on how many of those days were you cycling for the purpose of health, recreation, training or competition not to get from place to place?

THERE ARE 28 DAYS IN THE LAST FOUR WEEKS. SPONTANEOUS RESPONSE CODE AS

BELOW

1. Every day = 28

2. Every weekday = 20

3. Every other day = 14

Cavill N, Muller L, Mulhall C, Harold K, Kennedy A, Hillsdon M, Bauman A. (2009). Cycling Demonstration Towns: Surveys of cycling and physical activity 2006 to 2009. London. Cycling England.

4. Every day at weekends = 8

5. One day every weekend = 4

6. Other (ENTER NUMBER OF DAYS – NUMBER RANGE 0 to 28 IF < OR = TO Q7)

7. Don't know / can't remember

[ASK IF Q8 >=1]

Q13a. During the last four weeks, was the effort you put into recreational cycling usually enough to raise your

breathing rate?

1. Yes

2. No

3. Don't know

[ASK IF Q8 >=1]

Q14a. During the last four weeks, was the effort you put into recreational cycling usually enough to make you

out of breath or sweat?

1. Yes

2. No

3. Don't know

Cavill N, Muller L, Mulhall C, Harold K, Kennedy A, Hillsdon M, Bauman A. (2009). Cycling Demonstration Towns: Surveys of cycling and physical activity 2006 to 2009. London. Cycling England.

Appendix Four: The ICM questionnaire

Cycling Development Towns Health Monitoring

FINAL Questionnaire

[Notes: the main section A is a validated questionnaire from a large epidemiological study. It should not be changed in any way. Additional questions are therefore kept to the end.

INTRODUCTION/CONFIDENTIALITY

Hello, I am telephoning on behalf of ICM, the independent social research organisation. We are conducting a research project that requires us to talk to a representative sample of people aged 16+ living in….town……about issues that affect all people in the area. We have selected your telephone number purely at random and would greatly appreciate your help for a few minutes to answer some simple questions.

⇒ **IF RESPONDENT SOUNDS LIKE THEY WANT TO REFUSE SAY…..**
For the purposes of our research project it is most important that we talk to a representative cross section of all people in …town…. Therefore, your views are extremely important to us and the interview will only take a few minutes of your time.

⇒ **IF RESPONDENT STILL SOUNDS LIKE THEY WANT TO REFUSE SAY….**
If you cannot spare the time at the moment I would really appreciate it if we could call you back at your own convenience over the next few days. As I say your own views are very important to us.

I would like to assure you that all the information we collect will be kept in the strictest confidence, and used for research purposes only. It will not be possible to identify any particular individual or address in the results.

If yes – proceed with interview
If unsure – ask for a suitable time to call back
If no – thank and close

SCREENER

QA – Interviewer check postcode on database

QB   **Can I just check, are you a resident of this house?**

	()	
Yes	1	CONTINUE
No	2	CLOSE
Don't know	3	( )

Cavill N, Muller L, Mulhall C, Harold K, Kennedy A, Hillsdon M, Bauman A. (2009). Cycling Demonstration Towns: Surveys of cycling and physical activity 2006 to 2009. London. Cycling England.

QC **And just so that we know which questions to ask you, can you tell me which of the following best describes your current work status?** READ OUT. SINGLE CODE ONLY

	()
Working full time (30+ hrs)	1
Working part-time (9-29 hrs)	2
Working part time (less than 9 hours)	3
Unemployed (seeking employment)	4
Not in paid work (not seeking employment)	5
Retired	6
Student	7

Section A. EPIC physical activity questionnaire

Q1. **We would like to know the type and amount of physical activity involved in your work. Please tell me what best corresponds to your present activities from the following five possibilities:** INTERVIEWER READ OUT STATEMENTS. SINGLE CODE ONLY. INTERVIEWER NOTE IF RESPONDENT HAS MORE THAN ONE JOB TAKE THE ONE THAT THEY SPEND MOST TIME DOING

	( )
Sedentary occupation - (You spend most of your time sitting) PROMPT IF NECESSARY such as in an office	1
Standing occupation (You spend most of your time standing or walking. However, your work does not require intense physical effort) PROMPT IF NECESSARY e.g. shop assistant, hairdresser, guard, etc.	2
Physical work (This involves some physical effort including handling of heavy objects and use of tools) PROMPT IF NECESSARY e.g. plumber, cleaner, nurse, sports instructor, electrician, carpenter, etc.	3
Heavy manual work (This involves very vigorous physical activity including handling of very heavy objects) PROMPT IF NECESSARY e.g. docker, miner, bricklayer, construction worker, etc.	4
You are not working at the moment	5

IF RESPONSE AT Q1 CONTRADICTS WORK STATUS RE-CHECK WORK STATUS ANSWER

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Now I'd like to ask you some general questions about your lifestyle

Q2.   **In a typical week during the past 12 months, how many hours did you spend on each of the following activities? Can you tell me this for the winter and the summer. So firstly…** READ OUT STATEMENTS. INTERVIEWER NOTE: ENTER NUMBER PUT 0 IF NONE, YOU CAN PUT IN ½ HOURS USING .5. IF UNSURE PROBE FOR BEST ESTIMATE

	In Winter hour per week ( )	In Summer hours per week
Walking, including walking to work, shopping and leisure		
Cycling, including cycling to work and during leisure time		
Gardening		
Housework such as cleaning, washing, cooking, childcare		
Do-it-yourself		
Other physical exercise such as keep fit, aerobics, swimming, jogging and playing sport			( )

Q3.   **In a typical week during the past year did you practice any of these activities vigorously enough to cause sweating or a faster heartbeat? INTERVIEWER NOTE PUT 'NO' IF UNSURE**

	()
Yes	1
No	2

IF YES (CODE 1) AT Q3 ASK Q4. OTHERS SKIP TO Q5

Q4   **For how many hours per week in total did you practice such vigorous physical activity?** INTERVIEWER NOTE PUT 0 IF NONE. IF UNSURE PROBE FOR BEST ESTIMATE

Hours per week

()

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IF POSITIVE VALUE FOR CYCLING AT Q2 ASK Q5. OTHERS SKIP TO Q10a

Q5 **Earlier you told me you had cycled between X and Y hours per week in the last year. [insert X and Y from CATI FROM Q2 X = winter Y = summer.] Thinking about the last seven days, on how many days did you cycle?**
INTERVIEWER NOTE PUT 0 IF NONE. IF UNSURE PROBE FOR BEST ESTIMATE

Days in the last week ☐ ☐

()

Q6 **And for how long in total did you usually cycle on one of those days?** IF 0 AT Q5, GO TO Q9
INTERVIEWER NOTE PUT 0 IF NONE. IF UNSURE PROBE FOR BEST ESTIMATE

Minutes cycled ☐ ☐

()

Q7 **Did you cycle to work at all in the last week? ONLY ASK IF IN EMPLOYMENT FROM Q1**

	()
Yes	1
No	2
Don't know	3

Q8 **On how many days in the last week did you cycle to work? Only ask if replied yes to Q7**

Days in the last week ☐ ☐

()

ASK ALL CYCLISTS

Q9a **Which of the following statements best describes you? Would you say you are…
READ OUT** SINGLE CODE ONLY

	()
New to cycling	1
Starting to cycle again	2
An occasional cyclist	3
A regular cyclist	4
Don't know	5

IF OCCASIONAL CYCLIST (code 3 at Q9) ASK Q9B:

Q9b **And would you say you are an experienced or inexperienced cyclist?**
Experienced
Inexperienced
Don't know

ASK ALL

Q10a **Have you seen or heard any publicity in…TOWN……. about a programme promoting cycling? CODE ONE**

	()
Yes	1
No	2
Don't know	3

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Q10b **Have you heard of the following: READ OUT ONLY THE RELEVANT NAME FROM THE LIST**

Aylesbury:	Cycle Aylesbury,
Brighton and Hove:	Brighton and Hove Cycling Town
Darlington:	Local Motion
Derby:	Cycle Derby,
Exeter:	Cycle Exeter
Lancaster:	Celebrating Cycling

	()
Yes	1
No	2
Don't know	3

IF NO/DK AT BOTH Q10a AND Q10b,, SKIP TO Q13

Q11 **What were the main components or events in the campaign or programme? DO NOT PROMPT. MULTICODE OK**

	()
New or improved cycle/bike lanes (on the road or pavement)	1
New or improved cycle/bike routes (not on the road or pavement but separated from the road)	2
New or improved cycle crossing traffic lights	3
Newly built cycle bridge (over the road or railway)	4
Advanced stop lines (bike boxes) at traffic lights	5
Signs showing bike routes	6
Allowing cycling along the seafront or prom	7
Allowing cycling in the town centre	8
Allowing cycling down one way streets/contraflow cycling	9
New or improved bike parking	0
New BMX track	1
General publicity about cycling	2
Publicity on health benefits of cycling	3
Cycle training/bikeability	4
Promotion in schools/school travel	5
Personalised travel planning (person visiting my home and advising on cycling and public transport)	6
Promotion in the workplace/cycling to work	7
Events promoting cycling	8
Led rides and other cycling activities	9
Bike maps or guides	0
Other (please specify) …………………………………	1
None/nothing	2
Don't know	3

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Q12   **For each of the following statements about the campaign, do you agree strongly, tend to agree, neither agree nor disagree, tend to disagree or disagree strongly?**
ROTATE ORDER
1= Agree strongly
2 = Tend to agree
3 = Neither
4 = Tend to disagree
5 = Disagree strongly

()

The campaign made me think about cycling	1 2 3 4 5 DK
The campaign didn't tell me anything new	1 2 3 4 5 DK
The campaign made me want to cycle more	1 2 3 4 5 DK
I didn't take much notice of the campaign	1 2 3 4 5 DK
The campaign made me give cycling a try	1 2 3 4 5 DK
The local authority should not be spending money on cycling	1 2 3 4 5 DK
The campaign helped me see cyclists' point of view, rather than drivers' point of view	1 2 3 4 5 DK

ASK ALL

Q13   **In the past week, on how many days have you done a total of 30 minutes or more of physical activity, which was enough to raise your breathing rate? This may include sport, exercise, and brisk walking or cycling for recreation or to get to and from places, but should not include housework or physical activity that may be part of your job.**

()

One day	1
Two days	2
3 days	3
4 days	4
5 days	5
6 days	6
7 days	7
None/no days	8
Don't know	9

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And finally, we need to take some personal details, so that the results among different groups can be compared.   The results are only reported back as statistics (based on the replies of several people) and all your answers will remain confidential.   You will not be identified as having taken part.

ASK ALL
Q10.   INTERVIEWER CODE SEX

	()
Male	1
Female	2

Q11.   **In which of the following age bands do you fall?** READ OUT. SINGLE CODE ONLY

	()
16-24	1
25-34	2
35-44	**3**
45-54	**4**
55-64	**5**
65-74	6
75+	7

Q12.   **And what is the occupation of the chief income earner?** INTERVIEWER CODE CLASS

	(
A	1
B	2
C1	3
C2	4
D	5
E	6

Q13.   **Please tell me which, if any, is the highest educational or professional qualification you have obtained?** (IF STILL STUDYING, CHECK FOR HIGHEST ACHIEVED SO FAR) MULTICODE OK

	(
GCSE/O-level/CSE	1
Vocational quals (=NVQ1+2)	2
A level or equivalent (=NVQ3)	3
Bachelor Degree or equivalent (=NVQ4)	4
Masters/PhD or equivalent	5
Other	6
No formal qualifications	7
Still studying	8
Don't know	9

Q14.   **Do you have any children living in the household aged under 16? IF YES: How many?** SINGLE CODE ONLY

No	1

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	Yes:	
	1	2
	2	3
	3	4
	4	5
	5+	6

Q15.   **What ethnic group would you say you belong to?** SINGLE CODE ONLY. PROBE AS PER
PRE-CODES

	()
White:	
British	1
Irish	2
Any other White background (WRITE IN & CODE "3")	3

Mixed:	
White and Black Caribbean	4
White and Black African	5
White and Asian	6
Any other Mixed background (WRITE IN & CODE "7")	7

Asian or Asian British:	
Indian	8
Pakistani	9
Bangladeshi	0
Any other Asian background (WRITE IN & CODE "X")	X

Black or Black British:	
Caribbean	Y
	()
African	1
Any other Black background (WRITE IN & CODE "2")	2

Chinese or other ethnic group:	
Chinese	3
Any other background (WRITE IN & CODE "4")	4

()

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